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PRESERVICE TEACHERS' UNDERSTANDING AND APPLICATION OF DEVELOPMENTALLY APPROPRIATE PRACTICES IN A SCHOOL-TO-WORK PROGRAM AT THE ELEMENTARY-SCHOOL LEVEL

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By
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The Ohio State University 1998

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College of Education
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ABSTRACT

The term "developmentally appropriate practice" (DAP) refers to teacher practices based on child development theories and constructivist principles. Although such theories provide a framework for applicable methodology regarding age-related stages of development, they must be tempered with knowledge of each child’s strengths, needs, interests, and cultural background. This results in a framework that is age-appropriate, individually-appropriate, and culturally-appropriate.

As novice educators refine the knowledge, attitudes, and skills that will help them become good teachers, DAP principles can become the basis for their emerging educational philosophies. Philosophy, however, comes alive only when applied in real situations. The focus for this inquiry was to investigate preservice teachers’ understanding and application of DAP principles to provide meaningful learning experiences in a School-To-Work program at the elementary-school level.

The context was a three-part course structured around this School-To-Work program. Participants were eight preservice teachers enrolled in either two or all three parts of the course. The course combined classroom
explorations of developmental principles and field-based application. Data
collection methods included individual and group interviews, participant
observations, and analyses of journals and field notes.

Students’ learning and application of DAP were found to be individually
constructed, non-linear, and enhanced by both previous experiences and peer
interactions. It was concluded that teacher education programs structured
around constructivist principles would best enhance students’ learning of
them. Preservice teachers appeared anxious to avoid risk of losing classroom
control in applying their knowledge of DAP. It was thus concluded that a
strongly supportive teacher education program would help less confident
novices balance their need for order with the demands of children’s learning.

Measuring knowledge of DAP must include an assessment of attitudes
as practiced, not only as stated. In this study, students’ prior attitudes were
judged to be related to their learning and application of DAP, both of which
were enhanced by multiple additional factors. Finally, School-To-Work
programs were deemed as potentially developmentally appropriate for
elementary-school children.
To Rich, Richard, and Ross
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CHAPTER 1

INTRODUCTION

We do not apprehend anything without connecting it to something else, and that “else” turns out to be everything in our life world and its appropriate zones of relevance.

(David Altheide & John Johnson, 1994, p. 492)

Personal Connections

My views as an educator were colored by “another life” outside academia. Though I started out as a third-grade teacher, I spent seven years in the personnel business before returning to higher education. As an executive recruiter, I devoted countless hours to discussing with employers the positions they hoped to fill. I spent many more hours talking with individuals who wished to seek a new position. Many of the latter had made choices that impacted their careers in positive or negative ways. As I worked with them to plan their future moves, I was fascinated by the relationship I saw between career decisions and education.

Some individuals had clear visions of just what they wanted to do in the future, and education often played a key role in their progress toward
achieving those goals. Others, however, were unsure of what they wanted to do or how to create a career for themselves. I met individuals who saw no value in education or who could not capitalize on college degrees which had little relationship to their work.

I wondered why some individuals seemed much more capable than others of choosing the “right” career. More importantly, I wondered how educators could help young children to grow into the kind of informed and decisive young adults who could make and achieve realistic career goals. My work as an executive recruiter had left me with a pragmatic outlook. I perceived the primary goal of education to be a preparation for living as successful adults. Although a career is only one kind of success, I felt that achieving personal fulfillment in one’s work would lead to satisfaction in other areas as well.

Quite early in my graduate studies, I came to believe that how we teach will have a more lasting impact than what we teach. I became convinced that children who are given frequent opportunities to work with others, to form and reform their ideas through productive conversations, to make choices about what and how they will learn - these children would be best prepared for adult life.

It was in the work of Piaget that I discovered a foundation for my evolving philosophy of education. His constructivist principles stated that every learner constructs his/her own knowledge framework, largely through
cooperative relationships and social interaction (DeVries & Kohlberg, 1987). These principles supported and extended my own ideas. Even more specifically, constructivism as applied in *developmentally appropriate practice* (DAP) provided the framework for my thoughts about the best ways to teach children at the elementary school level.

As my graduate work moved toward research, DAP principles guided my inquiry. I wanted to learn how preservice teachers understand and apply developmental theory to enhance children's learning within the context of careers-education lessons at the elementary school level. This would involve application of certain DAP principles as based on the premise that "children are active learners, drawing on direct physical and social experience" (Bredekamp & Copple, 1997, p. 13). The context would be a School-to-Work (STW) program with a pre-packaged curriculum. I believed that preservice teachers who learned about developmentally appropriate practices would be likely to apply those standards to increase the experiential component of the STW lessons.

**Defining School-To-Work**

The term "School-To-Work" (STW) refers to a variety of programs which proceed from The School-To-Work Opportunities Act (STWOA), enacted on May 4, 1994. It was designed to provide an integration of school-based and work-based learning, with appropriate activities to link the two, as
well as work experience and connections to jobs and ongoing learning. Supporters cite the need for programs to provide the kind of knowledge and training which young people once gained through apprenticeships. The hallmark of these STW programs was to be “an essential interconnectedness in their activity and an underlying philosophy that if a job is worth doing, it is worth doing well” (Abbott, 1995, p. 6).

STW was to be a system of career guidance and preparation throughout elementary and high school (Charner, Fraser, Hubbard, Rogers, & Horne, 1995; Koch, 1995; Starr, 1996). Indeed, although the vast majority of STW programs are designed for the middle- and high-school levels, the STWOA was meant to benefit all children. This study was enacted within the context of a STW program designed especially for elementary students - KAPOW.

KAPOW (Kids and the Power of Work) is an international careers-education program that pairs businesses and local elementary schools to help children learn about the world of work. The program was developed by the National Child Labor Committee and Grand Metropolitan (a large consumer goods conglomerate), in cooperation with an advisory board of business and education leaders. From KAPOW, business partners receive pre-packaged lesson plans, to be implemented by employee volunteers in the elementary classrooms. The business partner in this case is the regional campus of a major Midwestern university. "Volunteers" are not employees but advanced-level preservice teachers who are participating in a three-part course (EDU
The concept of "developmentally appropriate practices" (DAP), as it is conceived today, is an outgrowth of work done in the early 1980s by the National Association for the Education of Young Children (known as the NAEYC) to set standards for early childhood education programs. It is defined by Bredekamp and Copple (1997) as encompassing three basic principles: (1) Educators apply their knowledge about child development and learning to predict, within an age range, activities and experiences that will be appropriate for their students. This is sometimes referred to as being age appropriate. (2) Teachers must also know each child's needs, strengths, and interests to allow for individual differences in development. This individual appropriateness should be reflected in the curriculum. (3) An additional knowledge of the social and cultural contexts defining each child's background will ensure that the experiences teachers provide are meaningful and respectful for all children and their families. This is called cultural appropriateness.

Though the origin of the phrase "developmentally appropriate practice" is undocumented, Bredekamp (1991) credits Dr. Jenni Klein of the Head Start Bureau with using that term numerous times in the late 1970s. Nevertheless,
it has come to be associated with the NAEYC’s position statements, which are widely accepted by many (though not all) educators. Guidelines related to DAP were initially published by the NAEYC in 1987. They specified an integrated curriculum to address all areas of children’s development. Regular assessment of individual progress would allow teachers to plan real, relevant, concrete activities, increasing the difficulty and complexity of the activities to challenge each child. Learning proceeded from the child, with the emergent curriculum based on children’s interests and choices of materials. Play was seen as “central to children’s learning” (Kostelnik, Soderman, & Whiren, 1993, p. 54). Interaction with other children and with caring adults was important to the program as well. Parents were viewed as partners in their children’s education, and multicultural experiences were recommended for youngsters of all ages.

Some researchers (Lubeck, 1994; New, 1994) argued that DAP principles created a dichotomy of practice by indicating that there was just one “right” way to work with children. Others said that the DAP guidelines prescribed an emphasis on child development to the detriment of academics in curricular decisions (Kessler, 1991; Spodek, 1988). The 1987 guidelines were also criticized as being politically and culturally insensitive (Lubeck, 1994; New, 1994; O’Brien, 1996/97), implying that appropriate practices for white middle-class children must fit children of all other backgrounds as well (Bhavnagri & Gonzalez-Mena, 1997). What was needed, wrote New (1994),
was a reinterpretation of DAP based on the idea of teachers as researchers. Such teachers would observe and interact with children to learn about their students, include parents as educational partners, work with other teachers, and avoid institutionalizing developmental theory.

NAEYC’s 1997 position statement, issued in response to such criticisms, defines DAP as requiring teachers to learn about the social and cultural contexts underlying children’s home experiences (Bredekamp, 1997, p. 36). The new statement broadens guidelines for clarification. For example, to answer critiques that “individual appropriateness” encourages learning in isolation, the statement reminds educators that social interaction is important for learning.

This new statement is consistent with Spodek’s (1988) view that it is the method of teaching, not the content, which can make academic learning inappropriate for young children. It is supportive of Kessler’s (1991) call for a “knowledge component” (p. 186) to add theoretical justification for designating early childhood programs as “good” or “not so good.” It also supports the following implication for emergent early childhood curricula: “We must follow children’s interests, but then we have to interest children in the things they don’t know about” (R. Becher, personal communication, September 18, 1997). Valuing children’s experiences does not mean they displace the curriculum; rather, they become the means by which curriculum proceeds (Ladson-Billings, 1994).
The position statement further cautions against treating children as uniform members of a group, with teachers tailoring instruction to some predetermined standard assigned to all (Bredekamp, 1997). The new guidelines emphasize a rich program based on inquiry and satisfying significant curricular goals, a teacher’s role that balances child-initiated learning with adult support and guidance, and a flexible parent/school relationship (Bredekamp & Copple, 1997). DAP does not replace academic knowledge with child development; rather, it integrates the two.

As for culture, Bredekamp (1997) states that it should be neither ignored nor considered a deficit, which fosters cultural conflict in children. Citing the frequency with which culture is related to diversity or multiculturalism, she comments that the role of culture in “influencing the development of all children” (p. 38) is often overlooked. It should be noted that the NAEYC position statement does not define culture, but phrases such as “cultural and linguistic diversity” (1997, p. 4) appear to indicate a reference to ethnicity and/or socioeconomic status rather than a culture arising from the immediate classroom environment.

Some critics, however, are more concerned with micro-culture as opposed to the larger issues of ethnicity. For example, Moll, Amanti, Neff and Gonzalez (1992) write that “it is specific funds of knowledge pertaining to the social, economic, and productive activities of people in a local region, not ‘culture’ in its broader, anthropological sense, that [they] seek to incorporate
strategically into classrooms" (p. 139). Similarly, to Kantor, Elgas, and Fernie (1993), it is the classroom itself that may be viewed as a culture, constructed and patterned through the interactions of its members. Thus, despite NAEYC attempts to answer criticisms with the latest position statement, all educators and researchers do not find that the 1997 DAP guidelines adequately address the issue of culture (D. Fernie, personal communication, October 23, 1997).

Even in its amended form, the DAP guidelines may still be "too narrow" (Lubeck, 1994, p. 21) to please everyone. Nevertheless, they do contain much that is of value to those who wish to educate children in the most appropriate manner. Thus, while other sources may contribute additional perspectives as to the appropriateness of teaching practices, the DAP guidelines served to frame my inquiry. For my research, DAP was defined according to NAEYC standards as including knowledge of age-appropriate characteristics of children as well as responsiveness to individual developmental variations and social/cultural differences.

This inquiry was also predicated on the concept that there is no one "right way" to teach, but rather that some practices are more responsive than others to the needs of children, both as individuals and as members of a classroom culture. As such, every child is viewed as being capable of learning. Participants would learn about appropriate practice as presented in the DAP guidelines, but they might sometimes question the guidelines and consider how certain statements could be problematic in specific teaching
situations. Of special interest to this study was the “concrete, play-oriented approach” called for by the 1987 position statement (NAEYC, 1987, p. 1) and described in the recent revision as “an important vehicle” (NAEYC, 1997, p. 14) for development across domains. (Play is considered in Chapter 2.) The next section examines a learning approach based on play and frequently called “experiential.”

Definitions of Experiential Learning

Experiential learning means different things in different contexts. Building on students’ existing knowledge and abilities is one practical application of experiential learning. Bringing this about by increasing students’ participation and active learning may also be considered experiential. “At its broadest, it is learning through experience” (Cherrington & Van Ments, 1994, p. 16). Researchers have presented several views of what constitutes experiential learning.

It is informal learning outside the classroom which Evans (1992) defines as experiential, though he also mentions another kind which is “gaining increased attention, and that is the learning derived from any practical experience which is part of a course or formally arranged learning programme” (p. 66). Within the context of teacher education, Kaufman (1996) describes experiential learning as “opportunities for hands-on minds-on manipulation of raw data in quest of new understandings” (p. 40). Knapp (cited in DeLay,
1996) posits two important principles of experiential education: "(1) that learning is not limited to the classroom and, (2) that helping students make meaning is what learning is all about" (p. 77). Experiential instruction offers broad-based learning that both originates and reaches beyond the classroom.

The term “authentic” learning and/or instruction is frequently used in much the same way as “experiential learning.” According to Cronin (1993), the central idea of authentic learning is that students’ school experiences should resemble real life as closely as possible. Newmann and Wehlage (1993) assess authentic instruction by its provision for: higher-order thinking skills, in-depth knowledge, a connection to the real world, worthwhile conversation, and social support for achievement. Authentic learning goes a step beyond that which is merely experiential, or connected to the real world, but it is certainly based on experience.

Similarly, the term “situated” is used to describe learning based on a “real-world” context. This term emphasizes that much of what human beings learn is tied to the situational context in which it was learned (Anderson, Reder, & Simon, 1996). Many proponents of situated learning claim that all learning is context-dependent (and must therefore be situated), but Anderson et al. (1996) believe that the connection of learning and context depends on the kind of knowledge that is being acquired. Novice drivers, for example, will remember some of what they learned in the classroom, though perhaps not as vividly as that which was learned behind the wheel of a car. Certainly, the
very notion of situated cognition presupposes that learning will be rooted in experience.

Wassermann (1992) sees experience as integral to a theory of learning built on play. In her view, play is not limited to young children. Rather, through experiential learning, play can become part of cognitive growth for learners of all ages. It is the first step, she says, in extending learning beyond rote memorization. Learning through experience is active, building on and creating understanding. What Wassermann (1992) calls “serious play” is creative and inventive, encouraging risk-taking and autonomy without fear of failure, and engaging the mind through active involvement with the physical world. These principles are part of a more comprehensive theory of learning known as “experiential learning.”

It is experience that structures play, for “the child’s experiences in the real world provide the resources for play” (Garvey, 1990, p. 145). Thus, play extends knowledge gained through real-world experiences, as new information calls for expansion or alteration of the knower’s frame of knowledge. This is how human beings learn (Piaget, 1952). It follows that more memorable experiences can lead to a more significant reframing of concepts than lesser experiences will. Thus, experiential learning is an example of the play-oriented approach that defines the DAP curriculum. I believed that the STW lessons providing the context for my inquiry would be enhanced by increasing their experiential component.
For this inquiry, experiential learning was defined as derived from hands-on experience and utilizing concrete problems or active inquiry to connect learning to the real world beyond the classroom. Such learning might be achieved with simulations, games, or hands-on activities. The need for experiential learning (or “serious play”) was not restricted to the primary grades but was considered appropriate for all ages (Wassermann, 1992). In this study, experiential learning methods were applied to the pre-packaged lessons in a STW program designed for elementary schools.

**Researcher Biases**

I have defined the terms on which my research was based. However, even in the act of outlining those definitions, I recognized that such delimitations reflected biases brought from my own personal experiences as a graduate student as well as from my professional experiences, currently as a lecturer and field supervisor at the university level, and previously as an executive recruiter. “By identifying one’s biases, one can see easily where the questions that guide the study are crafted” (Janesick, 1994, p. 212).

One bias I must emphasize is my belief in a constructivist perspective toward learning. Numerous educators and researchers have supported the use of Piagetian theory as developmental foundation (e.g. Bredekamp & Copple, 1997; Kamii & Ewing, 1996; Kostelnik, Soderman & Whiren, 1993; Van Hoorn, Nourot, Scales & Alward, 1993). While I must acknowledge that
other theorists have offered equally important contributions to the field of education, I am a firm believer in the value of constructivist theory, especially as applied in developmentally appropriate practices. It would be difficult for me to conduct research of any kind which did not reflect this bias.

A **second bias** concerns my view that adults learn in much the same ways that children do. In other words, I believe that constructivist theory applies to learners of all ages. The implication for teacher education is that "adults learning a new profession must construct their own knowledge" (Kroll & LaBoskey, 1996, p. 64) of that profession. Thus, my research is predicated on the idea that preservice teachers will make personal connections between what they hear and experience in their college classes and what they learn in the field. Each individual, however, will draw his/her own conclusions.

The importance of careers education, even for very young children, is a **third bias** which I brought to this study. Having seen the haphazard manner in which many people approach their career plans, I am convinced of the importance of the School-to-Work movement. Children deserve to be prepared through a "systematic process that will enable them to develop sound educational and career plans" (Starr, 1996, p. 9). This is best done, I believe, through a program based on developmental theory.

John Dewey (1938) wrote that a philosophy of education must be stated in words. "But so far as it is more than verbal it is a plan for conducting education. Like any plan, it must be framed with reference to what is to be
done and how it is to be done" (p. 17). My research plan, which reflected my own philosophy of education, was based on constructivist principles, and it is these principles which framed what I would do and how I would proceed.

**Background of the Study**

I began my work as a field supervisor on a regional campus of a major Midwestern university in September of 1995 and commenced my study of developmental curriculum at the doctoral level six months later. Soon after that, I was presented with an opportunity to combine my educational interests and my concerns about career planning.

Our department coordinator asked me to attend a meeting about a new School-to-Work program. I was to gather information to determine whether this program could be utilized as an additional course and field experience for our precertification and Master's level education students. This was my introduction to the KAPOW Program. That meeting convinced me that the project was both feasible and desirable, and I was subsequently appointed as KAPOW coordinator for our campus. I would also design and teach the course and supervise the students in their field experiences. Stretching across three consecutive quarters, the program matched our academic year with that of our partner elementary school.

During the 1996-1997 academic year, I implemented the program for the first time. I had conceived of the course as a hands-on methods program
that would offer an authentic context for immediate application of preservice teachers' learning. First-year participants evaluated the course quite positively, maintaining that the experience was important to the children as well as valuable to their own teacher training.

I saw the "KAPOW course" as the ideal context for a research project, allowing me to test my own learning about developmental curriculum in a STW setting. It offered a number of advantages. For one thing, unlike most field experiences, this one would involve an entire school year. Students would teach eight lessons, each an opportunity to apply what they were learning in class, and then reflect on the outcomes. Because we were assigned four classrooms, preservice teachers would be paired to "team teach" their lessons. They would do cooperative work and learn from one another, an example of constructivism in practice, and they would play a significant role in planning the program's curriculum.

Because we would visit two primary classrooms and two intermediate classrooms, age appropriateness would become apparent. The lessons had the same objectives for all levels, but participants would teach them differently for each age group. Individual appropriateness would be evident because inclusion students would participate in the lessons. Activities might have to be adapted to include non-readers, for example. In addition, socioeconomic levels at the school indicated that some cultural considerations would be in order. This program seemed to offer a unique opportunity for exploring the
ways in which preservice teachers would understand and apply developmental theory.

The second offering of the "KAPOW course" would become the context for my research. Eight participants (seven undergraduates and one graduate student) who had completed at least one field experience were chosen from among those who applied. I restructured the course so that it more clearly reflected constructivism and DAP principles. My goal was for students to learn that "children are making connections all the time, and that they are more likely to remember those they make for themselves than those they are simply told" (Jones, 1986, p. 28).

Our class time would be divided between studying the basics of developmental theory and trying out practical teaching methods. Because participants had taken no methods courses, they would need exposure to practical aspects of teaching as well as to developmental theory. Indeed, practical teaching and management techniques would be a legitimate part of the curriculum because of the comfort level they would generate. Participants would plan their lessons based on KAPOW objectives. I would offer advice but would not prescribe the activities for them.

I planned for a dual emphasis on (1) providing a quality program for the elementary school children (defining "quality" as being "developmentally appropriate") and (2) helping the participants to increase their professional skills (as evidenced by their application of developmental principles in the
lessons). I would observe as many lessons as scheduling allowed, assisted by two M.Ed. students who had participated in the previous year’s KAPOW Program.

Purposes of the Study

The education of preservice teachers has received a great deal of attention as the quality of our nation’s public schools has come under increased scrutiny (Moulds, 1996). Kroll and Black (1993) maintain that many preservice teachers are prepared to make only routine judgments, to implement pre-developed curriculum, and to apply practical methods rather than theory. They have concluded that “nontheoretical, procedure-based approaches … contribute to the ‘survival mode’ often experienced by beginning teachers” (p. 418). Smith (1997) also concluded that novice teachers whose undergraduate preparation focused on developmentally-based practices were more likely to support the use of these practices in the classroom.

In designing my research, my goals included: (a) to understand how novice teachers build personal meanings of constructivist principles as applied to education and practiced in developmentally appropriate ways; (b) to learn how preservice teachers apply the knowledge gained through participation in a STW partnership with an elementary school; and (c) to explore the planning and implementing of developmentally appropriate lessons that facilitate children’s knowledge constructions.
My purpose, then, was to link two important educational approaches - developmentally appropriate practice and School-To-Work. The former broadly addresses the care and educational needs of young children, up to age eight. One principle involved in this inquiry was the need for active, experiential learning methods, what Wassermann (1992) calls "serious play," defined for the purposes of this study as valuable for any age group. Such learning would be supported by a range of developmental practices as applied in STW lessons at the elementary-school level.

Specifically, this inquiry focused on the application of developmental theory in the form of developmentally appropriate practices (DAP) by the advanced-level preservice teachers participating in the KAPOW Program during the 1997-1998 academic year on one regional university campus. As a corollary, it also examined the ways in which students included experiential learning as part of their lessons.

I wanted to learn about the impact of constructivist pedagogy on the teaching of novice educators through the use of a developmental curriculum, defined by Kroll and Black (1993) as offering meaningful instruction that builds on the knowledge and abilities brought by each child to the learning experience. If adults also relate new learning to previous experiences (Jones, 1986), then preservice teachers would benefit from a program building on their prior knowledge (Etchberger & Shaw, 1992). Students' existing conceptions would be challenged as they applied their emergent pedagogy in unique
situations (Pankratius & Young, 1995), specifically the planning and implementation of careers-education lessons in elementary-school classrooms.

**Research Questions**

Qualitative research begins with a question. What will be studied and by whom and for what time period are the first “design decisions” (Janesick, 1994, p. 211). My inquiry focused on how preservice teachers demonstrated an understanding of developmental principles by applying it in their KAPOW lessons.

**My primary question was:** How do preservice teachers understand and apply developmental theory, especially through experiential means, to enhance children’s learning in careers-education lessons at the elementary school level?

**My subsidiary questions included:** 1) What knowledge of DAP did participants bring to the course? 2) How did the participants change their use of active, experiential learning methods as the academic year continued? 3) What factors (e.g. collaboration among the participants) contributed to participants’ knowledge constructions about DAP? 4) In what ways are the DAP principles related to careers education at the elementary school level?

I wanted to understand the learning of preservice teachers. Yet, because I, too, was constructing meaning as I reflected on the data I had gathered, what I learned would also provide insight into my own teaching, thinking, and understanding. The following chapter, The Literature Review,
considers how my inquiry questions have been addressed by researchers and theorists.

**Methodology - Rationale and Description**

This inquiry utilized qualitative methods. Viewed in contrast to quantitative research, qualitative study emphasizes interpretation over measurement, narrative versus numerical data, and an emic viewpoint rather than an etic perspective. Knowledge, reality, and an interpretation of both are subjective. Rather than seeking causal relationships between variables, qualitative methods study how social experience originates and is given meaning (Denzin & Lincoln, 1994).

The study proceeded from a constructivist viewpoint, focusing on the lived experience of preservice teachers within the context of a specific series of three education courses. Constructivism holds that each individual is architect of his/her own knowledge scheme. As such, the participants’ knowledge schemes should become increasingly informed and sophisticated across the three quarters of the academic year, and this should be reflected in application of the knowledge gained.

Constructivism implies the existence of multiple knowledge schemes, multiple perspectives about the same information or event. These varying, often-conflicting perspectives are interpreted by the researcher, a participant observer who facilitates the process (Guba & Lincoln, 1994). It follows that
constructivism, with its dependence on interpretation, also requires the use of qualitative methods.

Interpretation is itself a multi-voiced construction, the researcher's rendering of meaning from many participant vocalizations. "Truth," writes Schwandt (1994), "is a matter of the best-informed and most sophisticated construction on which there is consensus at a given time" (p. 128). This implies that knowledge can be shared, with constructions altered in light of another perspective. Cobb and Yackel (1996) propose that the overlay of the constructivist paradigm with a social framework be termed an "emergent, or social constructivist" (p. 175) approach.

Thus, this inquiry was qualitative in nature, focusing primarily on the participants' construction of knowledge over time but also on how they socially influenced one another. While the philosophical stance was constructivist, it also proceeded from a social perspective which required the use of a more appropriate term - "social constructivist."

A concise description of the methodology is this: Eight students who applied to participate in the KAPOW Program during the 1997-1998 academic year also agreed to participate in my research. Each attended a weekly class, broken about every fourth week by a lesson implementation in a public elementary-school classroom. I was a participant as well - teaching the class, supervising participants' field experiences, and interacting with students, even as I observed their learning. The data that I collected included students'
written assignments and journals, plus transcripts of lesson observations and group post-lesson debriefing sessions. A more complete description of methodology is presented in Chapter Three.

Significance of the Research

This inquiry has considered the relationship between experience and education, a relationship that connects students, teachers, and their shared learnings in many ways. It has provided one practical application of Dewey’s (1938) principles at the university level. Yet, the study also extended a connection to the elementary classroom, thus linking two important points on the learning continuum. An experiential curriculum was viewed, not only as a tool for teaching children, but as one means by which novice teachers might become better prepared for their profession.

Numerous researchers have written of the need for appropriate teacher education programs, often calling for additional research to shed light on the best methods for preparing our novice teachers (e.g. Katz, 1985; Kaufman, 1996; Smith, 1997; Zeichner, 1980). While previous studies have addressed the use of constructivist principles as a foundation for teacher education, these have typically utilized a curriculum featuring either methods courses or seminars combined with field experiences (e.g. Black & Ammon, 1992; Jadallah, 1996; Kroll & Black, 1993). Many inquiries on teacher education have focused on student teachers, those near the end of their pre-professional
education (e.g. Hyun & Marshall, 1996; Westerman, 1991; Zeichner & Liston, 1987).

In contrast, the context of this inquiry was unique. Participants were juniors, seniors, and one Master’s of Education student. At the inception of the inquiry, none had completed any methods courses. Though all had finished at least one field experience, the length and requirements of these experiences varied widely. The participants were responsible for implementing lessons which they had planned themselves, not “merely managers or technicians of instructional programs” (Han, 1995, p. 229). Their knowledge and opinions helped to structure the curriculum. In a very real sense, they assumed personal ownership for the program itself.

Also, this was a year-long program, with students remaining in the same classrooms. As a supervisor for novice teachers, I have learned that many who enter a classroom mid-year find it difficult to judge children’s knowledge levels on a given subject. Those who begin a field experience in September cannot follow up on their own teaching because they leave at the end of the quarter. The “KAPOW course” circumvented these problems. Participants could plan lessons that built on those taught previously, and they could pinpoint children’s knowledge growth through year-end reviews. This is consistent with constructivism, and it also “enhances inquiry in fieldwork settings, offers peer collaboration and support networks, opportunities for self observation, and outlets for reflection” (Kaufman, 1996, p. 48).
The unique context of this inquiry offers insight into a different kind of teacher education program. It may be of interest to those who research teacher education, to those who plan such programs, to the university educators who provide methods courses for novice teachers, and to supervisors who monitor their field experiences. Data related to beginning teachers' application of developmental theory may demonstrate how such usage provides a window on their knowledge constructions. The data also offers insight into the impact of personal investment in the curriculum on the ways in which preservice teachers construct their own knowledge frameworks.

This study also provides a new view of careers-education at the elementary school level. Research in this area is scarce. Indeed, the KAPOW Program is unusual in its focus on young children, and the employment of university students as participants is unique. Our campus was the first to attempt such an endeavor, and as of this date, it remains the sole university partnership in the KAPOW network (R. Tjernlund, KAPOW Program Specialist, personal communication, 5/98).

Like all qualitative studies, this one provides only a partial view of novice teacher learning as it describes one program and its effect on preservice teachers. "Many a researcher would like to tell the whole story but of course cannot; the whole story exceeds anyone's telling" (Stake, 1994, p. 240). Additional areas of interest related to teacher education might include: (1) the kinds of field experiences provided for preservice teachers, (2) the role of
peers in teacher education programs, (3) the value to novice teachers of observing other students’ teaching, and (4) the impact of program ownership on participants’ learning. There are still many questions about the ways one learns to teach.

There is likewise much to be learned about the ways in which children learn and apply knowledge about the world of work. Additional research on School-To-Work programs might address (1) the value of STW programs at the elementary level, (2) assessment of what children learn from such programs and how they use that information, and (3) whether children who participate in such programs for multiple years make appreciably higher gains in skills, knowledge, and/or attitudes than do children who participate for a single year.

**Limitations of the Study**

This study was not without limitations. First of all, the program allows for just eight students at a time, so the number of participants was limited. It is possible, even probable, that another group of students would construct different concepts from the same experiences and respond differently to what they had learned.

Also, though my research assistants observed the lessons when scheduling prevented my attendance, I would have liked to view all of them myself. In one case, neither assistant was available, and a campus field
supervisor agreed to assist me. She was an experienced observer and did an excellent job, but that was her first exposure to KAPOW, and so the ethnographic continuity may have suffered slightly. Excluding the site visit, I observed each pair four times and was therefore dependent on my assistants’ reports, plus the students’ journals and debriefing comments, to gather data on lessons I did not personally observe.

An unforeseen limitation was the impact of illness on participants. I had assumed that if students worked in pairs, at least one would always be able to teach. However, one pair had to postpone a lesson because of illness. They taught a double-lesson three weeks later, even though one student had missed several classes. My attempts to bring her up-to-date on our work were surely less thorough than my in-class presentations, and for her, the advantage of learning within the group context was lost.

Similarly, there was great difficulty in scheduling the class during the Spring quarter. Five participants had scheduling conflicts, yet all wanted to stay involved with KAPOW. We agreed to start the class an hour earlier, but we still lost one student. Balancing my research needs with my commitment to the KAPOW Program was not an easy task.

Finally, although I do not believe my own biases to have restricted my efficiency as a researcher, they were a limitation in the positive sense that they defined the intent of my study. Constructivism and DAP provided a strong philosophical base for my inquiry, while School-To-work and KAPOW offered
a unique milieu. Thus, content and context were the important educational approaches that circumscribed my work and kept it focused. No research is bias-free (Janesick, 1994) but neither is it unstructured.

**Organization of the Study**

Qualitative researchers are interpreters who draw on their own experiences, knowledge, theoretical dispositions, and collected data to present their understandings of the other’s world... [They are] meaningmakers who make sense out of the interaction of their own lives with those of ...others (Glesne & Peshkin, 1992, p. 153).

And in telling one particular and partial story, a qualitative researcher is also an artist, weaving the threads of lived experience into a unique whole. This inquiry represents my understanding of developmental theory application by eight preservice teachers. It is organized in six chapters.

Chapter One provides an overview of the research, including its significance and possible limitations, and delineating its purposes. A review of relevant literature explores the theoretical foundation of this study in Chapter Two, while Chapter Three provides a more thorough discussion of the methodology outlined in the first chapter. Chapter Four presents a description and initial interpretation of the data collected from September of 1997 through June of 1998. The lessons are described in terms of the preparation, planning, implementing, and reflection that framed them. In Chapter Five, extensive tables comprehensively interpret my observations and reflections on the lessons, allowing for comparisons among participants and across all eight
lessons. Finally, Chapter Six attempts to make sense of the wealth of data I collected over ten months.

In closing, I return once more to the constructivist principles that frame my research. As a researcher, I have connected fragments of data and attempted to assemble them into a meaningful story. Now it is the reader's turn. Everyone who scans this document will forge additional links between what I have presented and what he/she already knows. "The reader too will add and subtract, invent and shape - reconstructing the knowledge in ways that leave it differently connected and more likely to be personally useful" (Stake, 1994, p. 241). The multiple realities represented in my writing are thus reframed still again in the reading. Understanding lies in interpretation, which is ever an individual task.
CHAPTER 2

REVIEW OF THE LITERATURE

*Enduring meanings come from encounter, and are modified and reinforced by repeated encounter.... Knowledge is socially constructed - we constructivists believe.*

*(Robert Stake, 1994, p. 240).*

**Introduction**

Classroom teachers employ a wide range of methods and techniques to help children learn. Various theories provide rationales to support these methods, and diverse programs contribute to the content of the lessons. This chapter will review the literature on developmentally appropriate practice (DAP), a widely-respected approach based on constructivist theory and the need for social interaction. In addition to considering the importance of DAP as the basis for effective teaching, especially as regards experiential learning, this section will also review the ways in which preservice teachers learn and apply developmental theory in their field experiences, as well as the ways in which social constructivist principles support a program of careers education in the elementary grades.
Because there is very little literature which is directly related to the aforementioned research questions, my search has centered on several areas which do have some bearing on the subjects of interest: (1) The Integration of Social and Constructivist Theory, (2) Developmentally Appropriate Practice as Related to Social Constructivism, (3) Applying Social Constructivism and the Principles of Developmentally Appropriate Practice, (4) Play as a Link Between Experience and Learning, (5) Connecting Experience and Careers Education (School-to-Work), (6) Teaching Methodology Supported by Social Constructivist Principles, and (7) Preservice Teachers Constructing Their Own Knowledge About Applying Developmentally Appropriate Practices. This chapter will review relevant literature on these areas and relate implications to the questions under study.

The context for this inquiry involves course work for preservice teachers which was then applied in a field setting. However, in their field experience classrooms, the novice teachers were interacting with children. Although the children were not the subjects of this study, they did impact the curricular and methodological decisions made by these young teachers prior to the implementation of each lesson.

Schwab (cited in McCutcheon, 1995) proposes that four specific “commonplaces” (bodies of knowledge) be applied to curriculum problems. These four - “subject matter, learners, milieu, and teachers” (p. 12) - can also form a framework for the intersecting considerations of this research.
problem. *Subject matter* refers both to the content shared with preservice teachers in their education courses and the careers lessons they in turn would teach. Both the novice teachers and the children they met in their field experience classrooms could be classified as *learners*. There were two *milieus* as well - the college classroom and the elementary classrooms that served as the location for the careers education lessons. Lastly, *teachers* included not only the preservice educators as instructors in elementary classrooms, but myself as their guide at the university.

Within the context of this inquiry, then, social constructivism is seen as applying to all learners, of all ages and levels. Thus, experiential learning is considered as a method to be used with children and with adults. The literature regarding the relation of social interaction and cognition deliberates the impact on both the children's and preservice teachers' learning. School-to-Work, with its experiential link, is viewed both in its context of careers education for children and as field experiences for student teachers. The knowledge constructions of preservice teachers have a correlate as well, for the researcher, too, adjusts personal knowledge schemes to accommodate interpreted results. The intersection of these perspectives must be reflected in the search for relevant literature. In this chapter, the literature review will support the view of development and learning as applied to both children and adults.
The Integration of Social and Constructivist Theory

Constructivism is a theory that explains the functioning of the human mind (Moulds, 1996). Articulated by and most closely associated with Jean Piaget (1952; 1966; 1970), the theory is built on the idea that each individual actively constructs his/her own personal knowledge scheme, altering it as necessary to make connections between previous knowledge and newly encountered information (Cain, 1992). When newly-acquired knowledge makes sense in light of what is already known, the learner “assimilates” it, incorporating it into the knowledge scheme.

Sometimes, however, “disequilibrium” occurs - meaning that perceptions do not provide children with adequate understanding, leading to a sort of cognitive imbalance (Eggen & Kauchak, 1994). Children then search for improved understanding, eventually “accommodating” (or altering) their mental frameworks, if necessary, to take new information into account. Copple, Sigel, and Saunders (1979) refer to this as the “resolution of discrepancies,” pointing out that these are inconsistencies only as related to the child’s current knowledge framework. “The ‘schemes’ or mental patterns that (they have) already constructed are modified and built upon as children try to make sense of new experiences in the light of what they already know” (Van Hoorn, Nourot, Scales, & Alward, 1993, p. 15). Meaningful learning involves the invention of something new from existing information (Prawat, 1992). For this reason, Piaget’s theory is called “constructivist.”
Kamii and Ewing (1996) see constructivist theory as growing out of the debate between two older theories, empiricism and rationalism. Empiricists such as Locke believed that knowledge is outside the individual and that we come to know things by internalizing sensory information. In contrast, rationalists argued for the primacy of reason, pointing out that sensory knowledge can be deceiving and therefore not trustworthy. Kant and other rationalists did not, however, repudiate the role of experience in learning (Kamii & Ewing, 1996; Moulds, 1996; Phillips, 1995). "Although [Piaget] did not agree completely with rationalism, he did align himself with [that view] when required to place himself in a broad sense in one tradition or the other" (Kamii & Ewing, 1996, p. 261). In addition, constructivism was also influenced by Dewey, Vygotsky, and others (Phillips, 1995).

An important part of Piaget's theory is the idea that children's development proceeds in stages. Although the stages might vary slightly as to onset and duration, they always appear in the same sequence, and children in each stage share unique attributes as learners. The four stages correlated with their typical age ranges are: sensorimotor, from birth to about eighteen months; preoperational, encompassing from about eighteen months to about age six; concrete operational, beginning about age six and extending to about age twelve; and formal operational, usually from age twelve and up (Beard, 1969; Biehler & Snowman, 1993; Cain, 1992; Eggen & Kauchak, 1994). Knowledge construction occurs across all stages. This inquiry is concerned
primarily with the concrete operational stage, normally seen in primary- and intermediate-grade children.

At every developmental stage, cognition requires context. Because Piaget's work is strongly associated with development and cognition, little attention is given to his position that conceptual knowledge and social interaction are linked through context. He believed that learning cannot be divorced from the shared interests and communication that frame it (Black & Ammon, 1992; Eggen & Kauchak, 1994; Fosnot, 1996a; Van Hoorn et al., 1993). Children share ideas and perspectives, incorporating new information into their knowledge schemes through assimilation and accommodation. The same child who develops new social competencies while helping to build a tower of blocks is also developing the "intellectual coordination that eventually makes possible logical and moral reasoning" (DeVries & Kohlberg, 1987, p. 39).

It was the work of Vygotsky, however, that most strongly focused attention on the impact of social interaction on cognitive development. Vygotsky believed that the mind is best understood through considering the ways in which it changes, and that all higher mental functions originate in social activity (Hausfather, 1996; Wertsch, 1989). The learning of concepts, language, problem-solving skills - all are best accomplished within a social context, according to Vygotsky. In fact, he postulated that each of these important functions occurs on the social level before it appears on the
individual level. Flowing from this is the notion of the "zone of proximal development," which postulates that a child's learning is influenced and aided through collaboration with an adult or more competent peer (Berk & Winsler, 1995; Hausfather, 1996; Wertsch, 1989).

Another important facet of Vygotskian theory is the idea of "semiotic mediation," referring to the ways in which cultural artifacts (e.g. language) redefine and reshape human activities (Hausfather, 1996; Wertsch, 1989). Wertsch (1989) believes that this is Vygotsky's most important contribution, maintaining that it is semiotic mediation which distinguishes Vygotskian theory from the approaches of other theorists. Based on the importance of social interaction and cultural artifacts, Vygotsky's theory is called "sociocultural."

A consideration of the theories of both Piaget and Vygotsky provides some interesting contrasts. Piaget saw learning and development as separate, with development as the dominant process, learning being dependent upon development but having no effect on it. He believed that learning originates within the child, with the environment supporting but not directly influencing cognitive growth. Because the child constructs his/her own knowledge framework, the teacher's role is one of guidance and facilitation (Elicker, 1995). "In sum, the Piagetian approach to education is one of an active organism taking responsibility for change in a social environment that refrains from interfering with natural development" (Berk & Winsler, 1995, p. 103).

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In contrast, Vygotsky believed that development proceeds from learning, with language - especially private, or self-directed speech - considered to be extremely important. According to Vygotskian theory, speech acts as a bridge between the learner and the world, mediating perceptions of that world. Instruction can help children to generate concepts. The role of teachers is critical, for they work with children within their zones of proximal development to scaffold, or support, learning. Shared purpose, focus, and understanding means that working in the zone involves learner appropriation of “shared activity in which the participants are interpersonally engaged” (Hausfather, 1996, p. 4).

Despite these contrasting views, Piaget and Vygotsky did share some basic beliefs. Glassman (1994) summarizes them: (1) Thinking involves two lines of development, the natural and the social, which continuously interact; (2) Experience is necessary for development, transformed mentally through internal reflection; (3) Developmental change (Piaget’s four stages, Vygotsky’s linguistic acquisition) is accomplished through qualitative transformations in the child’s thinking; and (4) Environment may influence the pace of development. Each theory has developmental and social dimensions, both considered to be necessary, but Piaget stressed development while Vygotsky emphasized the social dimension (Berk & Winsler, 1995). Implied in both theories is the idea that humans construct a personal reality “while at the same time transforming it and ourselves” (Fosnot, 1996a, p. 23).
If social interaction facilitates cognitive development, it follows that both constructivist and social theories are relevant to a discussion of children's classroom learning. However, Cobb and Yackel (1996) further distinguish between Vygotsky's sociocultural theory and that which they refer to variously as "interactionist, emergent, or social constructivist." In their view, the former frames individual activity in terms of "broader sociocultural practices" (p. 185), while the latter locates them within the local (or classroom) community. Sociocultural theory sees the teachers' role as supporting progress toward culturally-approved understandings. Teachers transmit knowledge, "appropriated" by students. In contrast, the emergent perspective calls for shared negotiation of meaning between students and teachers, who support both individual constructions and the practices that offer the context for learning (Cobb & Yackel, 1996).

Additionally, while a Vygotskian perspective sees collective classroom constructions as directly connected to individual learning processes, the social constructivist view is more indirect, with classroom participation enabling learning rather than creating it. The emergent approach does accept semiotic mediation, but with concern over how such mediation impacts conceptual development. In contrast with the sociocultural view of learning as transmission of culturally-approved meanings through semiotic means, the emergent perspective sees learning as "a process of both active individual construction and enculturation" (Cobb & Yackel, 1996, p. 186).
In summary, a social constructivist position embraces both Piagetian and Vygotskian theory. While learning is seen as proceeding from the individual, social interaction is important as well. The environment offers context and support for learning, although it is the immediate environment rather than the larger societal culture that is the site of individual activity and cognition. Teachers do sustain children's developmental growth through scaffolding, but it is the learner who constructs his or her own concepts by negotiating shared understandings. Social constructivism tempers the constructivist view that knowledge is personally created with the assertion that "the world that people create in the process of social exchange is a reality sui generis" (Schwandt, 1994, p. 127). Knowledge is individually constructed, but it can be shared. We must remember, however, that the constructs of individuals may seem to be compatible without being identical (von Glasersfeld, 1996).

**Developmentally Appropriate Practice as Related to Social Constructivism**

This study is guided by a social constructivist paradigm. "In qualitative inquiry the theory is used to focus the inquiry and give it boundaries" (Morse, 1994, p. 221). Therefore, it becomes a matter of interest to situate the research topic, developmentally appropriate practice, within the "boundaries" of social constructivism.
"Principles of developmentally appropriate practice are based on several prominent theories that view intellectual development from a constructivist, interactive perspective" (NAEYC, 1997, p. 13). The very words "constructivist interactive" imply Piagetian underpinnings framed in conjunction with principles related to social interaction. For example, the statement that children are active learners, personally constructing their own concepts about the world, reflects Piaget's (1952) idea of knowledge construction. Similarly, Vygotsky's views are represented in the principle that social and cultural contexts impact learning and development.

Several researchers and theorists have pointed to the social/cognitive connections inherent in DAP. Kessler (1991) contends that the NAEYC's 1987 position statement on DAP in programs for four- and five-year olds assumed a "cognitive/interactive theory of intellectual development derived primarily from the work of Jean Piaget, which maintains that children construct knowledge through ‘playful’ interaction with objects and people" (pp. 184-185). Interaction with materials and among individuals provide a social context for learning.

Similarly, Kantrowitz and Wingert (1994) write about DAP as valuing social growth and academic achievement equally highly in the early elementary-grade curriculum. In a treatise on classroom environment, Readdick and Bartlett (1994/95) call for teachers to interact with the children and provide a rich milieu for learning. "Durable, reusable objects, not just
people, prompt children’s activities and learning,” they point out. “This constructivist perspective is consonant with developmentally appropriate practice” (p. 86). Hills (1993) also cites the DAP guidelines as support for appropriate assessment, which she defines as reflecting children’s progress across developmental domains as well as in the areas that are valued by families and communities. Real-life situations would provide a context for the evaluation. In each of these cases, there is an implication that social interaction and cognitive growth are connected.

DAP principles state that intellectual development is closely related to physical, social, and emotional growth. Change in any one domain affects development across all others. Forman and Kuschner (1983) believe that basic assumptions about child development extend beyond learning to all other areas of growth. Assumptions about one developmental domain will influence our beliefs about every other domain.

In like manner, while the emphasis of the KAPOWER Program (and EDU T&L 694.10) is primarily on cognitive growth, social and affective areas are also important. This is consistent with an application of a social constructivist philosophy to many areas of development. For example, one may consider emotional development from a social constructivist perspective. A child who comes to understand how shadows are made may grow less fearful of a darkened room. However, his fear may also be mediated, and more quickly reduced, by advice from an older sibling. Considering all domains as related
to one another is consistent with the precepts of developmentally appropriate practice (Kostelnik et al., 1993).

**Applying Social Constructivism and the Principles of Developmentally Appropriate Practice**

Developmentally Appropriate Practice is based on the tenets of age appropriateness, individual appropriateness, and knowledge of the social and cultural contexts which shape each child's background. An educational philosophy grounded in these principles offers a rich environment for children's growth. However, one must question whether developmentally appropriate principles need be confined only to children below the age of eight. Should not older learners also have access to education which meets their individual and developmental needs? Although the DAP guidelines were written with young children in mind, there is both evidence and precedence for applying them to older learners. This is based on the idea that older students sometimes display characteristics of less-experienced learners. This section will especially consider the need for concrete activities, as associated with experiential learning.

For example, DAP principles mandates the use of concrete activities and materials that are relevant to young children (NAEYC, 1997). It is true that children below age eight should use concrete objects as a prelude to symbolic representation (Van Hoorn et al., 1993), but older children, those in the
developmental stage Piaget called “concrete operations,” have a need to use concrete objects, too. “Operational thinking (for those aged seven to about eleven) is limited to objects that are actually present or that children have experienced concretely and directly” (Biehler & Snowman, 1993, p. 65).

Stooksberry (1996) advocates the use of “the kindergarten model,” applying DAP in the intermediate grades. Her rationale is that many active learning techniques can and should be used at nearly every level. Dewey (1938) supported this view: “Neither the ideas, nor the activities, ...nor the organization are the same for a person six years old as they are for one twelve or eighteen years old... But at every level there is an expanding development of experience.” Moreover, Stooksberry views active learning in a child-centered atmosphere as motivating student enthusiasm about school and learning. This is as important for older students as for young children.

In considering college students' difficulties with abstract concepts, Kurfiss (1994) writes that such concepts necessitate the use of active work, frequently with concrete materials, in order to avoid rote learning:

Many developmentalists attribute the rarity of formal thought [in college students] to students’ lack of opportunity, during earlier school years, to act upon questions, problems, or discrepancies which they themselves have discovered. Action is both the most natural and the most effective way for young people to learn. Without it there is little or no opportunity to exercise, challenge, and extend the structures and capabilities of thought (p. 171).

According to Kurfiss (1994), even college-age learners cannot be assumed to have passed into Piaget’s fourth stage, that of formal operations. Thus,
concrete experiential activities would seem to be helpful, and even preferable, to enhance learning for individuals at various ages. This is not to say that preschoolers and adults would be taught in the same way, but rather that human beings learn in much the same ways all their lives. Students, regardless of age, may exhibit some characteristics of any of Piaget's developmental stages when learning something new.

As an example, an adult man who is a novice golfer must do more than memorize and follow the rules of the game. In fact, knowing how to keep score is much less important than being able to hit the ball and mentally follow its trajectory. These are skills he first practiced as an infant during the sensorimotor stage. Van Hoorn et al. (1993) point out that many competencies are sensorimotor schemes, combining sensory information with motion. The beginning golfer will probably practice a lot and imitate the actions of someone more skilled, much as he did when he learned to tie his shoes or solve an algebra equation.

Teacher education programs have begun focusing on constructivist principles in preparing novice educators to manage a classroom (e.g. Black & Ammon, 1992; Burk & Dunn, 1996; Kroll & LaBoskey, 1996; Rodriguez & Bailey, 1996). Field work is an important feature of most programs, and some pattern their courses after the ways in which children learn. Kroll and Black (1993) maintain that a child-centered pedagogy based on Piagetian theory may be equally applied to teachers and their students. Huling-Austin (1992) even
suggests that the lapses of novice teachers may be related to developmental levels rather than any deficits in their teacher education programs.

“What all of us really know,” writes Jones (1986), “what informs our behavior as teachers ..., we know from the vivid, unforgettable details of our experience - experience that fits into the patterns we keep building to make sense of our world” (p. ix). She points out that learning is a lifelong process for teachers as well as for students. Just as she herself is a learner when teaching children, so she must remain a learner while teaching adults.

Gronlund’s (1995) description of training early-childhood teachers on the use of DAP reflects the need for embedded instruction. One very successful technique combined active participation with philosophical justification to aid in knowledge construction. When learning something new, the teachers found active learning experience to be helpful, just as children do. “Children and teachers require learning environments that allow them to hypothesize, investigate, experiment, and construct new understandings of themselves and others with whom they work” (New, 1994, p. 78).

To summarize, researchers maintain that development is not limited to children, but that adults also take part in this phenomenon (Bredekamp & Copple, 1997; Elicker, 1995; Moulds, 1996). Learners of all ages may exhibit attributes of earlier developmental stages when attempting something new (Kurfiess, 1994). Thus, development is seen as a continuum, with each person extending his/her own knowledge in the most appropriate manner.
**Play as a Link Between Experience and Learning**

This research is concerned with the "concrete, play-oriented approach" required by the initial DAP guidelines (NAEYC, 1987) and referred to by Wassermann (1992) as "experiential learning." Play provides a link between experience and cognition. The need for experience is a critical implication of constructivism. Because children cannot think without something to think about, providing opportunities for experience becomes critical. "The greater the child's repertoire of actions and thoughts - in Piaget's terms, schemes - the more material he or she has for trying to put things together in his or her own mind" (Duckworth, 1987, p. 13). Experience is the "stuff" from which cognition flows, and it would seem a reasonable starting point for learning.

An example of experiential learning was provided by George Forman's lab school at the University of Massachusetts (Forman and Kuschner, 1983). During its tenure, the school featured a curriculum based on constructivist theory and emphasizing three things - the learning activity content, assessment of children's progress, and teachers' facilitation of learning. All proceeded from the notion that knowledge organization draws on past experience (Piaget, 1966). The major focus was the construction of knowledge through change. When children noticed "correspondences" and "transformations" in objects around them, they responded by either assimilating or accommodating their knowledge schemes. The teachers provided a challenging environment, confronting children with problems to solve as they played.
According to Wassermann (1992), there is a strong relationship between play and experience. She defines experiential learning as "serious play." Such play produces new and different ideas, is conducive to autonomous work and risk-taking without fear of failure, and promotes mental activity through active learning experiences. In her view, it is "the primary vehicle through which serious learning occurs" (p. 133). This view of play as promoting cognitive growth is supported by many other researchers as well (e.g. Chaillé & Silvern, 1996; Goldhaber, 1994; Stone, 1995; Vygotsky, 1976).

Learning based on authentic experience is founded on educational and developmental theory. Rousseau, whose ideas became the basis for modern developmental theory, believed that Nature was the child's best teacher. He suggested that development occurs in a series of stages, during which children experience the world in different ways, and that teachers should structure lessons to fit the child's current stage (Cain, 1992). Rousseau framed learning in reality - mathematics learned from carpentry, for example. This educational theory, proceeding from the child's understanding and lived experience, would today be called "child-centered." It would also be called "experiential."

One of the best-known proponents of experiential education was John Dewey, founder of the Progressive Education Movement. Dewey (1938) saw "an intimate and necessary relation" (p. 7) between experience and education. His lab school at the University of Chicago was founded on this principle, and authentic learning experiences such as sewing or carpentry helped to integrate
the curriculum. Knowledge was grounded in personal experience (Tanner, 1991), which served to link the home and the larger world of society.

The teacher started with each child's lived experience, enhancing it until it comprised the body of knowledge that, in most schools, would make up the curriculum. In this way, Dewey's lab school revealed a principle of great importance: the need for teachers to recognize children's lived experience as the basis for the development of organized knowledge (Tanner, 1991). In Dewey's continuously evolving program, children learned through activity. Dewey (1902) saw the child and the curriculum as two dimensions of a single process. "It is continuous reconstruction," he wrote, "moving from the child's present experience out into that represented by the organized bodies of truth that we call studies" (p. 16). Learning was therefore rooted in experience.

Piaget's (1952) theory also places a strong emphasis on experience as a requisite for learning. One of the most important features of his constructivist theory is the need for active learning (DeVries & Kohlberg, 1987; Heuwinkel, 1996; Forman & Kuschner, 1983), with experience as the material for the construction of knowledge schemes. Individuals organize their experiences, assimilating new data into the existing knowledge scheme or accommodating the scheme to account for new information. Much of the discovery and the subsequent organization of information occurs during some form of play.

"Piaget refers to the intentional social process of constructing understanding ... as active education" (DeVries & Kohlberg, cited in Chaillé &
While learning is an internal process originating within the individual, it is also a social process, for peer interactions create motivation for learning and serve as its content (Black & Ammon, 1992; Resnick, 1987a). Knowledge constructions are thus situated within the context of social experiences. In “creatin[ing] the zone of proximal development of the child” (Vygotsky, 1976, p. 552), play links social activity and cognitive growth.

Viewing children as active learners, essentially a constructivist position, is also consistent with Vygotsky’s theories (Moulds, 1996). However, for Vygotsky, the link between activity and learning is mediated by language, as illustrated in the contrast between the rich child/teacher interactions of the kindergarten and the whole-group instruction often utilized in the elementary grades. The question-and-answer format of much whole-group work yields mostly low-level cognition rather than the higher-level thinking encouraged by open-ended tasks in small-groups (Berk & Winsler, 1995; Hausfather, 1996). Experience provides the context for language, and it in turn shapes thinking.

Resnick (1987a, 1987b) also emphasizes the teaching of higher order thinking skills as a significant role of the schools. In Education and Learning to Think (1987a), she delineates some features of the kind of higher-order thinking skills she believes our school programs must provide. A comparison with elements of Wassermann’s (1992) “serious play” is useful in illustrating how experience can be linked through play to high-level cognition. Table 2.1 summarizes this comparison.
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"Higher order thinking is nonalgorithmic. That is, the path of action is not fully specified in advance" (p. 3). | "The creation of new ideas does not come from minds trained to doggedly follow what is already known" (p. 134).

"Higher order thinking tends to be complex. The total path is not 'visible' from any single vantage point" (p. 3). | "The content of the curriculum is not covered in a linear, sequential way" (p. 138).

"Higher order thinking often yields multiple solutions ... rather than unique solutions" (p. 3). | Play is generative. "In play we are not locked into conforming to a set standard of what is right" (p. 135).

"Higher order thinking involves nuanced judgment and interpretation" (p. 3). | "More open play has much greater potential for creation and invention, for risk-taking" (p. 137).

"Higher order thinking involves the application of multiple criteria, which sometimes conflict" (p. 3). | "It is play that sanctions what is different" (p. 135).

"Higher order thinking often involves uncertainty. Not everything that bears on the task at hand is known" (p. 3). | "Play invites learning to value error as a means of learning more" (p. 135).

"Higher order thinking involves self-regulation of the thinking process" (p. 3). | "Play builds autonomy" (p. 135).

"Higher order thinking involves imposing meaning, finding structure in apparent disorder" (p. 3). | "Serious play" is part of experiential learning: knowledge, "formed and reformed through experience" (p. 136).

"Higher order thinking is effortful" (p. 3). | "Active experience builds understanding" (p. 136).

Table 2.1: Comparing higher-order thinking and "serious play."
Clearly, there are many similarities between the experiential nature of play and the types of intellectual activity that should be, according to Resnick (1987a), the goal of the school curriculum.

Like development, play is not limited to childhood. However, play in older children and adults takes different forms. Whenever individuals learn something new, they also call on skills acquired as young children. For example, to maneuver small chess pieces, players use fine motor skills learned through repetition during the sensorimotor stage. Players must decenter, imagining their opponent's attack and their own potential counter-moves, thus making use of skills that grew out of symbolic play in the preoperational stage. And of course, they must remember the rules in order to avoid unnecessary forfeiture of their playing pieces.

Wassermann (1992) sees a link between the “serious play” of childhood and the mental play that inventive adults employ during creative problem-solving. Lesgold's (1996) call for authentic learning in secondary schools also upholds the importance of experience: In setting goals, "students will need to build from a combination of experiences and interpretations of those experiences (by themselves and others) if they are really to understand where their education is headed" (p. 174). Implied is a need for social interactions and personal reflection to facilitate interpretation of knowledge constructions.

For Wassermann (1992), reflection is an important corollary to active learning, enriching “serious play” by deepening conceptual knowledge.
Reflection enables learners to go beyond surface observations. It takes play outside the simple manipulation of materials, which is unlikely to produce knowledge construction (Chaillé & Silvern, 1996). In a meta-analysis of research generating 28 categories of influences on children’s learning, Wang, Haertel, and Walberg (1993/94) found that “a student’s metacognitive processes - that is, a student’s capacity to plan, monitor, and, if necessary, re-plan learning strategies - had the most powerful effect on his or her learning” (p. 75). Combining “hands-on” and “minds-on” learning leads to connections between new experiences and previous ones (Roberts et al., 1996). Through reflection, experience becomes both the context for learning and the content from which concepts are built.

In summary, there is an important link between experience and learning that is evidenced in Wassermann’s (1992) “serious play.” Play is unique as a vehicle for children’s growth and learning. Like development, it begins in the very young infant and continues throughout childhood and into adolescence (and in some ways, even into adulthood). Structured by experience, play links experience with cognition, for it is through play that learners gather the necessary information for knowledge construction.

Connecting Experience and Careers Education (School-to-Work)

The 21st century will soon be upon us. Amid futuristic predictions and economic forecasts, Americans have begun to question whether the nation can
continue to compete successfully in a global marketplace. "There is evidence that America has not invested in its future, and that its vision is blurred by the successes of world competitors" (Gayle, 1990, p. 10). Part of that future investment is the preparation of young people for prospective careers. Gayle (1990) presents some demographic data which paint a surprising picture of America's future as regards employment:

1. A shrinking labor force is reflected in the decline in 16- to 24-year-olds, from 30% of the population in 1985 to only 16% by the year 2000. In that year, 82% of new workers will be minorities or women. At the same time, Americans are living longer, and the mandatory retirement age is likely to rise.

2. Jobs will be different. 88% of the work force will be involved in the service sector by century’s end. Small businesses, especially small manufacturers with fewer than 100 employees, will be the major contributors to the labor force. 73% of today’s jobs require information processing skills, and that is expected to rise.

3. Agriculture and manufacturing jobs will continue to decline, but productivity is expected to increase by 500% by the year 2001 in some industries, largely due to automation and flexible planning.

4. High unemployment will continue in some areas of the country, as jobs shift toward non-union states. There may be more individuals holding either part-time jobs or multiple jobs. Because the number
of entry-level positions will be limited, competition for these jobs will be high.

5. No longer can workers expect lifetime employment at one job. Most will have five or more jobs/careers within the span of their working years, requiring repeated training and lifelong learning (p. 12).

Faced with such statistics, educators must seek ways to prepare each student to find and keep a job under conditions that are less-than-ideal. Calls for reform reflect "the concern that our educational system is producing young women and men who are neither able to act as educated citizens nor able to contribute to the nations' economic competitiveness in a sophisticated global economy" (Braun, 1996, p. 237). School-to-Work (STW) programs were created in response to these concerns.

While the majority of STW initiatives have been designed for upper-grade students, research shows that even in the elementary grades, students of different social classes are "rewarded for classroom behaviors that correspond to personality traits allegedly rewarded in the different occupational strata - the working classes for docility and obedience, the managerial classes for initiative and personal assertiveness" (Anyon, 1980, p. 67). From the earliest years of their schooling, students are apparently being shunted toward careers viewed as "suitable" for them.

Similarly, Resnick (1987a) decries the hegemony of our country's dual educational traditions, maintaining that higher order thinking skills have been
taught only to elite students. While elite schools emphasize academics, the mass educational system has focused on learning at the elementary level. As universal public education became the norm, basic skills and routine performance were considered acceptable (Resnick, 1987a). Essentially, our nation's educational traditions have offered higher-order thinking skills to the elite, while tracking the masses toward low-paying, undemanding jobs. Addressing this problem requires that STW programs be offered to all, beginning where the problem locates its source, at the elementary level.

Eisner (1994) contends that, in many ways, today's schooling is suited to the preparation of students for their future work. Most children, he says, will one day have routine jobs, requiring no flexibility or intrinsic motivation. From this perspective, one could argue that our schools are doing a good job. "Schools prepare most people for positions and contexts that ... are quite similar to what they experienced in school as students: hierarchical organization, one-way communication, routine - in short, compliance to purposes set by another" (Eisner, 1994, p. 91).

While Eisner may be correct about current school programs, this can hardly be viewed as excellent preparation for the demands that industry will place on workers in the future. The number of factory jobs is declining rapidly. Only two decades into the millennium, "we will see the virtual elimination of blue-collar, mass assembly-line workers" (Rifkin, 1997, p. 30). The vast changes Rifkin describes will present our schools with a major task -
educating children for a future that will bear little resemblance to our current notions of work.

Traditionally, schools have emphasized abstract knowledge and individual achievement. "Reading, writing, and 'rithmetic" are competencies once prized by industries wanting large numbers of interchangeable workers. However, the workers of tomorrow will need to have new skills and attitudes - in effect, new competencies. Preparing children for "hierarchical organization, one-way communication, and routine" will no longer be appropriate.

Abbott (1995) contrasts the academic skills and abilities which past generations brought to the workplace with those which are needed for success in future careers:

Young people, unless they are to be excluded from an active role in society, need a range of basic functional skills - numeracy, literacy, and an ability to communicate (the old competencies). But they also increasingly need a range of higher-order skills as well - the ability to synthesize, to solve problems, to deal with ambiguity and uncertainty and, especially, to be creative and personally enterprising (the new competencies) (p. 8).

Abbott goes on to point out that the old skills could be taught in classrooms, while the newer competencies are the products of experience. In order to provide them, schools would need to ally themselves with community partnerships.

A well-known government document, the SCANS Report (Secretary’s Commission on Achieving Necessary Skills, 1991), emphasizes this need for new competencies if students “are to enjoy a productive, full, and satisfying
life. This report summarized a 12-month study of the educational implications related to changes in the world of work. It called for all students to become proficient in the use of: resources, interpersonal skills, information, systems, and technology. These were "new competencies" that should in turn be built on a foundation of basic academic skills, thinking skills, and personal qualities.

Today's elementary-school children will someday have jobs which are "concrete, real, and relevant," and their preparation should be similar, congruent with the DAP guidelines. As Resnick (1987b) writes, the competencies that schools currently provide for students are unlikely to be a direct match for those used in the workplace. It follows that careers education must involve active, experiential learning to offer a meaningful connection between current learning and that which children will need as adults. "Doing worksheets in school prepares a student emotionally to do worksheets in life" (Sylvester, cited in Bredekamp & Copple, 1997, p. 144). The jobs of the future will not require fill-in-the-blank thinking, but the divergent thinking needed to solve complex problems.

Supporting the need for experiential learning are Resnick's (1987b) research findings as regards educational programs which were meant to teach either learning and thinking competencies, or higher order reasoning skills. Those she considered to be the best shared three common elements: (1) They were built on the kind of experiences which are associated with out-of-school
learning; (2) They exhibited elements of apprenticeships; and (3) They were organized around contextualized subject matter rather than general abilities.

Resnick (1987b) contrasts characteristic school-based activity with that which is typical for the workplace. While the latter is based on the task and the tools being "intimately connected with objects and events" (Resnick, 1987b, p. 14), the school curriculum values decontextualized abstract activity. This is not inappropriate for an academic setting, but such activity should flow from experience. "At its best such work steps back from the everyday world in order to consider and evaluate it, yet is engaged with that world as the object of reflection and reasoning" (Resnick, 1987b, p. 19).

When experience provides the context for learning, children have the necessary opportunities to form concepts. Concrete, experiential problem-solving activities help young people to learn about how they will one day function in the adult workplace. Yet, "experiential education is not a series of activities done to a learner.... Learning is a process. Teachers must recognize they do not have ultimate control over the outcome" (DeLay, 1996, p. 80). The learner is responsible for his/her own cognition. It becomes the teacher's task to prepare the learning environment and facilitate the process.

**Teaching Methods Supported by Social Constructivist Principles**

Constructivist principles underlie much of what is considered appropriate educational practice today. While constructivism is not an
educational theory (Cain, 1992; Moulds, 1996), researchers have applied Piaget's principles for classroom use (DeVries & Kohlberg, 1987; Forman & Kuschner, 1983; Kamii & Ewing, 1996). The view of classrooms as formative environments where children develop across all domains, the role of activity as critical, the need for a rich emergent curriculum - all are constructivist-based ideas (DeVries & Kohlberg, 1987; Heuwinkel, 1996). When social interaction is considered as an integral factor, the stance is social constructivist.

A commitment to using experiential learning methods should be reflected in the curriculum plan. Teachers must use real applications and problem-solving activities to help children connect current academic tasks with the demands of future employment. Several approaches are suitable for this purpose. Those introduced in EDU T&L 694.10 were the project approach, learning centers, cooperative/collaborative learning and forms of play. (See Appendix A for syllabi.)

The Project Approach

One teaching method that is sensitive to developmental needs is the project approach. Rooted in the Progressive Education efforts of the early 1900s, it combines methods first popularized by Dewey and Kilpatrick, incorporated with more recent methods based on inquiry and socialization (Hartman & Eckerty, 1995). Kilpatrick's proposal that children select purposeful projects (defined as including purpose, planning, execution, and
judgment) is still valid (Moulds, 1996). The project approach is also consistent with the recent SCANS Report (Secretary’s Commission, 1991), which calls for schools to contextualize learning “rather than insisting that students first learn in the abstract what they will be expected to apply” (p. xv).

Katz and Chard (1989) define a project as offering “an in-depth study of a particular topic that one or more children undertake” (p. 2). Project work extends over several days (or weeks) as children gather and then connect related information. Whether it infuses the curriculum or becomes the content of learning centers, the project approach is meant to promote children’s intellectual development. Katz and Chard (1989) believe this method satisfies five curricular aims: (1) engaging children’s intellects through applying their knowledge and skills; (2) balancing the curriculum and enhancing spontaneous play; (3) connecting classroom life with the world outside; (4) creating a cooperative community of learners; and (5) challenging teachers.

According to Katz and Chard (1989), development has two dimensions - normative (what a child can or cannot do) and dynamic (the effect of experience as change, having delayed impact, or having a cumulative effect). A combination of both developmental dimensions provides a rationale explaining that what children should do is not judged by what they can do. For example, a child may stay up late to watch television with no adverse consequences, but the cumulative effects of repeated practice may indeed prove harmful. Similarly, though a child may learn something about the world
of work by memorizing lists of jobs, this would provide little true understanding or long-term benefit. As Dewey (1938) pointed out, all experiences are not equally valuable.

Four interrelated learning goals underlie the project approach - knowledge, skills, dispositions, and feelings (Katz & Chard, 1989). By replacing typical school tasks which demand little real thinking with the mentally-engaging work embedded in projects, teachers help children to develop positive dispositions toward learning - dispositions such as curiosity, interest, and initiative (Katz & Chard, 1989; Moulds, 1996). An added bonus is that channeling curiosity in a positive way may actually decrease control problems (Hartman & Eckerty, 1995).

Educational implications listed by Katz and Chard (1989) are correlated with the age of the child. Thus, the younger the children, (1) the more likely it is that interaction will assist their learning; (2) the more the content should match their firsthand experiences; (3) the more likely it is that children's backgrounds are unique rather than shared with others; (4) the greater should be the variety of teaching methods used; and (5) the greater the chance that many children will be incorrectly labeled as being "slow." The project method takes all of these elements into consideration. Though it allows for many ways of teaching and learning, all involve firsthand experience. All proceed from the child's interests. And all provide the necessary intellectual stimulation to engage children's minds (Hartman & Eckerty, 1995; Katz & Chard, 1989).
Learning Centers

The learning center approach combines social and cognitive learning within a playlike setting. Learning centers are designated classroom areas structured around themes or academic subjects. Each contains a variety of materials and activities designed to teach specific concepts (Day, 1994; Kostelnik et al., 1993). Typical examples include centers for investigating natural materials, developing listening skills, experimenting with artistic creation, and using construction materials. Including thematic materials in learning centers allows for exploration and integration of important concepts (Kostelnik et al., 1993).

Day (1994) offers three premises as a rationale for the use of learning centers: (1) They provide clearly defined goals and objectives, an important focus for developmentally appropriate practices; (2) Because they offer a variety of experiences, learning centers answer the need for individual appropriateness in the curriculum; and (3) Learning centers capitalize on and enhance positive dispositions for learning.

The learning center approach, if correctly implemented, allows children to work at their own pace on activities which are personally engaging. Teachers may require some activities to be completed by all students. Alternatively, they may assign certain tasks to children for whom they are specifically appropriate, or they may allow children complete freedom of selection (Day, 1994).
Regardless of format, an element of choice should be present so that children may select from many possible activities. Children who have choices are motivated to learn and derive more pleasure from their tasks (Brown & Campione, 1994). In addition, the element of choice helps to create a learning environment that minimizes discipline problems because children are appropriately challenged (Fields & Boesser, 1994; Kostelnik et al., 1993). Different attention spans, for instance, are taken into account. Stone (1995) suggests that children may even create their own learning centers based on personal interests. This would require them to plan, create, and solve problems - all higher order thinking skills.

Perlmutter and Burrell (1995) researched the use of learning centers in one specific classroom. Their description of a primary-grade classroom in which learning center experiences were organized around play is the product of their four-year study. The classroom was designed to have three levels, defined as (1) the environment, including play and learning materials; (2) work or daily assignments; and (3) real-life applications, including projects (Perlmutter & Burrell, 1995). Work and play were integrated within the learning centers, where children applied their increasing knowledge and skills in real-world contexts.

Though children may occasionally do individual work at learning centers, a small-group format is more typical. This offers children learning opportunities framed within the context of shared interest and social
interactions, and it is consistent with the goals of developmentally appropriate practice. Learning centers are also well-suited for problem-solving activities, an important part of work-related education. When teachers introduce meaningful problems into the curriculum, they support children's attempts to build increasingly complex knowledge frameworks (Goffin & Tull, 1985; Tudge & Caruso, 1988; Zahorik, 1997). Children accrue cognitive benefits from these opportunities for divergent thinking.

Problems should be appropriate for children's developmental, experiential, and ability levels. They should be concrete and easily understood, offering multiple levels of complexity to challenge observation, evaluation, and decision-making skills. And they should require a deliberate search for solutions which are themselves concrete enough for children to discover (Goffin & Tull, 1985). Researchers advocate the use of "real-life" problems which will allow children to use prior knowledge to find solutions (Seifert & Simmons, 1997). Because of their open-ended, small-group format, learning centers are especially appropriate for problem-solving and can be adapted for KAPOW lessons.

**Cooperative/Collaborative Learning**

Cooperative learning involves students working together in small mixed-ability groups to achieve some group goal, usually one that is either academic or designed to improve group interrelations (Blumenfeld, Marx,
Soloway, & Krajcik, 1996; Stooksberry, 1996; Thomas, 1992). Although cooperative learning in its current form has evolved over the past twenty years or so, the concept itself is not new. More than a century ago, John Dewey’s laboratory school curriculum was structured around the idea of small groups working together on common tasks (Tanner, 1991).

Today, cooperative learning is more highly-structured. True cooperative learning has been defined as having three important elements: (1) simultaneous interaction (many children interacting at the same time), (2) positive interdependence (team members’ dependence on each another to accomplish a task), and (3) individual accountability (each person responsible for his/her own contribution) (Kagan, 1994; Thomas, 1992). Thus, cooperative learning and small-group work are not synonymous.

Cooperative tasks are usually chosen by the teacher. While some activities are fairly open-ended, many of them are quite structured as to procedure. However, cooperative learning does involve active sharing of ideas and perspectives as children work to complete their assignments. “It is this sharing of differing points of view while attempting to achieve a common goal that results in cognitive advance” (Tudge & Caruso, 1988, p. 52).

Cooperative learning groups must be carefully constructed if students are to gain the maximum benefits. Typically, a group is likely to be more successful if its members are drawn from multiple achievement levels. Kagan (1994) recommends that one high-, two middle- , and one low-achiever be
assigned to each group, while Blumenfeld et al. (1996) maintain that including only two levels (high/middle or middle/low) in a group is optimal. Group members are also selected for gender and ethnicity. “The mix of achievement levels, race and ethnicity, and gender influences how students interact, who benefits, and whether students actually engage in serious thought” (Blumenfeld et al., 1996, p. 39).

Extensive research has documented cooperative learning as contributing to intellectual growth and improvement in social skills (Kagan, 1994). Research has also attributed improvement in cognitive processing skills (such as organizing information) to successful group work. In addition, participants were more accepting of one another, more encouraging, and more likely to accommodate the ideas of group members (Blumenfeld et al., 1996).

Kagan (1994) cites research findings indicating that ethnic relations improved, sometimes significantly, as a result of cooperative learning activities. Improved self-esteem, especially in lower-achieving students, is another benefit that has been supported by research (Kagan, 1994; Thomas, 1992). Finally, and perhaps most pertinently to this inquiry, “greater learning, retention, and critical thinking are short-term results. Long-term outcomes include greater career success and employability” (Johnson & Johnson, cited in Thomas, 1992).

In a study which included several elementary schools, Stevens and Slavin (1995) looked at cooperative learning on a broad scale. Their purpose
was to use cooperative learning to improve student self-management of instruction and to increase involvement in learning. The researchers concluded that accomplishing this goal depended on two conditions - group goals and individual accountability. After comparing students in five schools over a two-year period, those in the treatment group clearly outperformed the control groups on several standardized achievement measures. The longitudinal nature of the study suggested to Stevens and Slavin (1995) that the benefits of cooperative learning are maintained over time.

Similarly, Brown and Campione (1994) have documented the use of cooperative learning in another longitudinal school-wide program. Their "Community of Learners" program is based on constructivist views of learners as being active, self-conscious, and self-directed. The program used a number of methods, but it is structured around cooperative learning activities. During most of the school day, students work together in small groups, each intensely studying an area of personal interest, then sharing his/her new expertise with others. The classrooms within the study are viewed by the researchers as "multiple zones of proximal development" (p. 236). Shared discourse, reciprocal teaching (of students, by students), and academic work done in context are all key elements of their program.

Newer group-work models are based on a more all-encompassing approach called "collaboration" (Blumenfeld et al., 1996). Collaborative learning calls for students to share information with one another, make
interpretations and ask questions, then draw conclusions. Instead of an emphasis on small groups, collaboration stresses the solving of open-ended problems by individuals or groups of all sizes, even by persons whose only tie to the classroom is through e-mail.

“Collaborative learning that engages students in the construction of shared meaning will help advance the learning of disciplinary knowledge and understanding” (Blumenfeld et al., 1996, p. 39). The same could be said, for the most part, of cooperative learning. The social interaction and the problem-solving tasks which can be built into both methods are especially appropriate for older learners and very consistent with the principles of social constructivism. When tasks allow for learners to make choices, the standards of developmentally appropriate practices are met as well. Cooperative problem-solving activities which are not heavily structured can be a beneficial part of KAPOW lessons.

Play

Play is not easily defined. Those attempting to do so have yet to propose a concise statement that accurately encompasses its meaning. Kostelnik et al. (1993) describe play as “the fundamental means by which children gather and process information, learn new skills, and practice old ones” (p. 54). Van Hoorn et al. (1993) see play as being “constructivism in
action for young children” (p. 15). Neither of these statements truly and completely defines play.

Certain descriptors are widely accepted, however, as appropriately applied to play. Most researchers agree that play is intrinsically motivated, pleasurable, spontaneous, and voluntary; that it actively engages the child (or adult); and that it may be related to what is not play (Garvey, 1990; Goldhaber, 1994). Activities might then be assessed as to whether they could be considered "play" according to these descriptors.

Play has been viewed as a series of stages that correspond closely to Piaget’s stages of cognitive development. The first to appear in infants is sensorimotor play, also called practice or functional play. It consists of physical actions, combined and repeated for mastery and simple pleasure. Sensorimotor play corresponds to Piaget’s first developmental stage, also called “sensorimotor.” At about eighteen months, children enter the symbolic play stage. This stage, which is characterized by mental transformation of objects and an increasing interest in play partners, appears near the beginning of Piaget’s pre-operational development period. As children enter the third developmental stage, the concrete operational period, they become increasingly interested in games with rules, the next play stage (Van Hoorn et al., 1993). These play stages are consistent with constructivist principles.

According to the principles of developmentally appropriate practice, play is “an important vehicle for children’s social, emotional, and cognitive
development" (NAEYC, 1997, p. 14). Numerous researchers have also supported the need for play in the early grades (e.g. DeVries & Kohlberg, 1987; Kostelnik et al., 1993; Van Hoorn et al., 1993). Kostelnik et al. (1993) maintain that children's social, communicative, and cognitive functioning is actually higher during play than during academic work. Yet, despite the research support and the potential for positive outcomes, play is rarely a part of the elementary curriculum (Goldhaber, 1994; Perlmutter & Burrell, 1995).

One possible reason is public disappointment with the results our schools have shown during the last two decades (Moulds, 1996; Wortham, 1995). Educational policy reflects the demands for "accountability" which emanate from the community, the state, and even the national level. As a corollary, children are expected to "work" in school, and work is seen as the opposite of play. Due to a prevalent view among well-meaning administrators and even some teachers that students are not learning very much when they are "just playing," teachers in the elementary grades have been forced to focus on a narrow academically-based curriculum to raise standardized test scores (Wortham, 1995).

Recalling the NAEYC's (1997) praise of play, a curriculum based on developmentally appropriate practices must surely include play in the primary grades. Perlmutter and Burrell (1995) point out that first- and second-graders continue to play, if given the opportunity, but that their play may differ from that of younger children. It cannot be easily assigned to categories, such as
symbolic play" or "games with rules," for the categories overlap. It is also more focused and detailed than the play of younger children, reflecting their continued growth and development.

Developmentally appropriate practice has been applied to Early Childhood Education because there is evidence that young children think differently than older children do. For example, they have limited notions of abstract concepts and are not yet able to reason. Practice based on developmental theory is practical, sensible, and appropriate. Yet, older children and even adults learn in much the same ways, especially when a subject is unfamiliar. The "ultimate goals [of learning] are lifelong in intent, spanning the entire period of an individual's educational experience. They are equally applicable to children in pre-primary programs, elementary school, and middle or high school and beyond" (Kostelnik et al., 1993, p. 73).

Play, however, should not be the province of only young children. This paper has cited numerous sources which maintain that individuals continue to develop right into adulthood. Older children, college students, and even adults need to play as part of that developmental process. Wassermann (1992) writes of the inventive, creative, messing/tinkering/playing-around kind of way in which high achieving adults approach their work. According to Bruner (1963), discovery is mostly a matter of "rearranging or transforming evidence" (p. 189), essentially finding new insights in old ideas. Unfortunately, that does not happen unless individuals have the opportunity to do so. "The having
of wonderful ideas, which [Duckworth] consider[s] the essence of intellectual
development, would depend instead to an overwhelming extent on the
occasions for having them" (Duckworth, 1987, p. 13).

Wassermann’s (1992) call for “serious play” in the classroom was meant
to extend to learners of all ages those occasions for having “wonderful ideas.”
She maintains that every important concept, regardless of subject or grade
level, can be taught through “serious play.” And there is no line we can draw
between those who would benefit from play and those who no longer need that
kind of open-ended experience. Play, of one kind or another, is for everyone.

To sum up, teaching methods which are developmentally appropriate
rely on experience to provide a context for learning. Such methods can be
judged by how well they provide opportunities for learning important concepts
and applying higher-order thinking skills in an interactive, authentic context
(Newmann & Wehlage, 1992). This does not mean that learning tasks will
always be elaborate, or fun, or even completely authentic. What it does mean
is that teachers must exploit the opportunities at hand and work toward
providing more authentic, real-world contexts for learning (Cronin, 1993).

The project approach, the utilization of learning centers, and
cooperative/collaborative learning are three methods that are appropriate for
use with children and that can be adapted for older learners as well. All offer
useful frameworks for careers-education lessons at the elementary level. All
of them provide opportunities for active experiential learning accompanied by
social interaction and, if properly implemented, the use of higher-order thinking skills. In addition, all can be inventive and creative activities, much like “serious play.”

**Preservice Teachers Constructing Their Own Knowledge About Applying Developmentally Appropriate Practices**

If we want new teachers to apply constructivist principles and developmentally appropriate practices in their own classrooms, the programs guiding their education should reflect those principles as well (Kaufman, 1996). Achieving that goal, however, is not without problems. Preservice teachers enter their programs with beliefs and attitudes already in place, beliefs and attitudes based on memories and untested in the classroom. These include ideas about appropriate teacher roles; personal expectations (often unreasonably optimistic) about future teaching performance; ideas about “correct” ways to teach; and knowledge of educational routines and rituals (Pankratius & Young, 1995). A lack of practical experience makes it difficult for novice teachers to alter their perspectives or to anchor them to teaching practice (Richardson, 1996). A commitment to constructivist principles undoubtedly necessitates some change in beliefs.

Brown and Rose (1995) questioned whether what preservice teachers learn in college about educational theory will find its way into their actual practice. They interviewed ten elementary school teachers who had learned
constructivist theory, especially the views of Piaget and Vygotsky. Many still taught traditionally, and those who did attempt to implement active learning frequently thought that the activity itself equated learning. Essentially, the beliefs which teachers brought with them to the teacher education program were little altered by it.

In contrast, Smith (1997) tested the beliefs of student teachers about developmentally appropriate practices. Research participants were asked to complete the Primary Teacher Questionnaire (PTQ), a measure of teacher beliefs based on the 1987 NAEYC position statement. After comparing preservice teachers' self-reported scores at the beginning and again at the end of their placements, Smith concluded that the influence of teacher education programs is "perhaps more stable than it is often assumed to be" (p. 239). This recent study, focusing specifically on attitudes and beliefs about DAP, showed the views and practices of the cooperating teacher to be much less influential than had been reported in previous studies.

A second facet of Smith's (1997) research showed that preservice teachers whose elementary education course work had been supplemented with early childhood education classes endorsed DAP principles to a significantly higher extent than did student teachers who had studied only elementary education. The latter tended to be oriented toward traditional practices. Smith maintained that student teacher beliefs were consonant with their preparation - that is, a child-centered program produced child-centered
teachers while a teacher-centered program produced educators who were more traditional in their views and practices.

Smith (1997) further considered the effect of locus of control on preservice teacher beliefs. In general, teachers who internally reinforced their own behavior were less autocratic in the classroom, more reflective and at ease with their roles as educators. Smith found no relationship between internal locus of control and the likelihood that novice teachers would retain their early views about DAP, but such a relationship is consistent with Bullough's (cited in Kagan, 1992) observation that student teachers must clearly see themselves as teachers if they are to assimilate knowledge and skills learned either in university classrooms or in their field experiences: "When novices do not possess clear self-images with which to integrate program knowledge, [it] remains superficial and easily replaced" (Kagan, 1992, p. 146). This seems to indicate that students who are dependent on outside evaluation of their work would be more likely to lack confidence in the beliefs which underlie their own pedagogical practices.

In addition to considering the ways in which teachers teach, the constructivist tradition in teacher education also focuses on how children learn (Kroll & LaBoskey, 1996). This traditional view of the teacher as transmitter of knowledge is rejected in favor of a perspective of the teacher as facilitator, mediator, and co-learner. This constructivist view of the teacher's role has its century-old roots in Deweyan Progressive Education (Richardson, 1996).
Research supports a social constructivist underpinning for teacher education programs. Accepting the idea of multiple perspectives means that teacher educators are not the experts. Rather, the teacher educator's role is an active one based on questioning, acknowledging, encouraging, and challenging students about their belief systems (Pankratius & Young, 1995). Inherent in this notion is the possibility of conflict, and novice teachers need to see how it can engender creativity, imagination, and critical thinking (Osborne, 1997). Novice teachers may find it hard to accept their instructors in that role, and to embrace that role themselves.

According to Richardson (1990), the teacher change literature also sustains the need for interaction among educators regarding the theory, standards, and practice of teaching. Preservice teachers also need these opportunities for group conversations to help them make sense of their emergent views. Brown and Rose (1995) suggest creating a support system so that novice teachers can solidify and affirm their beliefs.

Learning to teach is not an easy task. Literature on the subject suggests that novice teachers change their behaviors as they gain practical teaching knowledge. However, change in behavior is less critical than change in cognition. "Classroom actions are of less importance as a focus of change than the practical knowledge that drives or is a part of those classroom actions" (Richardson, 1990, p. 13). Practical knowledge grows out of experience.
An essential feature of constructivist thinking in teacher education is the need for experience-based learning (Jadallah, 1996; Kaufman, 1996). Novice teachers must be acquainted with constructivist processes and theories if they are to adopt them for their own use. This means they must experience such processes and theories as students, then have opportunities to use them in field experiences. Experiential learning is critical to changing young teachers' ideas about their future roles (Kaufman, 1996; Richardson, 1990). Experience is "an extremely potent teacher," writes Richardson (1990, p. 12) - if it is accompanied by reflection.

Reflection is an important facet of a constructivist teacher education program. It is viewed as essential for knowledge construction, "webbing the known with the unknown" (Etchberger & Shaw, 1992, p. 412), and as a self-evaluation measure for novice teachers (Goodman, 1986; Kaufman, 1992). In reflection, beliefs are identified, a first step toward altering them (Brindley, 1996). Hyun and Marshall (1996) see reflection as related to our diverse public school population, further maintaining that it helps new teachers to develop multicultural attitudes, which is consistent with DAP.

Ideally, preservice teachers are only beginning a life of ongoing learning (Hyun & Marshall, 1996; Pankratius & Young, 1995). As new educators refine their ideas about the skills, knowledge, and behaviors required for effective teaching, their understandings develop "from concrete to more abstract and from simple to more complex" (Katz, 1985, p. 780). Katz (1985)
suggests that novice teachers view their learning as developmental, occurring in stages that are predictable in sequence but variable in length. Table 2.3 summarizes teacher behavior in this four-stage model for teacher learning:

<table>
<thead>
<tr>
<th>Stage I - Survival</th>
<th>Copes with the daily demands of teaching and children; wants acceptance by colleagues.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage II - Consolidation</td>
<td>Feels competent; focuses more on specific skills.</td>
</tr>
<tr>
<td>Stage III - Renewal</td>
<td>2-5 years into career, seeks new learning to renew interest.</td>
</tr>
<tr>
<td>Stage IV - Maturity</td>
<td>3+ years into career, knows strengths/weaknesses as an educator; sees broader view of education.</td>
</tr>
</tbody>
</table>

Adapted from Katz (1985), pp. 780-781

Table 2.3: Developmental stages of the learning of novice teachers.

Similarly, Fuller (cited in Metcalf & Kahlich, 1998) writes that novice teachers proceed from a preteaching phase (with views based on experiences as learners), to an early teaching phase (focused on personal performance), and finally to a late concerns phase (teaching judged in terms of children's progress). Both Katz and Fuller see teacher development as proceeding from
an external locus of control to an internal one, while concerns over personal pedagogical achievement decrease as attention to children’s learning increases. Graduate level preservice teachers may move more quickly from the initial to the final phase, with no intermediary step (Metcalf & Kahlich, 1998).

Preservice teachers who have adopted the constructivist view will be comfortable with the concept of learning as a lifelong process, realizing that teaching in a constructivist manner involves learning along with their students. Because making mistakes is a natural part of learning, teachers may attempt application of new knowledge and skills rather than clinging to methods that require no risk because they make no intellectual demands.

In summary, preservice teachers are more likely to embrace a social constructivist philosophy if it is reflected in their teacher education program. This means that teacher educators must consider multiple perspectives in their classrooms. Group interaction and experience-based learning are essential, especially in field settings. Experience loses its educational value, however, unless reflection is also part of the program. Finally, young teachers must see learning as a lifelong process that develops in stages, starting with attention to basic coping skills and proceeding to a broader view. “When preservice teachers learn in a constructivist manner, they learn firsthand the principles of active learning and the power of pre-existing conceptions. They also sense the empowerment that comes with learning how to learn” (Pankratius & Young, 1995, p. 368), an empowerment that can be shared with their own students.
Summary and Conclusion

Developmentally appropriate practice (DAP) is an important concept in education today. Two of its principles are the need for learning based on experience and the importance of play as a vehicle for learning. The intersection of social and cognitive development as seen in DAP reflects a stance which may be referred to as “social constructivist.”

This literature review has found support for the concept of development as a lifelong process, so that DAP principles may be applied, in some ways, to learners of all ages. Play has been shown to be a link between learning and experience. Play is structured by experience even as it enables the learner to gather information to build a knowledge scheme. Experience also provides a useful approach for the study of careers education (STW programs).

The literature has provided a rationale for using teaching methods supported by social constructivist principles - play, and the playlike methods of the project approach, learning centers, and cooperative/collaborative learning. Finally, the literature supports the need for constructivist-based teacher education if preservice teachers are to embrace social constructivist principles and apply the tenets of developmentally appropriate practice. According to Duckworth (1987), starting a new program with teachers requires that “the teachers themselves must learn in the way that the children in their classes will be learning” (p. 9). KAPOW as implemented on our campus is certainly a new program.
Although there is literature on School-to-Work programs, almost none of it deals with programs at the elementary school level. No literature was found which addressed the ways in which preservice teachers implement School-to-Work programs. Several recent articles discuss a constructivist approach to preservice teacher education, but there has been little specific consideration of the ways in which these young teachers apply the principles of developmentally appropriate practice in their own teaching.

A literature review provides a knowledge base for the researcher, and in turn, for the reader. It can never be all-inclusive (Morse, 1994). As is appropriate for a constructivist project, that which I had previously read took on new meaning when juxtaposed with writings newly-found. “Thought itself ... and writing especially draw phrases into paragraphs, append labels onto constructs. Attention focuses. Generalization can be an unconscious process” (Stake, 1994, p. 240). The literature review provides a theoretical foundation for research and the necessary material by which writer and reader alike can form their own connections.
CHAPTER 3

METHODOLOGY

Theory is important. Theory helps us to organize the world, to sort out the details, to make some coherent sense out of a kaleidoscope of sensations. Without theory we would collapse exhausted from our encounter with experience.


Introduction

This inquiry reflects a social constructivist stance on learning. It was the work of Jean Piaget and John Dewey which set me on the path toward sustained study at the graduate level. It was their constructivist philosophy which helped me make sense of all that I learned. For me, constructivism is inseparable from education. I could hardly avoid being drawn to the constructivist approach to human inquiry.

Constructivism is predicated on the belief that each individual constructs his/her own knowledge schema. When we learn something new, we compare it to what we already know. We try to fit the new information into the schema, and when that is impossible, we reconfigure the schema. “Making theory is simply what human beings do” (Ayers, 1992, p. 262). My belief that
personally constructed knowledge can be shared mediates my perspective on learning. I may learn in isolation, but my learning is enhanced through interaction.

In the ontological position of Lincoln and Guba (1985), there are "always an infinite number of constructions that might be made and hence there are multiple realities" (p. 84). An important part of constructivist theory is the view that truth is really the result of perspective (Schwandt, 1994). The fact that my reality is inconsistent with my neighbor's does not mean that we cannot both be right. Within the parameters of our own knowledge constructions, each of us may be judging the same situation very differently but quite correctly. This does not mean that all constructions are well-formed. Sometimes our knowledge is incomplete or too simplistic for us to build a carefully-constructed schema.

"Knowledge accumulates only in a relative sense through the formation of ever more informed and sophisticated constructions, ... as varying constructions are brought into juxtaposition" (Guba & Lincoln, 1994, p. 114). All knowledge is personal, created rather than discovered. Every person has a unique perspective, shaped by previous learning and experience. As such, no one really knows another individual's views on anything. We only interpret them in the light of our own understandings.

As a researcher, then, I also interpreted the data with respect to my own knowledge framework. Interpretation of multiple realities dictated a use
of qualitative methods. My inquiry centered on knowledge construction, a
dynamic process that cannot be measured in numbers. I considered the
application of knowledge in the sharing of ideas. This intersection of varied
perspectives further complicated the interpretation. Of necessity, my own
views were not outside the investigation. I, too, was a learner and an insider,
architect of just one of the realities framing the study.

"The test of theory is how well it enables us to deal with our practical
tasks. Theory is a tool, not simply an end within the professional sphere”
(Eisner, 1988, p. 19). Thus, it was only fitting that constructivism be more
than a theory which explains how human beings learn. It was also the
paradigm which guided my research, the tool with which I structured my
research design.

**Context and Setting**

The study was conducted within the context of a three-part course,
EDU T&L 694.10 *The World of Work and the Elementary School*, offered
during three consecutive quarters on the regional campus of a major
Midwestern university. Informally known as the “KAPOW course,” it is
structured around the KAPOW Program mentioned in Chapter 1. The campus
acts as a business partner, paired with a local elementary school. Trained
volunteers visit the school on a monthly basis to implement pre-prepared
lesson plans on work-related topics.
Education majors represent our campus in this project, and they are prepared to do so by taking the "KAPOW course." The combined in-class and field experience spans a full academic year. I teach the course and coordinate the KAPOW Program for the campus. My inquiry commenced in September 1997 and was conducted across three consecutive quarters - Autumn 1997, Winter 1998, and Spring 1998. Program participants for the 1997/1998 academic year also became the participants for my study.

Classroom experiences took place on our campus, usually in a large, well-appointed classroom referred to as "the Education room." Class met from 9:00 to 12:00 on Friday mornings, focusing on hands-on teaching techniques and authentic learning experiences. On seven occasions across the three quarters, or about every third to fourth week, participants worked with the elementary children in their school rooms (one lesson in Autumn, three in Winter, three in Spring quarter). The children also made one visit to the university, where they experienced "real work" activities planned by the participants in collaboration with campus employees. Program evaluators from Brandeis University have found this "site visit" to be the most popular as well as the strongest feature of the program (Grobe & Bailis, 1996). Both the site visit and the elementary-school classroom visits were coordinated with our partner school to fit their schedule and ours (See Table 3.1).
Table 3.1: KAPOW field experience schedule.

<table>
<thead>
<tr>
<th>Lesson #1</th>
<th>Career Awareness</th>
<th>October 24, 1997</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson #2</td>
<td>Site Visit on Campus</td>
<td>November 21, 1997</td>
</tr>
<tr>
<td>Lesson #3</td>
<td>Positive Work Habits</td>
<td>January 23, 1998</td>
</tr>
<tr>
<td>Lesson #4</td>
<td>Self-awareness</td>
<td>February 13, 1998</td>
</tr>
<tr>
<td>Lesson #5</td>
<td>Interdependence</td>
<td>March 6, 1998</td>
</tr>
<tr>
<td>Lesson #6</td>
<td>Decision Making</td>
<td>April 17, 1998</td>
</tr>
<tr>
<td>Lesson #7</td>
<td>Overcoming Bias and Stereotyping</td>
<td>May 8, 1998</td>
</tr>
<tr>
<td>Lesson #8</td>
<td>Occupational Structure</td>
<td>May 29, 1998</td>
</tr>
</tbody>
</table>

The KAPOW organization provides pre-packaged lesson plans to each business partner. The topics covered (Table 3.1) offer appropriate content for a K-12 STW approach, including: (1) extensive career awareness activities, (2) career exploration and planning for making good choices, (3) self-awareness activities coupled with increased knowledge of others, and (4) broader knowledge of the world (Starr, 1996). In addition, the site visit answers the need for children to have “developmentally appropriate work-based learning experiences” (Charner et al., 1995, p. 58).
These lessons are educationally sound in that they do consider age appropriateness, and the activities support the objectives stated for each lesson. However, they are not as engaging as they might be; that is, there is less of the active experiential learning that is recommended by DAP. Many lessons involve paper-and-pencil exercises or lengthy teacher-led discussions. Of necessity, the lessons are geared to fit “generic” children who may live anywhere. The social and cultural considerations that define each school and business site, each child and business volunteer, are reflected to a much lesser degree in the KAPOW lesson plans.

It should be noted that the KAPOW Program does provide a choice of activities, some more appealing than others. However, our partnership is unique in that children may participate for as many as four years, so for every lesson, I have had to choose one activity for each grade level to avoid repetition for the following year. While we are bound to complete the assigned objectives, I was told that we could change the lessons as we saw fit. My goal was that my participants would restructure the lessons to use more active experiential learning.

Learning in school need not, and should not, be different from children’s natural forms of learning about the world. We need only broaden and deepen their scope by opening up parts of the world that children may not, on their own, have thought of thinking about (Duckworth, 1979, p. 311).

In broadening the children's scope of learning about work, participants would also restructure their own schemes about applying DAP.
Curriculum for EDU T&L 694.10

"Curriculum is the intended fare of the schools, and teaching is its vehicle. However, ... curriculum affects and is affected by teaching, and the opposite is also true. So, the medium and the message have a close relationship" (McCutcheon, 1988, p. 191). Content and method, while separate entities, are also strongly and irretrievably linked. EDU T&L 694.10, as presented during the 1997-1998 academic year, was designed to convey a specific message on two levels. As part of a School-To-Work program for elementary students, it presented the tenets of careers education. As an opportunity for novice teachers to construct the basics of their practice, it became a different kind of School-To-Work program, one that could help them to make the transition from student to teacher.

The course was built around two important goals: (1) providing an experience for the elementary students to enrich their knowledge of the world of work, and (2) helping novice teachers to acquire the knowledge, attitudes, and skills that would enable them to become better educators. At all times, I was conscious of the need for these still inexperienced teachers to develop confidence in their abilities to present information and orchestrate the lesson, while controlling a roomful of active children.

Although effective classroom management has been found to be influential in increasing learning (Wang, Haertel, & Walberg, 1993/94), my primary goal in presenting rudimentary classroom management skills was to
give students a comfort level. If they felt uncertain, they would be tempted to plan something “safe” instead of something “good.” They would fall back on teacher-directed activities. While their first attempts might be more tentative, confidence should increase as the year went on. I hoped that, by the end of the year, students’ self-assurance would allow them to plan active learning experiences without fear of losing control.

As stated in Chapter One, all good School-To-Work programs are built around three important features: (1) school-based learning, (2) work-based learning, and (3) activities which connect the two (Koch, 1995). EDU T&L 694.10 was a combination of classroom (school-based) and field (work-based) experiences, with the KAPOW Program acting as the connecting link. The students’ work-based component was school-based learning for the children in our partner school. Children’s work-based learning involved a visit to the campus, where “KAPOW course” participants collaborated with employee volunteers to provide a work simulation, an experience that was the product of our classroom work. Essentially, EDU T&L 694.10 was really two School-To-Work programs which, like the teacher and the curriculum, were both separate and interconnected. Course content and method had to reflect this duality.

In keeping with the views of numerous researchers who have called for constructivist programs in teacher education (e.g. Black & Ammon, 1992; Burk & Dunn, 1996; Fosnot, 1996b; Richardson, 1996), the course content for
EDU T&L 694.10 was experiential in nature. "If we want the intended curriculum best to contribute to the enacted one, we must find ways to design the first with the second clearly in mind" (Ball & Cohen, 1996, p. 8). The implementation of a constructivist curriculum furnished a model for developmentally appropriate teaching. Yet, our classroom was also a learning laboratory where participants collaborated with peers as "creators as well as consumers of educational knowledge" (Zeichner & Liston, 1987, p. 31). Thus, lectures were the exception; shared discourse and participation in all manner of learning experiences were the rule.

Cooperative learning, games, teacher tasks and other "serious play" (Wassermann, 1992) provided opportunities for increased knowledge constructions, while suggesting possible activities for their KAPOW lesson plans. Although DAP was addressed frequently, this was not a course on child development or developmental theory. Rather, DAP principles supported the teaching of the STW lessons.

The need for reflection has been documented by a number of researchers (e.g. Fosnot, 1996b; Han, 1995; Hyun & Marshall, 1996; Kaufman, 1996). This was satisfied through journals, a largely open-ended assignment designed to elicit and solidify students' thoughts about their teaching. Class meetings also featured extensive student interaction (verbal and written), as appropriate for a constructivist course (Richardson, 1990). I hoped to make extensive use of peer interaction to help students "understand and articulate their own and
others’ images and assumptions about what good teaching means” (Hawkey, 1995, p. 176).

Nearly every class involved some cooperative small-group work. Students were assigned many “real” tasks during class time, often within the context of a cooperative activity. This inspired thought about lesson enhancements, encouraged growth of a classroom community, provided a comfort level for group presentations, and offered a model of experiential learning. Such work strengthened the students’ partnerships, supporting collaborative experimentation (Fosnot, 1996b) in field experiences and allowing participants to perform a trial run in a low-risk laboratory setting as opposed to a natural classroom (Metcalf & Kahlich, 1998).

Pre-lesson planning sessions were central to the course and to this inquiry. Students worked in groups according to the grade levels of their assigned elementary classrooms (typically one “primary” group and one “intermediate” group). During this time, they decided how to adapt the pre-prepared KAPOW lesson plan for their classes. Because teachers adapt available materials to suit their own students, “developers’ designs [become] ingredients in - not determinants of - the actual curriculum” (Ball & Cohen, 1996, p. 6). Students might modify the plans extensively, but the objectives must be met to maintain program integrity.

The planning sessions were occasions for sharing information and ideas, both within and across the two groups, and they solidified the class members
in their pursuit of a common purpose. "It is in a community of learners that individuals acquire the ideas and dispositions that allow them to approach objects and events with a discerning eye" (Prawat, 1995, p. 20). Besides offering rich opportunities for collaboration, these sessions provided opportunities for me to assess students' learning.

Eisner (1994) states that education is defined by what teachers do in the classroom, as well as by the resulting experiences their students encounter. Participants were both students and teachers, experiencing one curriculum even as they helped to structure another. And just as they had to make choices in planning their lessons, I had to do the same.

According to Erickson (1992), "every thoughtful teacher must make analogous value choices, for all possible practices need not be seen as equally growth enhancing" (p. 6). My task was to provide a balance of activities, to challenge participants' emergent pedagogical theories, and to scaffold the developing practice of each student. The syllabus for each of the three parts of the course is found in Appendix A.

**Pilot Study**

Qualitative research demands flexibility from the researcher, for initial questions may be altered or eliminated during the inquiry. One way to address this is through a pilot study, allowing the researcher to "shape the proposal around concrete experiences rather than speculation. This can yield greater
conceptual strength as well as improvements in logistic efficiency” (Locke, Spirduso, & Silverman, 1987, p. 91).

An initial study that I conducted under the auspices of a qualitative research course (Winter 1997) was very helpful in narrowing the focus of my inquiry. The study consisted of data from five observations (one cooperative activity, two planning sessions, two field experiences), two debriefing sessions, and two sets of journal responses. From that data, I created a grounded survey based on recurrent themes I had noticed. Results of the survey revealed further patterns about the students’ beliefs and attitudes and helped me to construct the curriculum for my inquiry.

“Simply observing and interviewing does not ensure that the research is qualitative, for the qualitative researcher must also interpret the beliefs and behaviors of participants” (Janesick, 1994, p. 213). The pilot study helped me to make those interpretations. What I had learned during the preceding course offering enabled me to focus on participants’ beliefs, an important first step in helping them to embrace constructivist pedagogy (Brindley, 1996).

**Research Design**

In Chapter One, I outlined a number of questions that I hoped to explore through this inquiry. In order to gain information, I made use of the “conceptual tools ... of language, intention, and schema” (Eisner, 1988, p. 15). What did the students say about their beliefs and their practice? How were
their intentions revealed in their practice? How were their evolving schemas of educational methods made manifest through their practice?

My approach was to start with observations and group interviews, then supplement that data with document analysis. Individual interviews provided closure for students as they left the program. These methods - observation, interviewing, and document analysis - are “central” (Punch, 1994, p. 84) to qualitative research. The use of multiple methods was also consistent with the constructivist paradigm, which sees that “the aim of attending carefully to the details, complexity, and situated meanings of the everyday life world can be achieved through a variety of methods” (Schwandt, 1994, p. 119). All took place within a context that was itself experiential, combining the planning and implementation of real lessons in an authentic setting.

I was both an active participant and an observer. Interaction with students, primarily within the context of the class, allowed me to learn about their ideas while building my own knowledge constructions. Document analysis also furthered my own knowledge even as I attempted to chart the development and reconstruction of student belief systems.

As is consistent with constructivist theory, the research design was an emergent one. The curriculum “emerged” from my decisions about what students already understood (or misunderstood) about DAP and how to apply it. This impacted the design as I added new elements to the course or eliminated material that I originally planned to include.
Sample and Participants

According to Patton's (1990) criterion sampling method, the sample population for the study consisted of undergraduate and graduate-level students enrolled in the course during each quarter. Maximum enrollment was eight, based on the number of assigned classrooms at our partner school (four classrooms, two students per classroom). Students included seven females and one male. At the onset of the Autumn 1997 quarter, five were juniors (four females, one male), two female students were seniors, and the remaining female participant was an M.Ed. student.

Course prerequisites included a minimum of one quarter of field experience and a positive recommendation from an advisor or field supervisor. Students filled out an application that also asked for a list of work experience. If more than eight students applied, preference would be given to those who had completed more field experience, with work experience considered as a second important factor.

Eight students were accepted - as it happened, those who first applied. They were informed of their acceptance by telephone and/or letter during the summer prior to Part I of the course. Only two students initially signed up for all three parts of the course. However, on the first day of class, all indicated that they wished to continue if possible, and seven of them did complete all three quarters (though one dropped out near the end of Part III). Also on that first day, I outlined the context of my research, and all agreed to participate.
This was a very diverse group, as shown by the information in Tables 3.2 and 3.3. "A good mix of people has two functions: It enables peers to learn from each other, and it keeps [one] alert as a teacher" (Jones, 1986, p. 91).

<table>
<thead>
<tr>
<th>NAME</th>
<th>Rank</th>
<th>GPA (4.0 scale)</th>
<th>Field Experiences Completed</th>
<th>ED Major Declared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amy</td>
<td>Senior/</td>
<td>3.95</td>
<td>Explorers (1), Mentoring (1)</td>
<td>Spring 1996</td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td></td>
<td>*Advanced (1), *Mentoring (1)</td>
<td></td>
</tr>
<tr>
<td>Megan</td>
<td>Senior/</td>
<td>3.5</td>
<td>Explorers (1), *Mentoring (1)</td>
<td>Spring 1997</td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td></td>
<td>*Advanced (1)</td>
<td></td>
</tr>
<tr>
<td>Diane</td>
<td>Junior/</td>
<td>3.0</td>
<td>Explorers (1)</td>
<td>Spring 1998</td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td></td>
<td>*Mentoring (1)</td>
<td></td>
</tr>
<tr>
<td>Jeff</td>
<td>Junior/</td>
<td>2.73</td>
<td>Mentoring (2)</td>
<td>Spring 1998</td>
</tr>
<tr>
<td></td>
<td>Junior</td>
<td></td>
<td>*Explorers (1)</td>
<td></td>
</tr>
<tr>
<td>Ellen (AU, WI)</td>
<td>Junior/</td>
<td>3.5</td>
<td>Mentoring (3)</td>
<td>Not Yet</td>
</tr>
<tr>
<td></td>
<td>Junior</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linda (AU, WI)</td>
<td>M.Ed./</td>
<td>3.9</td>
<td>Explorers (1), *M.Ed. (2)</td>
<td>Spring 1997</td>
</tr>
<tr>
<td></td>
<td>M.Ed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Susan</td>
<td>Junior/</td>
<td>3.23</td>
<td>Explorers (1)</td>
<td>Spring 1998</td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Holly</td>
<td>Junior/</td>
<td>3.3</td>
<td>Explorers (1), *Mentoring (1)</td>
<td>Spring 1998</td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Denotes field experience completed during the inquiry; number in parentheses indicates number of quarters completed.

**Mentoring** is relatively unstructured field work (2-5 hours/week) and suitable for both Education and non-Education majors. Faculty guidance is informal, and cooperating teachers choose much of the format. **Explorers** is the first formal field experience for Education majors (10 hours/week). Faculty provide a weekly seminar and intermittent supervision in the field. **Advanced Field Work** is the culminating undergraduate field experience for Education majors. Like **M.Ed. Field Experiences**, it involves 10 hours/week in the field, accompanied by a block of related university courses and close supervision by faculty on a weekly basis.

Table 3.2: Participants' self-reported academic demographic information.
Table 3.3: Participants' self-reported personal demographic information.

This was indeed an unusually diverse group, but they would have to work together if they were to successfully implement the KAPOW lessons. Before we began work on the lessons they would jointly plan and implement, students were paired on the basis of the grade level they desired (second/third or fourth/fifth). Student pairs who would work with the primary-grade children were Ellen/Linda and Susan/Holly. Diane/Jeff and Amy/Megan became partners to work with the intermediate grade children. However, in our own classroom, students often were paired with those who were not their partners and worked in other small-group configurations as well.
Data Collection

I focused on three types of information about students' understanding and application of developmental theory: their attitudes toward its use as evidenced in spoken and written comments; the ways in which they adapted pre-packaged lessons to make them developmentally appropriate for the children in their assigned classrooms (especially as regards experiential learning); and the ways in which they implemented those plans in the context of careers-education at the elementary level.

Data collection actually began with pre-registration applications, providing some basic demographic information. This allowed me to consider student knowledge in light of their previous field experiences and other work with children. Students were given a pretest on the first day of class to ascertain their current levels of knowledge about DAP. As consistent with DAP, this assessment was embedded within a task that allowed students to gain insight into the child's perspective while testing their own knowledge schemes.

Informal observations began on the first day of class and continued throughout all three quarters. With the exception of field experience debriefings (see Table 3.4), students were not tape recorded to avoid inhibiting their conversation or interfering with the normal flow of events. Where possible, notes were written immediately. Field notes were written and transcribed on computer after each class.
Observations of a more formal nature occurred on specific occasions: when students were working in small groups to complete some project (usually about 20 minutes), during pre-lesson planning sessions (about one hour), during the implementation of lessons in the field (about one hour), and during the site visit (about 6 hours). On these occasions, I was sometimes able to record my field notes immediately and I transcribed them on computer as soon as possible. "Observations conducted systematically and repeated over varying conditions that yield the same findings are more credible than those gathered according to personal patterns" (Denzin, cited in Adler & Adler, 1994, p. 381).

The number of field observations I completed was dependent on time schedules. When multiple pairs taught simultaneously, I could view only one of the classrooms. If students staggered their lessons, I was able to observe as many as three field experiences. The times were arranged with the classroom teachers. Our usual schedule was for both intermediate groups to teach at 9:00 in the morning and the two primary pairs to teach immediately after lunch, but unanticipated school events sometimes altered that pattern. Including the site visit (which I saw in small increments), I observed 17 of the 28 lessons as shown in Table 3.4. I was assisted on some occasions by two graduate research assistants (and one of our campus field supervisors), who viewed 10 of the remaining lessons. No data was collected for one lesson because the student was no longer a research participant (See Table 3.4).
<table>
<thead>
<tr>
<th>STUDENT PAIRS</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amy and Megan</td>
<td>X</td>
<td>X</td>
<td>L</td>
<td>X</td>
<td>J</td>
<td>X</td>
<td>L</td>
<td>X</td>
</tr>
<tr>
<td>Diane and Jeff</td>
<td>X</td>
<td>N</td>
<td>X</td>
<td>J</td>
<td>X</td>
<td>M</td>
<td>X</td>
<td>L</td>
</tr>
<tr>
<td>Ellen and Linda</td>
<td>J/L</td>
<td>N</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>M</td>
<td>X</td>
<td>N</td>
</tr>
<tr>
<td>Susan and Holly</td>
<td>X</td>
<td>N</td>
<td>J</td>
<td>X</td>
<td>L</td>
<td>X</td>
<td>L</td>
<td>X</td>
</tr>
</tbody>
</table>

X = Researcher; J = Jennifer; L = Laura; M = Mrs. M; N = not observed

Table 3.4: Lessons observed by researcher and assistants.

In addition to lesson observations, I also completed 14 small-group in-class observations with participants working in pairs or in groups of four; seven planning session observations; and one site visit observation (to a limited extent). The richest data was expected to originate in the planning sessions, in the student journals, and in the lesson implementations. This proved to be true.

Two M.Ed. students had expressed an interest in studying KAPOW for their own research projects. They were excellent students and had been judged by professors and field supervisors as outstanding preservice teachers. Each had participated in the KAPOW Program during the previous year. They
acted as my research assistants, observing the lessons I could not personally view, and then transcribing their field notes. On one occasion, when neither was available to do observations, a field supervisor from the university agreed to perform this function for me. This greatly increased the amount of data available for analysis. Participants' individual descriptions of lessons served to triangulate this data, as received from the observer and from each partnership member.

To assure greater continuity of data collected by four observers, I provided a recording sheet that mirrored the format of the KAPOW lesson plans. In addition to our pre-observation discussions about the types of data to be collected, all the observers used the recording sheets to concentrate on applications of DAP in the lesson implementations. In most cases I was able to discuss each lesson with observers immediately afterwards to note initial impressions that might be omitted from their reports. The recording sheets assured that all observers focused on the same kind of detail, and they also provided a framework for our pre- and post-lesson discussions.

"Observation produces especially great rigor when combined with other methods" (Adler & Adler, 1994, p. 382). After each field experience, I began the class with a "debriefing session" in which each student described the events of the lesson implementation and offered comments about "how it went." These were much like focus group interviews with participants responding to one another. It was interesting to hear two views of the same
lesson as each partner described what had happened. Often, someone in the
group would bring up the subject of developmental appropriateness as regards
one issue or another. The eight debriefing sessions, another rich source of
data, were tape recorded and transcribed for analysis.

One course requirement was that students keep a response journal.
After each field experience, students exchanged journals and responded in
writing to what another student had written about teaching the lesson. I also
kept a journal on my teaching and my research to note specific in-class and
out-of-class happenings. All of these entries became part of my research data.
Document analysis also included products from student course work: midterm
examinations, final projects, and the lesson plans written prior to their field
experiences.

I interviewed students before they left the program. Interviews were
tape recorded and transcribed for data analysis. The focus was on students’
understanding of developmentally appropriate practice, including experiential
learning, and how students had applied its principles in planning and
implementing their lessons. Prior to the interviews, students completed a
“continuum of beliefs” form regarding DAP (adapted from Gronlund, 1995).
This was very helpful to me in structuring some of the interview questions.
Appendix A includes a copy of this document.

To summarize, the research questions listed in the introductory chapter
were addressed through several methods. The major question - How do
preservice teachers understand and apply developmental theory, especially through experiential means, to enhance children's learning in careers-education lessons at the elementary school level? - was answered primarily through my observations of planning sessions and the lessons themselves. Additional insight was found in participants' journal entries and in their classroom conversations. Final interviews completed as participants left the program confirmed or challenged my views of their understandings.

In terms of the subsidiary questions, I learned about the knowledge of DAP which participants [brought] to the course through their completion of a pretest based on the most recent DAP guidelines (Bredekamp & Copple, 1997). Observations and journal entries showed how their use of active, experiential learning methods change[d] as the academic year [went] on. Again, the final interview added to my understanding. It was guided by an exercise (See Appendix A) which students completed just beforehand. This required them to locate their beliefs on a continuum ranging from teacher-centered practices to those which were more child-centered (Gronlund, 1995).

Journal entries, observations, and the final interview also helped me to ascertain what factors had contributed to participants' knowledge constructions about developmentally appropriate practices over the course of the year. Informal conversations before, during, and after class offered some insight into that issue as well. Finally, my observations increased my understanding of the ways in which DAP principles [were] related to careers
education at the elementary level. Analysis of student lesson plans and the KAPOW-prepared plans as compared with the principles of DAP were also important. The DAP guidelines (Bredekamp & Copple, 1997) served as a primary source for this analysis.

The choice of method affects the data which is collected. By using a variety of methods - observations, one-on-one and group interviews, document analysis, and student response journals - I was able to gather a great deal of information. Each source might support, enhance, or contradict data that I received from other sources. Considered together, this enhances the generalizability of a study. Denzin (cited in Janesick, 1994) refers to this as "methodological triangulation" (p. 215).

Through organization and interpretation of the data, I learned a great deal about the ways in which the principles of developmentally appropriate practice are understood and applied by preservice teachers. I also gained some insights into the ways in which these principles can be implemented in elementary classrooms in a School-to-Work setting.

Pretest Instrument

Much of the content of EDU T&L 694.10 was based on the precepts of developmentally appropriate practices. However, before I could study my participants' learning and application of developmental theory, I had to ascertain their previous beliefs about DAP principles. For that reason, I
administered a pretest on the first day of class in the Autumn quarter (Part I of the three-part course).

The “DAP Pretest” consisted of 24 statements which I had adapted from the most recent edition of Developmentally Appropriate Practice in Early Childhood Programs (Bredekamp & Copple, 1997, pp. 161-179). This document contains many, many examples of appropriate and less appropriate teaching practices. I chose the pretest items based on an attempt to include (1) examples that might be familiar to students through previous field experiences, (2) examples of teaching practices that supported the KAPOW field experiences, and (3) examples of DAP principles that might challenge the participants’ current beliefs about teaching and learning.

To administer the pretest, I asked students to go to separate tables and work on their own. They were given individual answer sheets and sets of DAP Sorting Cards (the pretest) which I had prepared. Each student received a set of cards in a given color. (There were two sets in each of four colors.) The Sorting Cards consisted of 24 cards, each with a single numbered statement illustrating either appropriate or inappropriate practices for teachers of primary-grade children. (See Appendix A for pretest statements.) This test format was consonant with Biehler and Snowman’s (1993) assertion that “the use of realistic problems and conditions” (p. 429) supports constructivist principles.
The pretest required participants to write their own definitions of “developmentally appropriate practices.” Then they were asked to sort their cards into two piles according to whether they considered the statements to be “appropriate” or “inappropriate.” The numbers of the statements were to be recorded in the proper sections on their answer sheets. Finally, I allowed time for students to discuss their answers and make changes if they wished. This is consistent with the position that constructivism is fostered through seeing new ideas from multiple perspectives (Biehler & Snowman, 1993).

Data Analysis

Qualitative inquiry is an analytic enterprise, one that intrinsically involves interpretation of data. There are no a priori hypotheses, no objective focuses, no standardized measurements to yield the hard-and-fast results aimed for in quantitative research. My data was not reducible to columns of figures that could prove my point. Rather, it consisted of words and ideas, overlaid with the nuance of human interaction.

I was conscious of the three subprocesses of data analysis (Huberman & Miles, 1994): data reduction through choice of conceptual framework; display of data in an organized way; and drawing conclusions or verification of ideas by finding patterns, clustering concepts, looking for negative cases, and checking results with participants. Organizing, manipulating, and repeatedly reflecting on the data was an important part of my research from inception to 106
closure. This was appropriate to the constructivist paradigm which sees inquirer and inquiry as linked "so that the 'findings' are literally created as the investigation proceeds" (Guba & Lincoln, 1994, p. 111).

Qualitative data analysis was an ongoing process which continued throughout the duration of the inquiry. Finding patterns across diverse data sources contributed to construction of my own understanding. I was interested in application of developmental theory, but I believed that many factors might impact how and to what degree students learned and applied such theory. I looked for those factors.

I began by searching for the themes which had emerged in my pilot study - preservice teachers' concerns about their own professional development, about their implementation of the lesson itself, and about their relations with one another. However, as my work continued, other themes also extended and/or replaced those I had previously noticed. As a qualitative researcher, I had to depend on the data to reveal what would be important. Cross-checking my identification and understanding of themes with my advisor and committee members, as well as with another colleague, was also extremely helpful to me.

Janesick (1994) suggests that researchers immerse themselves within the inquiry, making decisions about what they observe on a continuing basis. She offers three rules of thumb that can serve as dimensions for data analysis and are appropriate for qualitative research:
1. "Look for the meaning and perspectives of the participants in the study."

2. "Look for relationships regarding the structure, occurrence, and distribution of events over time."

3. "Look for points of tension: What does not fit? What are the conflicting points of evidence?" (p. 213).

These three dimensions gave me a starting point as I began searching for patterns and relationships in the data.

Entering my field notes into the computer as soon as possible after each event allowed for comparison of episodes. As the research progressed, my own cognitive constructions sometimes dictated that I proceed one way or another. For example, it was students' lack of attention to lesson objectives that led me to build several classes around the planning process and the reflection that should inform it. The results were valuable to me in both my roles as instructor and researcher. Thus, the course curriculum emerged as I learned along with my students and planned work that would challenge and enhance their emerging concepts.

Writing the final report was also an important part of the data analysis. In the writing, I made mental connections as I structured the text. The writing was a dynamic process in which my ideas were either strengthened or altered in the transition from thought to word. The text describes, explains, and gives voice to participants (including myself). In each of these acts, analysis was
present as I placed the data in context. Writing was “not only inscription but also discovery” (St. Pierre, 1997, p. 408).

The actual research design was itself analytical. “Choices of conceptual framework, of research questions, of samples, ... and of instrumentation all involve anticipatory data reduction... These choices have a focusing and bounding function” (Huberman & Miles, 1994, p. 430). By deciding to study my participants’ adaptation of pre-prepared lesson plans, rather than their relations with children in the classroom (or any other facet of the KAPOW Program as implemented on our campus), I had already begun the process of data analysis.

**Establishing Credibility**

*Credibility* is the word which Lincoln and Guba (1985) substitute for the positivist (quantitative) term *internal validity*, the degree to which research results measure the phenomena they are designed to measure. Credibility is established through the use of the data sources. In my research, I attempted to assure credibility through member checks. These took the form of the exit interviews I conducted with my students.

Another means of increasing the credibility of the study is prolonged engagement. I based my inquiry on a ten-week pilot study and then conducted the research over the course of three consecutive quarters. This provided me with an opportunity to consider participants’ knowledge constructions over an
extended time, as well as furnishing possibilities for the triangulation of data through multiple observations.

Triangulation of methods can also enhance the credibility of an inquiry. My methodology included observations and interviews, analysis of documents, and the ongoing use of response journals as part of the research design. Collection of data from multiple sources means that the findings may be more easily transferred to other settings. Credibility was also enhanced through investigator triangulation, defined in this case as the review and evaluation of data coding by a knowledgeable colleague (described more extensively in Chapter Four).

In qualitative study, the researcher becomes an instrument of the research. As a participant researcher, my perceptions shaped the inquiry even as I interpreted the data, guiding the path of investigation while the research unfolded. Throughout the process, I kept a reflexive journal, recording "a variety of information about self ... and method" (Lincoln & Guba, 1985, p. 327). It was very helpful in heightening my awareness of the inquiry and its progress. It also provided a means to review my initial interpretations of the events that occurred over the course of three academic quarters.
CHAPTER 4

PARTICIPANT CONSTRUCTION
AND APPLICATION OF KNOWLEDGE
ABOUT DEVELOPMENTAL THEORY

Particular actors, in particular places, at particular times, fashion meaning out of events and phenomena through prolonged, complex processes of social interaction involving history, language, and action. The constructivist ... believes that to understand this world of meaning one must interpret it.

(Thomas A. Schwandt, 1994, p. 118)

Introduction

Any teacher who has read Harper Lee’s (1960) classic novel To Kill a Mockingbird must empathize with the lament of young Scout Finch. Worn out by unexpected difficulties on her first day at school, the unhappy girl decides to drop out. Her father successfully convinces her to return to the classroom, but her initial expectations are never fulfilled:

The remainder of my schooldays were no more auspicious than the first.... As I inched sluggishly along the treadmill of the Maycomb County school system, I could not help receiving the impression that I was being cheated out of something. Out of what I knew not, yet I did not believe that twelve years of unrelieved boredom was exactly what the state had in mind for me ([pp. 34-35]).
Boredom results when education is meaningless. Children must be able to connect new learning to what they already know so that they can build concepts that make sense. A child-centered curriculum that offers children the necessary opportunities to make these important connections is based on developmental theory (Bredekamp & Copple, 1997).

Although developmentally appropriate practices are fundamental to many teacher education programs, “across the span of early childhood settings, DAP has not consistently replaced more teacher-centered methods of teaching young children” (Smith, 1997, p. 221). For some reason, novice teachers are not applying the developmental principles that are the foundation of their university programs. This chapter describes one attempt to learn about the ways in which preservice teachers understand and apply developmental theory in an authentic setting.

The context of the inquiry was a three-part course, including eight field experiences devoted to careers-education at the elementary level. Each of the participants and the researcher, who acted as both instructor and observer, brought individual contexts and realities, creating multiple perspectives. Yet from these diverse views would emerge one story. “Qualitative researchers are interpreters who draw on their own experiences, knowledge, theoretical dispositions, and collected data to present their understanding of the other’s world” (Glesne & Peshkin, 1992, p. 153). As a researcher, it was my task to pull these realities into that one story.
In this chapter, I present a chronicle of what has come to be known as “the KAPOW course” as it unfolded during the 1997-1998 academic year. I describe the experiences of the eight participants as they learned some of the principles of developmentally appropriate practice and attempted to apply them in the careers-education lessons they developed and taught. My descriptions and interpretations are meant to provide insight into participants’ learning of developmental theory.

A chronological treatment seemed most appropriate for outlining the events of this inquiry because student knowledge constructions - as evidenced in their reflections and as applied in their lesson plans and their teaching - built on their previous learning. I have chosen, therefore, to present a description of each lesson in the order in which it occurred. In each case (with the exception of Lesson Two, which differed in format), there were four key considerations: (1) preparation students received in class (instruction, activities, etc.); (2) planning of the lesson by students, mostly in class, but often refined in the days preceding implementation; (3) implementation of the lesson in the elementary school; and (4) reflection, done in written form outside of class and in both written and oral form during the first class following each field experience. My own initial thoughts, reactions, teaching decisions, and emergent theories were captured as “researcher reflections.”

The format for each section was chosen according to how well it presented the information, and more importantly, the way in which the data
was collected. For example, audio recorded debriefings and written journal entries facilitated the creation of an "implementation" section that was rich with direct quotations. In contrast, the fluid nature of my observation-while-teaching meant that the "planning" segment would be mostly descriptive. Thus, the format is non-uniform across the five segments comprising each lesson description.

Bogdan and Biklen (1992) recommend that participants' identities be protected in order to provide them with confidentiality. Accordingly, pseudonyms (first names only) have been substituted for the names of those who participated in this inquiry. Participants' actions and words (both oral and written) were attributed to these fictional individuals.

Each lesson description was drawn from many sources: course assignments and examinations; participants' journals and responses; transcripts of lesson observations and post-lesson debriefings; and my own journal descriptions of in-class occurrences. The interpretations, however, are mine. In Schwandt's (1994) words, they are "the inquirer's construction of the constructions of the actors one studies" (p. 118).

**Terminology**

Because this inquiry focuses on participants in a university course that includes a field experience in an elementary school, there may be some confusion of terms. Therefore, the university students are variously referred
to as “students,” as “participants,” or as “volunteers.” This last reference is consistent with the term “employee volunteers,” the KAPOW Program designation for those who implement lessons in the elementary school classrooms. The elementary school students are referred to here as “children,” as “primary/intermediate-graders,” or as “pupils.”

Similarly, the students both attend university classes and teach lessons to children. Therefore, the term “lesson” is used to describe the educational experiences planned and implemented by the students as part of the KAPOW Program. I use the terms “instruction,” “teaching” or “mini-lesson/lecture” in reference to the pedagogical training I provided in our own university classroom.

The DAP Pretest - Assessing Participants' Knowledge and Beliefs

The participants were education majors, seven undergraduates and one Master’s level student, who had taken no methods courses and whose previous field experiences were somewhat limited. Before assessing their learning and application of developmental theory, I needed to know more about students’ pedagogical beliefs as related to DAP principles. For this reason, activities on the first day of the class (Part I) included a “DAP Pretest” consisting of individual sets of DAP Sorting Cards, each complete set in one of four colors, and accompanying answer sheets. (Sorting-card format suggested by R. Becher, personal communication, August, 1997.)
In reviewing the directions with participants, I learned that none of those present was familiar with the term "developmentally appropriate practices." (Ellen had been exposed to the concept in another class, but she was absent that first day.) Students were asked to begin by writing a definition of the term on their answer sheets. Many of them seemed to give this serious consideration. Some appeared to be writing "forever" even though only four lines were provided for the definition.

Next, each student was to sort his/her cards into two columns according to whether the statements seemed appropriate or inappropriate for teaching children aged six to eight. Many students used an additional column for statements about which they were still unsure. After about ten minutes, students were directed to write the statement numbers in the sections of their answer sheets marked "appropriate" or "inappropriate."

Students were then instructed to find the individual whose cards matched their own in color, for the purpose of comparing answers. The cards had been distributed in plain envelopes, so matching was random: Diane and Holly were paired for the activity, as were Jeff and Linda, and Megan and Amy. Because Ellen was absent, I sat with Susan, talking with her about her sorting decisions without revealing the "right" answers. Students were to discuss their choices, then make any changes they wished. They seemed to be making few changes, however, and all but Megan and Amy (who continued working after the others had returned to their seats) finished their discussions.
very quickly. A later examination of the answer sheets showed that Jeff changed only one answer, while Linda altered two of hers. There were no other apparent changes.

A whole-group discussion followed. Before hearing the accepted definition of DAP, students read their own definitions aloud:

**Amy** - “Teaching in a way that each child can understand according to where they are developmentally - activities that are at the right level for the class.”

**Megan** - “Lessons that are designed for the appropriate age group and their appropriate developmental stage.”

**Diane** - “Giving students work based on what their developmental abilities are for their own selves.”

**Jeff** - “Practicing a certain task with the intent to enhance and develop a specific ability.”

**Ellen** (Pretest given Week Two) - “Teaching subjects that are appropriate for the learning levels of the children you have in your class. It is also important to consider age and cultural background.” It should be noted that she heard the term defined in a previous class before she wrote this.

**Linda** - “Information that is appropriate and taught at the child’s appropriate age and stage of development.”

**Susan** - “You should teach and explain the directions to the age appropriate to the development of the class.”
Holly - "The way you behave or practice your behavior at a certain age (or certain point in your development)."

Nearly all of the students' definitions focused on the concept of child development, either explicitly or implicitly, and many came close to the idea of age appropriateness. Diane's defining statement also reflected individual appropriateness. Only Ellen, who had already heard the accepted definition, mentioned the idea of cultural appropriateness. All but Jeff and Holly included the teacher's role in their definitions as well.

I then defined DAP as teaching practices based on accepted tenets of child development and including three factors: Age Appropriateness, the application of developmental principles to predict, within a given age range, which educational experiences would be appropriate for students; Individual Appropriateness, curricular considerations related to the development of individual children; and Cultural Appropriateness, the effect of cultural and social background factors on children's learning (Bredekamp & Copple, 1997).

Next I read aloud the correct answers (according to Bredekamp & Copple, 1997), while students marked their answer sheets. The scores were generally good, ranging from 16 to 22 out of a possible 24 correct answers, with a mean score of 18.5. The scores were as follows: Amy, 22; Megan, 21; Diane, 19; Jeff, 18; Ellen, 18; Linda, 17; Susan, 17; and Holly, 16.

Analysis of students' answer sheets revealed that four statements had caused the most difficulty (numbers 5, 9, 11, and 23). This indicated that
students' previous experiences and/or opinions conflicted most often with DAP principles in the following areas: deciding how teachers should spend their time when pupils are working on their own (statement 5, missed by five participants); realizing that educators must teach social skills (number 9 - four misses); deciding whether children may converse with one another during school time (number 11 - missed by all); and using ability grouping versus flexible grouping as a teaching tool (number 23 - six misses). I planned to assess students' growth in knowledge and application of DAP across a range of principles, but I wanted to give special attention to the most commonly misunderstood areas.

After scoring the pretest, we discussed several of the statements which seemed puzzling to students. For example, everyone missed number 11, which stated that children should have time during school hours to talk with their friends or teachers. One participant expressed doubt that her own child would concentrate on schoolwork if talking with friends was allowed during school time. We concluded that this practice would not work in every situation (such as during tests or assemblies or possibly with learning disabled students) but that it was an important goal to strive for in an ideal day. This discussion reinforced the concept that teaching - and learning - is not always based on "one right answer."

Besides providing baseline information about students' knowledge of DAP, the pretest also offered a context for experiencing developmental
practices. Having participants work on their own before allowing them to discuss this unfamiliar material with their classmates afforded them an opportunity to consider whether learning is best done alone or in a group. Despite the fact that students made few changes in their answers after comparing their work, all agreed that their initial categorization efforts would have been easier if they had helped one another.

Similarly, participants learned that assessment need not take the form of a written test. I presented them with a list of the same 24 statements, looking very much like a true-or-false test. Students realized that categorization was a more active, but equally effective, means of evaluating their prior knowledge. Thus, the DAP pretest functioned both as an assessment measure and as a teaching tool.

Field Experience Preparation

Preparation for students’ planning and implementation of each lesson was facilitated by specific university instruction during the weeks preceding it. This included mini-lectures emphasizing DAP principles and/or teaching techniques. Students also tried out cooperative activities that could be adapted for their KAPOW lessons, examined children’s literature and/or watched film clips that could provide children with vicarious experience, and explored ideas for curriculum integration. Assignments were designed to assess practical and/or theoretical aspects of teaching.
The class just prior to each field experience included an hour of pairs' planning time, during which I answered questions or offered advice. Though I initially ended with 15 minutes for grade-level pairs to compare plans, I discontinued this as unproductive after the first lesson. Students planned almost exclusively with their own partners even when other students sat near them. Participants were to consider DAP principles in their planning. If time allowed, they also looked at a course of study from a local school before finalizing the plans. Pairs submitted a preliminary lesson plan on a form that I created (See Appendix C). It summarized the chosen activities and highlighted the ways students would meet each objective.

**Lesson One - Preparing, Planning, Implementing, Reflecting**

**Preparation**

The first four weeks of the Autumn 1997 quarter provided students with a much-needed orientation to the KAPOW Program. In addition, they needed to learn more about the process of teaching. None of them had taken any methods courses as yet, and they had little knowledge of how young children can change as they move from the primary grades to the intermediate levels. Students also needed to know how to plan and implement a lesson effectively. All of these areas were part of the university coursework which prepared students for Lesson One (Summarized in Table 4.1).
<table>
<thead>
<tr>
<th>Topics of Mini-Lectures (See Appendix B for details of numbers 1 &amp; 2)</th>
<th>Activities Modeled as Possibilities for Use in Participants' Lessons</th>
<th>Articles Used to Support Learning of DAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2) Basic Classroom Management</td>
<td>(See Appendix B for descriptions of Cooperative Learning Activities)</td>
<td></td>
</tr>
<tr>
<td>3) The Basics of Lesson Planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4) Integrating the Curriculum through Literature</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activities Provided to Support Participants' Knowledge of DAP</th>
<th>Curriculum Integration and Literature Connections</th>
<th>Other Professional Development (e.g. Teaching Skills)</th>
</tr>
</thead>
</table>
| 1) DAP Pretest and Sorting Activity | **Children's Books**  
Barbour (1987)  
McPhail (1990)  
Phillips (1985) | 1) Interviews of university employees |
| 2) "Snacks" Activity - Students discover learning possibilities in ordinary activity, e.g. eating snack foods | **Math Connections**  
Classification in games  
Links to students' jobs  
Connecting school math and future uses | 2) Visit to the partner elementary school to meet the principal and the teachers |
| 3) Use of Multicultural Literature | | 3) Introduction to the Course of Study - locating our lessons |

Table 4.1: University coursework preparation for teaching lesson one.
Planning the Lessons

KAPOW Lesson One, *Career and Occupational Awareness*, listed three objectives: (1) that children would meet the participants and learn about their roles as volunteers in introducing the world of work in their classrooms, (2) that children would become more capable of identifying and describing local-area jobs; and (3) that children would learn how school work could one day be applied in the workplace. The KAPOW-provided lesson plans suggested that primary-grade children examine some tools used in the volunteers’ jobs and that intermediate-graders list things they might see on the upcoming site visit. Students judged the former as irrelevant to their roles on our campus, while the latter was viewed as uninteresting. They hoped to plan more engaging activities.

During the class just before the implementation, I allotted time for pairs to plan together. Students’ questions during the planning session reflected DAP principles. Worried that Ellen’s complex plan would tax the attention of children in their assigned classroom, Linda requested my help to simplify it. Diane and Jeff asked me to review suitable activities for intermediate classes, while Susan and Holly needed extensions for a brief activity. I suggested to Megan and Amy that they incorporate their own backgrounds to help children make connections. Partners submitted a preliminary plan on a form provided for that purpose (See Appendix C). Table 4.2 lists the procedures planned by each pair.
<table>
<thead>
<tr>
<th>Student Pairs</th>
<th>Objective 1</th>
<th>Objective 2</th>
<th>Objective 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intermediate Classrooms</strong></td>
<td></td>
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</tr>
<tr>
<td>Amy/Megan</td>
<td>Introduce selves, jobs. Each will bring objects that are clues to her own job.</td>
<td>In small groups, class lists jobs in <em>Roundtable</em> format to fit specific categories of occupations.</td>
<td>Class shares their <em>Roundtable</em> lists; volunteers relate to school subjects.</td>
</tr>
<tr>
<td>Diane/Jeff</td>
<td>Introduce selves, their jobs, purpose of the visit - and review the meaning of “KAPOW.”</td>
<td>Groups brainstorm 10 jobs, Diane/Jeff choose job for each group to write 5 clues about. All share and guess.</td>
<td>Discuss how each job makes use of school-acquired knowledge and skills - e.g. math, etc.</td>
</tr>
<tr>
<td></td>
<td>Primary Activity/s - <em>Roundtable</em> with clues, discussion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ellen/Linda</td>
<td>Same as Diane/Jeff above.</td>
<td>Class divided into 2 groups, Ellen/Linda show objects (job clues) and children guess - then draw careers.</td>
<td>Same as Amy/Megan above in the guessing game format.</td>
</tr>
<tr>
<td></td>
<td>Primary Activity/s - “Job Bags,” drawing, discussion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Susan/Holly</td>
<td>Same as Amy/Megan above.</td>
<td>Volunteers bring bags of items (job clues) - children guess, later draw tools for jobs of choice.</td>
<td>Same as Amy/Megan above in the guessing game format.</td>
</tr>
<tr>
<td></td>
<td>Primary Activity/s - “Job Bags” with props, drawing, discussion.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For *Cooperative Learning* (italicized) descriptions, see Appendix B.

Table 4.2: Plan components for field experience one.
Participants' pre-lesson journal entries indicated concern for applying DAP principles in the lessons. "It's hard to figure out if a lesson is individually appropriate when you've never met each student," wrote Diane... "[But] age and cultural appropriateness are easier to figure out with the demographics of the class." Susan wrote, "[Holly and I] thought an age appropriate activity would be to [have children] draw a picture of a job or tools used for the job, with ... the occupation written at the bottom." Having adults write the occupations to help make sense of "unrecognizable" drawings shows attention to individual differences, but Susan did not mention that emergent writers might also need help.

Linda thought about cultural appropriateness before her first lesson, writing, "I wonder how many of the students in Mrs. A's class have parents who do not work.... I will not ask, because I do not feel the students would be comfortable. Ellen and I must be very sensitive." Megan worried about children's academic levels, writing, "I have a good idea of where typical fourth and fifth graders are, but we were told [by the principal] that this class is below that. But the lesson we intend to do should cover most elementary grade levels."

Implementation

This section details participants' implementation of KAPOS Lesson One, Career and Occupational Awareness. I was especially interested in
students' use of DAP principles. I have coded my narrative description of their lessons to draw special attention to the elements of developmentally appropriate practices that I observed. These are labeled as Age Appropriate (AA), Individually Appropriate (IA), and/or Culturally Appropriate (CA). While I was aware of some of these elements as they actually occurred, many more became apparent in the process of analyzing the data and writing the final report.

To enhance the credibility of this analysis method, I asked a colleague to review my coding. This individual was the director of our campus Early Childhood Lab School, an instructor of Early-Childhood courses, and a student of developmentally appropriate practices. She examined my coded description of each lesson, and on a few occasions, her judgment differed from my own. We then discussed it, and in a small number of instances, I altered my coding as a result. In most cases, our discussions addressed the issue of cultural appropriateness. The conversations were fairly lengthy as both she and I worked to expand our views of culture beyond the macro level to include the idea of school and/or classroom culture. However, as time went on, we found that there were increasingly fewer discrepancies between our views.

By the end of spring quarter (Part III of the course series), our ongoing dialogue had helped us to establish "intersubjectivity" (Berk & Winsler, 1995, p. 170), a construction of mutual understanding about the coding of the DAP elements. Our agreement was confirmed when my colleague inadvertently
returned her copies of the final two lesson descriptions several weeks late. On reading her comments, I found that she had made only two recommendations. In both cases, I had already made the corrections, and my revisions were an exact match for her suggestions.

In addition to feedback from my knowledgeable colleague, I also based my coding decisions on research findings. For example, because research indicates that many cultural groups excel when working cooperatively (Kagan, 1994), participants' use of small-group activities was coded as Culturally Appropriate. Similarly, appealing to more than one learning modality in a lesson (Kostelnik et al., 1993) was viewed as responding to individual needs and coded as being Individually Appropriate. Table 4.3 provides an overview of my decisions in labeling a specific lesson element as (AA), as (IA), as (CA), or with some combination of the three. I do not contend that my coding is comprehensive, delineating every possible aspect of developmentally appropriate practices exhibited within participants’ lessons. Rather, it reflects my own analysis of what I observed and is presented here in summary form.

Immediately following the table are descriptions of students’ first lesson implementations. To facilitate a better understanding of age appropriateness at each grade level, I have described the two intermediate-grade lessons first, then those which occurred in the two primary-grade rooms. I also included, early in each description, a brief reminder of the lesson components (stated in parentheses).
<table>
<thead>
<tr>
<th>Some Elements Labeled (AA)</th>
<th>Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of concrete objects</td>
<td>These elements are concerned primarily with the needs of the &quot;typical&quot; child of a given age range. For example, many young children do benefit from the use of concrete objects in learning, especially with an unfamiliar topic. Relying only on abstract means of conveying information is a &quot;less appropriate&quot; practice. Students' use of these elements shows knowledge of child development and learning.</td>
</tr>
<tr>
<td>Demonstration/modeling</td>
<td></td>
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<tr>
<td>Displaying pictures</td>
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<tr>
<td>Passing items around</td>
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<tr>
<td>Warning of time limits</td>
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<tr>
<td>Using real situations as examples</td>
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<tr>
<td>Getting physically on child's level</td>
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<tr>
<td>Sitting on the floor</td>
<td></td>
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<tr>
<td>Opportunities to examine things</td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Some Elements Labeled (AA, IA)</td>
<td>Reasons</td>
</tr>
<tr>
<td>Reading aloud displayed lists</td>
<td>These elements are labeled (AA) because they are concerned with the needs of the typical child of a given age range. However, they are also labeled (IA) because they also consider the needs of the individual child. For example, it is useful for all children to connect the written and spoken word, so reading a displayed list aloud is helpful. For some individual children, those who do not read well on their own, there is an additional benefit that is personal. Some elements also reflect learning preferences. The bodily kinesthetic learner, for example, might enjoy using props. Students' use of these elements shows knowledge of individual needs of specific children in their assigned classrooms - or possible needs (e.g. non-readers).</td>
</tr>
<tr>
<td>Encouraging conversation</td>
<td></td>
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<tr>
<td>Reading a book aloud</td>
<td></td>
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<tr>
<td>Including movement in a lesson</td>
<td></td>
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<tr>
<td>Writing children's words on the chalk board</td>
<td></td>
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<tr>
<td>Simplifying children's answers</td>
<td></td>
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<tr>
<td>Giving clear instructions</td>
<td></td>
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<tr>
<td>Reviewing previous work</td>
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<tr>
<td>Offering choices</td>
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<tr>
<td>Keeping a good lesson pace</td>
<td></td>
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<tr>
<td>Having children take turns</td>
<td></td>
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<tr>
<td>Sharing with the group (oral)</td>
<td></td>
</tr>
<tr>
<td>Discussion, definitions, examples</td>
<td></td>
</tr>
<tr>
<td>Vicarious experience</td>
<td></td>
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<tr>
<td>Performing skits</td>
<td></td>
</tr>
<tr>
<td>Using props</td>
<td></td>
</tr>
<tr>
<td>Playing guessing games</td>
<td></td>
</tr>
<tr>
<td>Art activities</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Some Elements Labeled (AA, IA, CA)</td>
<td>Reasons</td>
</tr>
<tr>
<td>Random grouping</td>
<td>I believed these elements to be concerned with the needs of the &quot;typical&quot; child of a given age range, to consider the needs of the individual, and to reflect cultural background factors as well. Students' use of these elements shows consideration of cultural differences (defined as both macro- and micro-cultural).</td>
</tr>
<tr>
<td>Use of familiar jobs/situations</td>
<td></td>
</tr>
<tr>
<td>Applying personal knowledge</td>
<td></td>
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<tr>
<td>Examples of popular culture</td>
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<tr>
<td>Projecting future careers</td>
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<tr>
<td>Relating school and work</td>
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<tr>
<td>Connecting previous lessons</td>
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</table>

Table 4.3: Basis for labeling lesson elements as AA, IA, or CA.
Amy and Megan worked in Mrs. B’s classroom with intermediate (fourth and fifth) grade students. For the most part they followed the plan they had made (Job Bags, Roundtable, discussion). Each of them introduced themselves by pulling objects from a “job bag,” then letting the class hazard a single guess about their occupations. Introducing this unfamiliar topic with concrete objects (AA) interested the children, especially when Amy displayed the beribboned dancing shoes that represented her job as a ballet teacher.

In order to explain how to do their Roundtable activity, Megan and Amy demonstrated by passing chalk back and forth and writing a list of jobs on the chalk board (AA). Megan read the list aloud for the benefit of those who were not good readers (IA). Small randomly-formed groups (AA, IA, CA) were then given five minutes to write, with children taking sequential turns, all the jobs they knew (AA, IA, CA) that required driving. They were allowed to talk and help one another with spelling (IA). Their lists included everything from sports figures (race car driver) to familiar community helpers (United Parcel Service workers, dog catcher) and several groups included Meals on Wheels (CA).

Megan and Amy asked children whether they would like to “play one more round” (AA) and their assent was overwhelming. This time the assigned topic was “people who wear a hat or uniform (or both) for their jobs,” another good choice which allowed children to apply what they already knew (AA, IA, CA). The children’s answers showed great creativity (IA) and ranged from
neighborhood occupations (mail carrier, fireman) to child-oriented characters (cub scout, Mickey Mouse) (CA).

Megan and Amy deviated from their original plan slightly by bringing in a pre-written list of jobs (many with accompanying pictures - AA) and asking the children which occupations could make use of math, writing skills, etc. Amy finished by asking children what jobs they might like to have as adults. Their responses were surprisingly free of gender bias - including girls who wanted to be corporate lawyers or baseball players, boys who wanted to be artists (IA, CA).

This was a very good lesson, though I did have to remind Megan and Amy to pass around the interesting items they had brought in their “job bags,” especially Amy’s pointe shoes (AA). However, they applied their knowledge of DAP principles in planning an active, cooperative lesson which stretched children’s cognitive schemes by having them categorize familiar jobs (AA, IA, CA). The children were also very much engaged with the activity and were able to demonstrate that they had learned.

In Mrs. C’s fourth/fifth-grade classroom, Jeff and Diane followed their lesson plan fairly closely (Roundtable with “clues,” discussion). When introducing himself and describing his college work, Jeff was careful to define the word “junior” for those who did not understand it (IA). Although in private he had sometimes disparaged his own job as a grocery bagger, in his presentation he was mindful of the fact that all jobs deserve respect (CA).
Next Jeff described the activity, while Diane and Mrs. C deftly modeled it on the chalk board, first listing jobs and then writing clues for one of them (AA). Jeff read their list of jobs and clues aloud because he knew the class included a few children who had difficulty with reading (IA). Children were divided into small groups according to their regular seating patterns (AA, IA, CA).

While children worked, Jeff and Diane circulated the room to give help as needed (IA). Children read their lists of jobs aloud with assistance (IA), and Jeff helped them connect an “archaeologist’s” job to their previous understandings by referring to a movie character most of them knew well - “Indiana Jones” (AA, IA, CA). He and Diane asked some nice open-ended questions to help children express and extend their knowledge - e.g. “Tell me about the DARE officer” (AA, IA, CA). When the children worked on their clues, Diane helped one group understand how to write the more general clues first, then the more specific ones (IA), and she respected the children’s work by warning them a few minutes before time was up (AA). After all the clues were shared and the jobs guessed, Jeff led children to find similarities in all the jobs and Diane pointed out that all did not require a college education (CA).

Although the children enjoyed the activity very much, it did not go as planned. Only two of the six small groups were able to read more than one clue before their job was guessed. Diane and Mrs. C had modeled the procedure for writing clues (AA) but not the thought process which would allow children to sequence them properly. Jeff was not thorough enough in
giving directions. He did instruct children to “start with the hardest (clue) and end with the easiest,” but he did not define “hardest” as meaning “most common.” Thus, the initial clue “this person passes out money to people” allowed other groups to correctly guess the occupation as “banker.” The group that had the most success with their clues (three read aloud before the job was guessed) was the one which received individual help from Diane (IA). Nevertheless, the lesson was well-organized and smoothly implemented, the class discussion revealed that the objectives had been fulfilled, and these two participants applied their knowledge of DAP principles in many ways.

I was unable to view the lesson done in Mrs. A’s primary-grade (second and third) classroom because it occurred simultaneously with another lesson. However, my two research assistants, Jennifer and Laura (pseudonyms), did observe this lesson (Job Bags, drawing, discussion), taking notes on their recording sheets (See Appendix C). They reported that while Ellen and Linda introduced themselves in a conventional manner, they made use of what they called “mystery bags” (referred to previously as “job bags”) as their main activity. They did one practice bag together (AA) before dividing the class into two smaller groups of about ten children each. Then they asked children to bring their name tags with them, to facilitate the learning of names (AA, IA), and form two circles on the floor. Each participant met with one group.

Ellen and Linda each presented three more mystery bags to their own groups. Linda allowed the children to handle each clue (AA) and showed the
name of each job on an index card (AA, IA). Ellen elected not to let children touch the clues she had brought. Consequently, her group finished sooner than Linda’s did, but Ellen was prepared to share a storybook with a work-related theme (AA).

The participants extended the lesson by having children draw the jobs they would like to have as adults (AA, IA, CA). In addition to giving oral instructions for the drawing, Ellen and Linda also posted written directions on chart paper (IA). They helped children glue their finished work on a larger piece of mural paper (AA, IA). Then (in Jennifer’s words), they “reviewed careers by categories according to the subject area needed for certain jobs,” helping children to develop concepts (AA, IA, CA) about work.

The use of the “mystery bags” was very appropriate for primary-grade children. Ellen and Linda managed the activity’s length by limiting the number of bags (AA, IA). However, according to Jennifer, their whole-group review activity was too long for the attention spans of the children. In future lessons, Ellen could also consider allowing the children to handle any concrete objects, and according to Laura, both participants needed to be more aware of age-appropriate vocabulary. Nevertheless, as Laura reported, “Ellen and Linda did an excellent job meeting the objectives, keeping the [children’s] attention, and conveying their message.”

Mrs. D’s primary-grade classroom is a second/third grade split. Susan and Holly implemented their lesson plan (Job Bags with props, drawing,
discussion) with these young children. Like Megan and Amy, they introduced themselves through the use of “job bags” filled with interesting items (AA). Holly then called on children to name jobs their parents or neighbors held, or jobs held by television characters (some parents are unemployed) (AA, IA, CA), while Susan listed each suggestion on the chalk board and read them aloud to help emergent readers (IA). Many children mentioned specific jobs which involved working for well-known local companies. Unlike the intermediate-grade partners, Susan and Holly used familiar jobs (AA, IA, CA) to discuss how school subjects would someday be useful in the workplace.

Next, the children were asked to leave their desks and seat themselves in a large circle on the floor (AA, IA). The main activity was an extension of their “job bag” introduction. Susan and Holly had prepared more than a dozen such bags, each filled with objects to represent some occupation. As they displayed the items, each one was given to a child to hold or wear while the class tried to guess the job (AA). Soon the room was filled with children wearing lab coats, sunglasses, or a fast-food worker’s headset, while others held toy handcuffs or stuffed animals (AA).

The use of concrete materials (AA) helped children with the next activity. Susan showed children some drawings she had made (AA) so the children would understand that they were to draw the tools used in a job. Both she and Holly circulated the room to give help as needed and write the name of the selected job on each child’s paper (AA, IA). As children finished
their work, the KAPOW participants helped them glue their pictures to a large piece of mural paper (AA).

This lesson, which utilized concrete materials and active learning, was very appropriate for young children. The initial activity was a bit long for this class, and I did have to suggest to Susan that she give children an indication of how much time they would have to draw (thus validating their work - AA). Overall it was a very good lesson that met all the lesson objectives and was developmentally appropriate for the most part.

Reflection

Because no one person can ever really know the experiences of any other individual, it is “impossible for any single voice in the classroom - including that of the professor - to assume the position of center or origin of knowledge or authority, of having privileged access to authentic experience or appropriate language” (Ellsworth, 1989, p. 310). Thus, students’ reflections were critical to my understanding and their own. Post-lesson journal entries revealed their continued deliberation as students evaluated their own lessons. The debriefing session also allowed them to share their thoughts with the entire group.

Coding of students’ journals and the debriefing transcript identified numerous issues. Those that were repeated a significant number of times and/or those that appeared in many students’ comments were judged to be of
particular importance to participants in the context of the lesson and were designated as "themes." However, if sub-coding revealed a diversity of unrelated reasons for students' inclusion of a certain issue (e.g. feelings of nervousness about doing the lesson, feelings of annoyance toward children's behavior, feelings of resentment about a partner's actions) the issue was not considered to be a theme for that lesson. An issue mentioned several times by only one or a few students was also not considered to be a theme. Theme-related excerpts were used to construct the reflective conversation included as part of each lesson review.

The following extracts from the whole-group debriefing transcript and participants' journal entries were combined to mesh their reflections as expressed in their own words. The resulting "constructed conversation" summarizes information from these two lengthy data sources. In the words of Polkinghorne (cited in Huberman & Miles, 1994), it is a "retrospective gathering of events into an account that makes the ending reasonable and believable... configuring the events in such a way that their part in the whole story becomes clear" (p. 435). Here I present a conversation constructed through the "retrospective gathering" of reflections, "configuring" them to show the importance of each to the whole. My goal was to interpret the overall intellectual and emotional tone of each source and illuminate the major themes I discovered. Yet students' voices are also preserved through the use of direct quotations.
The conversation I have constructed to summarize and interpret participant reflections for Lesson One focused on the following themes (order is not significant): (1) participants' feelings about preparing and doing the lesson; (2) descriptions of how each pair had implemented the lesson; (3) specific concerns about classroom management, including use of time; (4) students' judgments as to whether they had met KAPOW lesson objectives; (5) children's learning; (6) judgments as to whether their lessons fit DAP (developmentally appropriate practices) guidelines; (7) participants' assessments about their own growth as novice educators; (8) partner issues; and (9) assessments as to whether the lesson had gone well or poorly - what I refer to as "how it went" - as measured primarily in the children's responses to it. (The same key words identify themes in both the list above and in the conversation that follows.) In the journals and the debriefing session, themes were not addressed in a linear manner; rather, students revisited them again and again. However, this constructed conversation does examine themes linearly to enhance the understanding of the reader.

I also participated in the debriefing to a limited extent, and words in the following text that are attributed to the "Instructor" are my own. Yet my dual role as instructor and researcher demanded that I interpret as well as speak. Thus, the dialogue is broken at intervals by explanatory narrative, printed in italics, which express my role as researcher. Only the italicized portions are not derived from the raw data that I collected. Underlined text indicates that
Students' opening statements reflected their feelings of excitement about what they had experienced in teaching Lesson One.

Susan: What a fun hour! The kids were excited to have us in their class.... I think the big hit was the guessing game.... I thought it was very age appropriate for this group.

Holly: I think it went real well. It was a fun experience.... The kids behaved very well. They were excited and interested. They like[d] hands-on things the most.

Participants' descriptions of their experiences provided great detail about some of the issues that concerned them most greatly. Classroom management was a very important topic, as seen in the following exchanges.

Ellen: Linda and I both managed our groups a little bit differently - like she passed [each object from the mystery bag] around. I tried to hold it in because I didn’t want all that activity.... But what it also did was that it moved my group along a little faster than hers because there wasn’t the sharing process.

Linda: There was a girl sitting right beside me who grabbed everything as soon as I pulled it out. One of my mystery bags was for a carpenter, and I
had a hammer in there. I had not thought beforehand - so that was a mistake. This lesson certainly taught me to think about safety and what a big difference it can make.

Susan: We had a hammer, too, but I kept that. (Laughs). We did have safety goggles, tape measure, wood... I think they enjoyed it.

The following comments indicate that developmentally appropriate (DAP) lessons were important to students. However, they still seemed most concerned with their own roles and the children's reactions to their lessons.

Megan: (To Susan) Your lesson appears to have covered the DAP concept.... We met all of our objectives, [too]. The kids liked the Roundtable. They were cooperating and very well-behaved.

Jeff: Diane and I had planned to do the Roundtable a couple times and then maybe read a story. As it turned out we only had time enough to play one game of our Roundtable. (Their version added clues about the jobs listed.)

Diane: [The children] came up with all kinds of good jobs. A really popular job was the DARE officer.... And some other jobs were veterinarian, car salesman, law enforcement, factory workers, landlord - I noticed they had put down some of the ones I had on the board (in their modeling activity).

Diane's description (above) of allowing children to choose jobs with which they were familiar was a culturally appropriate teaching practice (DAP), yet she seemed unaware of that.
Susan (below) also described pedagogy which had developmental implications. Modeling the activity was age appropriate for second-graders and allowed for individual differences as well. Again, Susan did not mention that, and Holly’s reply revealed her own unawareness of DAP application.

Susan: For [our] project ... I had drawn like maybe three or four or five different pictures of ideas [the children] could use. A lot of them used those ideas, too; they kept it right there, kind of looked at it.

Holly: They ended up copying.

Susan: At least it gave them some ideas and then it showed other kids how to get an idea of what we were looking for.

In another sequence, Jeff and Diane showed their concern with age appropriateness - whether the lesson they had implemented was too hard or too easy for the children - but neither of them seemed aware that they were actually applying DAP principles. Rather, their focus was on how the children responded to their lesson and their own feelings about “how it went.”

Jeff: [The class] had a hard time doing clues... [The clues] were so easy that most of them were guessed within the first or second clue.

Diane: The only real problem with our Roundtable was the fact that when the children narrowed the five clues down, they didn’t make them narrow enough!
Jeff: That made the game somewhat simple for the groups to guess the jobs.... This class [was] very smart. They all paid very close attention and followed all of the directions. Overall I was very pleased with the way it all turned out.

Comments about the use of time was another expression of what would be the participants' continuing concern over classroom management issues. Amy's remark also reveals a longer view, as she hopes to improve in future lessons.

Jeff: Our time seemed to go really fast.

Linda: It seemed like at the end [Ellen and I] were getting a little rushed.

Ellen: We were out of time. We had gone to the total hour ... and we were trying to wrap up so we could be cleaned up and out of there.

Holly: [Susan and I] were pretty good on time so we had enough time to go back and review a little bit [at the end of the lesson].

Amy: I hope ... we all feel more confident with the next lesson as far as knowing how long it will take and what to expect from the kids ability-wise.

Megan's question of Holly (below) emphasized her own concern over fulfilling objectives. The subsequent comments show unconscious awareness of the need to connect current learning with previous experiences.
Megan: How did you cover the last part of our objectives - relating school subjects such as math and reading to the world of work?

Holly: Susan asked ... what occupation would use math. Things like that.

Megan: We asked the kids to name different jobs and asked how math or reading or writing was used for that particular job.... They appeared to understand that the jobs we discussed needed these skills.

Jeff: What specific areas in their schooling they would use for each job...

Linda: As we pulled objects out [of the mystery bags], the children guessed the careers, and we asked, “How does this person use math, or social studies?”

A related concern was children’s learning which might have resulted from the lesson.

Diane: Some of the kids had problems...

Jeff: They had a hard time doing clues.

Amy: [In our lesson], the kids did much better on the roundtable than I thought they would!

Megan: [And] they appeared to understand that the jobs we discussed needed [certain] skills.
Since the first day of class, many of the students had shown a concern with their progress as student-teachers. Some of the reflections illustrated this need to learn from their field experiences and to help one another when possible, especially as regards classroom management.

Linda: The mistakes that I made in this lesson, I can learn from... [For example], two [mystery] bags would have been plenty! Another activity in small groups building on to the bags but involving the kids’ creativity a little more would have probably been more fun for the kids.

Amy: I did not like the room arrangement [in Mrs. B’s room].

Megan: The room was arranged in a manner that was suitable for group learning and not for whole group learning ... It was difficult to write on the board because a few of the kids were right on top [of it].

Jeff: I think one thing that kind of worked nicely in our group [with a similar classroom arrangement] - we took different places in the room. We each stood at a different place so that the kids could either see one or the other of us.

Several participants expressed frustration about working with a partner. This was new to them, and they looked for ways to make it work more efficiently.

Ellen: I wish there was some way of balancing out how [Linda and I] were going to share [the presentation].
Amy: Sometimes Megan and I didn’t know who was going to talk but I don’t think we came off as too unprepared or confused.

Diane: I felt I had problems all through the lesson. Jeff certainly dominated ... I need to learn to jump in more. I know had I been alone I would have jumped in and participated more.

Susan: I did do a lot of the talking, but I asked Holly and she [whispered], “No you can [do it].”

Holly: I am shy, so it is harder for me to talk and be “loose.” Maybe next time, we should each take different projects [or] activities, so that we each lead and give instructions.

Near the end of the debriefing session, the conversation turned once more to meeting objectives and whether or not students had utilized developmentally appropriate practices (DAP).

Instructor: You feel you met your objectives then.

Jeff: The activity seemed ... right on their level and I think they enjoyed it.

Ellen: Oh, yes, I was really surprised [at how well we did].

Megan: I believe we met our goals, and the lesson we presented was age, individually, and culturally appropriate.
Researcher Reflections

The DAP pretest showed that participants already had some knowledge of developmentally appropriate practices when they entered our university classroom on that first day. Much of this knowledge may have been instinctive, unconsciously gathered from their previous experiences in local classrooms or (in some cases) with their own children. This is consistent with Smith’s (1997) statement that “personal and implicit theories about children and instruction form the fundamental context for teacher decision making” (p. 221). However, the amount of time they employed, the use of three sorting columns (appropriate, inappropriate, or not sure), and the fact that they had time to discuss and change their answers if they wished - all indicated that students had given thought to their choices. Before administering the pretest, I had predicted that the average score would be about 15 of 24 possible points, and I was surprised to learn that the mean score was actually 18.5.

Nevertheless, participants had some ideas I hoped to challenge. Each of them had entered our classroom with a vision of teaching constructed from personal memories and meager information gleaned in early field experiences. The DAP pretest revealed their visions as featuring quiet classrooms where children were routinely grouped by ability and the teacher did most of the talking. I hoped those visions would be altered as the course progressed. Brindley (1996) tells us that before students can reflect on their teaching, they must identify their beliefs. The pretest began that identification process.

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Most of the four weeks prior to that initial in-class planning session was
dedicated to preparing students to teach their first lessons. So that they could
talk about campus jobs, each pair interviewed a university employee. Another
hour was devoted to visiting the elementary school to meet the teachers and
principal. Students needed to learn the rudiments of classroom management
and lesson planning as well. Most critical to students were the cooperative
activities, books, and games that I used to model appropriate KAPOW lessons.
All were important, but there was accordingly less time to discuss DAP.

I viewed the planning session before each field experience as critical,
for the lack of a good lesson plan deters effective teaching (Roberts et al.,
1996). As a field supervisor, I had observed that many novice teachers have
little knowledge of lesson-planning before taking their methods courses. Their
early lessons are often built around “cute” storybooks or fun-filled activities.
However, because our KAPOW lessons had to satisfy specific objectives, it
was not enough that children be engaged in enjoyable activity. Students must
devise lesson plans to meet the objectives and then implement those plans.

The planning process in turn brought me closer to satisfying my own
goals for the course. Not only would the participants provide a worthwhile
learning experience for the children, but they also would increase their
knowledge and abilities as teachers. “The entire educational enterprise, and
the primary energies of teachers, are directed toward the planning and
Some of the participants had planned and implemented activities in their previous field experiences, but they had not been responsible for entire lessons, and none had planned with a partner before. This was an entirely new experience, and they hardly knew where to begin. Together we reviewed the major DAP principles and the classroom management strategies I had given them. I reemphasized the need for children’s active involvement in the lesson, the value of social interaction among children, and the academic skills which a typical fourth grader (or second grader) might have acquired, as well as those which individual children might be lacking. We also reviewed the components of lesson plans, using the “Preliminary Lesson Plan” form to focus on what must be accomplished.

What I wanted to see in those first lesson plans was some hands-on activity as opposed to a lecture format. I also hoped that the lessons would provide opportunities for children to discuss their ideas with one another and with the KAPOW participants, and I looked for consideration of children’s individual academic abilities. Such elements were evidence that students were applying DAP by attempting to plan “intellectually engaging, responsive [lessons that would] promote each child’s learning and development” (NAEYC, 1997, p. 18). That alone was a great challenge, but the plans must also satisfy KAPOW Program objectives.

Preliminary plans indicated that, in general, the students made serious attempts to meet the stated objectives in a developmentally appropriate
manner. While I did offer advice on request, I did not suggest the alteration of plans to any great extent - for example, to make them more interactive. Because I wanted to see what students would devise on their own, as well as what they would learn from teaching the lessons, I confined my suggestions to the details of implementation.

Only one pair had any great difficulty agreeing on an activity. Ellen and Linda had quite different ideas about how the lesson should be done. Ellen wanted to do a number of activities within their one allotted hour (seeming to focus more on activities than objectives). I suggested they save some ideas for another lesson, and they eventually compromised. Jeff was concerned about offering children some cognitive challenge, but he and Diane reached an agreement on their own about how to do that.

In that first planning session, I was seeing constructivism in action. We had talked about how difficult it is to learn something new or to try something new. Individuals with little prior experience can face a real challenge because they lack highly-developed cognitive frameworks to help them make informed judgments. Borko and Livingston (cited in Westerman, 1991), for example, found that novice teachers have "less elaborate, less interconnected, and less accessible schemas" (p. 301) than expert teachers have. Similarly, participants had no way to determine which activities were best suited for the children they would teach and no means of gauging how much time should be allowed for each activity. They possessed only second-hand knowledge of the children,
and they knew only a little about each other. Preparing that first lesson plan was truly a formidable task.

Students' early knowledge of DAP was tested in their first field experience. Observations of the lessons (three by me, one by Jennifer and Laura) were very encouraging. Each of the pairs had based their lesson around some hands-on activity which involved children's interaction, and each had made some allowances for participation of emergent readers/writers. In addition, although I had not mentioned to students the value of higher order thinking skills, all four of their lessons went beyond knowledge and comprehension, the two lowest levels of Bloom's taxonomy of cognitive objectives (Roberts et al., 1996). Both primary-grade lessons required children to guess an occupation based on tools or objects used by the worker and then apply what they knew to draw a picture. Amy and Megan asked children to list jobs that fit certain categories. Jeff and Diane's lesson was especially demanding, for children had to formulate clues and then sequence them from general to specific.

In general, all four pairs planned and implemented lessons which were developmentally appropriate for the children in their assigned classrooms and, for a first attempt, the lessons were very well executed. I hoped that as the year progressed and the students became more comfortable with teaching, they would incorporate more hands-on activity into their lessons. I also hoped that they would gain classroom management skills that would allow them to focus
less on their own roles and more on what the children were learning. In future journal entries and classroom conversation, I would look for increased awareness of DAP principles and their application. I made a mental note to continue to emphasize these things as we prepared for additional lessons.

I gave some thought as well to the content of future classes. I believed that preservice teachers who were enabled to try out what they were learning would be most likely to practice those same principles in their professional lives. Experiential learning plays an important role in developing young teachers’ prior beliefs and behaviors (Fosnot, 1996b; Kaufman, 1996). If I wanted my participants to do more than pay lip service to developmentally appropriate practices, I would need to make sure that our classes provided many opportunities for developmentally appropriate teaching experiences.

This brought me back to the concept of constructivism - that each student would individually construct his/her own cognitive framework of what it means to be a teacher. For preservice teachers, constructivism requires “the acquisition of knowledge through active involvement with content, not imitation or memorization of material” (Kroll & LaBoskey, 1996, p. 63). Participants’ first lessons were all adaptations of something we had done in class. I liked the choices they had made, but I was unsure whether students were embracing constructivism or just pragmatically adapting a usable idea. In the future, I wanted to be alert for innovative planning that could spotlight students’ understanding.
Lesson Two - Preparing, Planning, Implementing, Reflecting

Preparation

Lesson Two was unique. It was a "site visit" in which the children visited our campus to participate in the employees' daily work, to a limited extent. Kostelnik et al. (1993) maintain that only those instructional units "whose content children can experience through the direct manipulation of objects" (p. 321) are appropriate for young children. The site visit offered direct involvement with the world of work on our campus while furnishing background information to strengthen concept formation in future lessons. This was consistent with Orion's (1993) contention that field trips contribute to learning by providing "direct experience with concrete phenomena and materials" (p. 325).

The purpose of the site visit was for children to see "real workers" on the job and to experiment with some "real tasks" at specially-prepared workstations (See Table 4.4). This was the one part of the program that required the help of additional campus personnel, individuals who were willing to be "presenters" - that is, to share some information with the children about their jobs. Of the participants, only Megan was a campus employee and eligible to manage one of our workstations as a presenter. However, all of the KAPOW students assisted in many ways with the planning of workstations and the implementation of this important event. Table 4.3 summarizes our in-class preparation for Lesson Two.
<table>
<thead>
<tr>
<th>Topics of Mini-Lectures (See Appendix B for details of number 2)</th>
<th>Activities Modeled as Possibilities for Use in Participants' Lessons</th>
<th>Articles Used to Support Learning of DAP</th>
</tr>
</thead>
</table>
| 1) Awareness Of and Response To All Cultures in the Classroom | 1) *Same Different*  
2) *Cooperative Projects (various)* | 1) Clark, DeWolf & Clark (1992)  
2) Goldhaber (1994)  
3) Kantrowitz & Wingert (1994)  
4) Levin (1993)  
5) Newmann & Wehlage (1993)  
6) Roop (1992)  
7) Tashman (1995) |
| 2) Planning Appropriate Activities for Children (Brophy & Alleman. 1991) | (See Appendix B for descriptions of *Cooperative Learning Activities*) | |

<table>
<thead>
<tr>
<th>Activities Provided to Support Participants' Knowledge of DAP</th>
<th>Curriculum Integration and Literature Connections</th>
<th>Other Professional Development (e.g. Teaching Skills)</th>
</tr>
</thead>
</table>
| 1) Cultural Collage - Learning About Our Own Viewpoints | **Children's Books**  
Butterworth (1986)  
Miller (1990)  
**Economics Link**  
“Econ & Me” Segment 1 (AIT)  
**Math Connections**  
Math and Campus Jobs  
Cultural Percentages  
Graphing | 1) Preparing Materials in Media Center  
2) Surveying Site for Safety. Suitability  
3) Learning to Budget Time and Plan for Alternative Activities  
4) Redo Bulletin Board |
| 2) Midterm Exam - Focus on DAP | | |
| 3) Film Clip - Showing Stereotypes | | |

**Table 4.4: University coursework preparation for implementation of lesson two.**
Planning

The objectives for Lesson Two included: (1) that children would be able to describe several jobs that they had observed in the workplace, and (2) that children could explain how the workers they saw had contributed both to the business of the KAPOW partner and to society as a whole. Participants' responsibilities for the site visit varied. In her capacity as an employee and a presenter, Megan had to plan an activity that would help children understand the kind of office work she did. With Amy's help, she decided how she wanted to structure each twenty-five minute session, how she would make use of the space she had been assigned, and what materials she would need.

The six other participants were responsible for composing debriefing questions to ask at the end of each session. These were to be review questions that would help children remember what they had learned and relate it to what they already knew. Debriefers would also assist the presenters by watching the time, by aiding the children as needed, and by helping to adjust the presentations to meet our schedule. Ellen's plan for a lengthier lunch time debriefing required her to consider what different children might learn from each station. Students who were not working as either presenters or assistants in a workstation would be helping to guide children from one location to the next (but all had at least one half-day of debriefing duty).

Planning for the site visit involved viewing proposed workstations to consider how the space might be used most efficiently and safely. Students
targeted interesting campus features (e.g. geology displays) that could be pointed out as children walked from place to place. They considered safety features - how to place chairs so that children would not be seated near glass display cases, for example. Students also planned for children’s active involvement at each location.

Pre-lesson journal entries revealed participants’ concerns about making the day go smoothly. “I am nervous!” wrote Holly. Diane worried about the children’s impressions of the campus: “Kids are so impressionable…. I feel that it is very important to get this day right.” Several journal entries expressed hope that the children would learn something about work. “I hope we can communicate to them what the world of work is all about,” wrote Jeff. Amy echoed that: “The most important aspect is that the kids learn something about work.” Of all the participants, only Susan reflected directly on whether our plans were developmentally appropriate: “I believe everything we are doing is DAP.”

Journal entries also showed students’ concerns about implementing such a large-scale activity. Because much of the planning was being done by campus employees, several students expressed uncertainty about their roles. “I feel that I am not doing enough,” wrote Linda. Jeff was very concerned about working with the Psychology department: “I am a little worried about what I am doing for the site visit. I feel like I am not prepared. I guess I’ll have to be spontaneous.” Megan was troubled because the materials she had
planned to use in her workstation were not delivered the day before the site visit, as promised. Even Susan, who was sure that we were well-prepared, was also worried about her own role. “I feel like I did not do much to help prepare for tomorrow,” she commented. “I planned but I don’t know if I contributed much.”

Implementation

I had arranged with the school principal to have the fourth- and fifth-grade classes visit our campus during the morning hours, with the younger children arriving in the afternoon. The children were divided into smaller groups of about 12 to 14 after their arrival. The older children started with a greeting from our Dean and finished their visit by eating lunch in a campus classroom. As they were leaving, the younger children arrived. The primary-graders started with lunch and ended with a final short debriefing before they boarded their bus to return to school.

Table 4.4 lists the workstations we prepared. (Although the employee presenters did some of the preparation, students completed many preliminary tasks, such as laminating letters for the media center.) The morning groups moved among four locations, but the younger children had only three stations both because their visit was shorter and because last year’s group had seemed to need more time at each location. Employee (presenter) and participant (assist/debrief) functions are shown in parentheses.
Intermediate-Grade Children (A.M.)

Station One  
Simulated Office  
(Presenter - Megan; assist/debrief by Amy)

Station Two  
Student Scheduling  
(Presenter - Mrs. L; assist/debrief by Diane)

Station Three  
Day Care  
(Presenter - Mrs. F; assist/debrief by Susan)

Station Four  
Psychology Lab  
(Presenter - Dr. P/students; assist/debrief by Jeff)

Primary-Grade Children (P.M.)

Station One  
Simulated Office  
(Presenter - Megan; assist/debrief by Amy)

Station Two  
Day Care  
(Presenter - Mrs. F; assist/debrief by Linda)

Station Three  
Media Center  
(Presenter - Mrs. M; assist/debrief by Holly)

Lunch/Lobby  
Final debriefing discussions were led by Ellen for all children. She also helped prepare the lunchroom for each group.

Table 4.5: Workstations prepared for KAPOW site visit.
At each workstation, the individual in charge described his/her job in simple terms. Then children participated in some hands-on task that provided vicarious work experience. Thus, the fourth- and fifth-graders stuffed publicity packets (*Simulated Office*), worked on a group schedule (*Student Scheduling*), made sandwiches and poured juice (*Day Care*), and participated in computer memory tests (*Psychology Lab*). Similarly, the younger children also stuffed packets (*Simulated Office*), washed toys (*Day Care*), and cut out pre-laminated letters which spelled “KAPOW” (*Media Center*). Workstation activities were based on a loose plan prepared by the presenter, sometimes with my help.

At the end of each session, the children were “debriefed” - that is, the KAPOW participants asked them to describe what they had learned at that workstation and related the activities to previous learning. Ellen’s lengthier lunch time debriefing helped children to relate the various workstations to one another and to more familiar concepts which they already knew.

**Reflection**

Students’ post-lesson journal entries and the whole-group debriefing session showed participants to be considering developmental appropriateness to a greater degree than they had done before the lesson. The participants expressed a number of prominent themes in their reflections. In no special order, the themes included: (1) their judgments about the developmental
appropriateness of what transpired; (2) feelings of nervousness about the site visit, (3) especially worries over their own roles and whether they were fully prepared; (4) classroom management issues, including the amount of time allowed for activities; (5) concerns about the children’s behavior; (6) their hopes that the children’s learning included something important; (7) relief that the day had gone smoothly (“How it Went”), and some analysis of why this had occurred; and (8) implementation description, woven throughout.

Excerpts from the post-lesson journals (underlined) and the whole-group debriefing session are combined in this representation of student dialogue about lesson number two. Again, this constructed conversation reflects students’ concerns in their own words, while my views as researcher appear in italics (with key words denoting themes). Brackets indicate slight alteration of participants’ words to improve readability.

Megan was the sole participant who was qualified to act as a presenter during the site visit. She and Amy, who assisted her, had spent the entire day at one workstation. After their description of the activity (stuffing bags with promotional materials, individually and assembly-line fashion), there was interesting discussion of age appropriateness (DAP) and prior experiences.

Linda: Did you get bored with this job after awhile, or was it different with each new group of kids? I’m sure that each group probably did things a little differently than the others.
Amy: The younger children got silly toward the end. The last group we had could just hardly handle it. The older kids did really well, and they wanted us to keep track of the numbers so it became a competition.... The little ones didn't bring that up at all.

Megan: And they were slower, a lot slower, but they were able to do it.

Amy: The younger ones couldn't remember what Megan's job was by the time we got to [the debriefing], and so I had to spend a little more time on that.

Ellen: I was watching, and I heard Amy say something ... intriguing. She said ... [children who] had done cooperative learning and other kinds of interactive learning did much better than the other groups that didn't have that experience.

Megan: One of the teachers brought that to our attention - this is probably why they like doing it as a group because that's what they do in the classroom. We watched them all day long, and we could tell ... whether they were from a cooperating classroom or not.

Megan (above) implicitly saw the relationship of learning and prior experience.

Susan and Linda were especially concerned about safety issues they had observed in the Day Care workstation. Again, the conversation turned to whether or not the activities were developmentally appropriate (DAP).
Susan: One class made the snack for the [day care] children... They had to cut the apples up. [The tool] was sharp, and some of the kids were grabbing it underneath, and I told them, “You can’t do that, it’s real sharp there.”

Linda: I was there for the last session of the morning [as a tour guide] when they were making the apples. I thought that ran really smooth, went really well.

Susan: Everybody wanted to do that, ’cause they liked to cut the apples. The teacher picked out who would be able to do that or use it safely. This was the older group. I would say it was (age) appropriate for them.

Linda: I was kind of scared when [Mrs. F] said they were going to have the kids cut apples, and then when I noticed it was just the corer, I thought they handled it pretty well.

Several participants reflected on their feelings of nervousness before the day began, largely due to their uncertainty over what to expect. They were unsure of the roles they would play.

Jeff: I was really worried that I wouldn’t know what to say [as a debriefer].

Holly: When it came time to ask the students questions, I became nervous, [too]. With the first group, I read off of my question sheet pretty much. When the second group came, I became more relaxed and was able to
ease a little away from my sheet of questions. Sometimes I asked other
[questions] - “What do you call that machine, and what does Mrs. B do?” I
was really worried [at first].... Later I didn’t [worry].

_Diane’s description of the morning workstation that involved_
scheduling sparked participants’ thoughts about _classroom management._
_Students also considered DAP principles as applied in the actions of another
adult._

_Diane:_ Mrs. L told them a little about ... what she does everyday.
[She] was unsure about how specific she should get about her position.
Gradually ... she realized that she had to cut it cause the kids weren’t
understanding [so she] would only give them one aspect of [her job].... And
then in the last five minutes, I _tried_ to get their attention (laughs).... but
usually they were still so involved... **Even when I asked them to drop
everything and get quiet, they still seemed to be somewhere else.**

_Linda:_ I saw some of [that workstation as a tour guide]. I think my
kids were the second group, and they really had to rush through it.... I was
hoping to get more into the books [that Mrs. L had brought], and I didn’t feel
that we had much opportunity.

_Diane:_ Yeah, she had course catalogs. First I wasn’t sure how to use
them. Then with the last two groups, I thought I could have the kids look
things up.
Susan: Reading a course catalog would be kind of hard, I would think.

Instructor: Age - or individual - appropriateness for some of them?

Susan: Mmm-hmm.

Ellen: The attention span for understanding (Mrs. L’s) titles and responsibilities and going on and on ... The longer you go on, the more kids you’ve lost and it really doesn’t matter anyway.

Instructor: But notice that as the day went on she adjusted her lesson to make it more appropriate.... I thought [her adjustments] were really important.

Jeff commented on developmental (DAP) aspects of the Psychology Lab. where children did memory tests and watched the lab gerbils. He seemed aware of the value of authentic experience.

Jeff: Dr. P was the highlight of the day.... I was really worried that I wouldn’t know what to say, [but] he was able to really relate with the kids, tell them what psychologists do... [They could] really see what happens, see a psychologist, get first hand experience at what he does as a professor.

Instructor: There are some developmentally appropriate points there - anyone see anything?

Jeff: [The activity] seemed to be age appropriate 'cause I think anyone who’s able to comprehend remembering numbers and able to manipulate the computer would be able to do [the memory tests].
Diane: Couldn't do that with the younger kids, could you?

Jeff: The main part of the kids' visit to the lab was the memory testing. The numbers would go in random order up to as many as they could remember without missing, and then they would have the results displayed. I think the younger kids could [do it] - might have needed some helping, a little bit.

Diane: Were there any kids who weren't used to computers?

Jeff: They were manipulating the computers like it was second nature.... I was really amazed at how much they were able to do.

Several students were concerned about children's behavior. There were a few problems, but most participants felt that the children had behaved well.

Holly: When [the younger kids] walked into the media center, it was just - "Oh, wow! All these computers, I gotta touch this, I gotta look at this."

Jeff: I was with the first group, and there was a camera on one of the computers.... [Mrs. B] had to turn it off, 'cause the kids were making faces and stuff like that.... That was kind of a distracting thing.

Ellen: One issue that I had not given consideration to at all - was children "stealing" the second group's candy. (She had put candy at each place for lunch, and several items disappeared.) We did not think about this. I was so upset when I looked at that table and five packages were gone.

Holly: [But] overall, I think it all went quite well. It was fun and I think the kids really enjoyed it.
Linda: I was also very impressed with how well behaved the children were. They were quiet in the halls, and they all seemed to very much enjoy the activities we had prepared.

Participants also discussed aspects of the children's learning that may have resulted from their visit with us.

Jeff: Dr. P thought [the children's memory test results in the Psych Lab were] just astounding.

Diane: All the groups seemed to really enjoy making the schedules. They asked many questions ... and seemed very enthusiastic.

Linda: [My group] had to rush through [that], and I'm not sure that they really understood. But once they caught on, they said, "Oh, let's do more, let's do more."

Diane: The kids really seem to enjoy KAPOW. Hopefully it will have a great impact on them throughout their education. What an accomplishment it would be if [all these children] graduated ... someday.

Finally participants were very pleased with "how it went." Many of them reflected on the day and analyzed the reasons for its successful completion.

Amy: I thought that the site visit went really well even though I felt like I was in a whirlwind.
Linda: I think the timing was really smooth. We would get done with a group and we would have just enough time to get over there (to the cafeteria where each group assembled before going to the day care) and a minute later another group would walk in. I thought everyone did a really good job of keeping it moving.

Diane: Efficient. It couldn’t have been better. All my nervousness was for nothing. It was so unnecessary!

Linda: Twice, one of us [participants] needed to leave the group to take someone to the restroom. Had there not been two of us, this would have been a very tricky task. As the day went on, I became more and more impressed with how smoothly it all ran.

Amy: I think we were successful... but we can only get better with practice, so next year will probably be even better!

Researcher Reflections

The site visit went very well, and all of the students were aware of that. Their journals expressed a belief that the day went smoothly, that the children had a good time (which was an important issue for many of the participants), and that there had been no need to be nervous. There was a lot of discussion about DAP principles. Susan seemed especially conscious of whether or not our activities were developmentally appropriate for the children, mentioning it both in her journal and in the whole-group debriefing session.
A number of the students also referred to DAP principles in other ways. One example was the discussion of Mrs. L’s adjustment of her own lesson to account for the various children’s attention levels. Susan’s observations about the difficulty of having children read course catalogs showed that she was considering the developmental needs of the learners. However, I thought it was interesting that Ellen focused on the less appropriate aspects of Mrs. L’s presentation. In my work as a field supervisor, I have observed that many young teachers, in their desire for “one right answer,” do center their attention on what is wrong rather than what is right.

Yet, Mrs. L’s adjustment of her lesson was consistent with DAP principles, for she let the needs of the learners drive her instruction rather than adhering to some rigidly defined plan. This is sometimes called “interactive decision making” (Jackson, cited in Westerman, 1991), a characteristic of expert teachers. My novice participants did not recognize its value.

Jeff’s concerted attempt to keep all the children productively occupied in the psychology lab, even though there were not enough computers to go around, was another example of the application of DAP principles. “When [children’s] hands are actively engaged ..., adrenaline is being pumped, and learning is more substantive” (Wassermann, 1992, p. 136). It is doubtful whether Jeff remembered that quotation when he was faced with a dozen active children. However, his pre-lesson journal indicated a strong concern about what children would learn. “Putting all of the other worries aside,” he
wrote, "I hope we can communicate to them what the world of work is all about." Both his attitude and actions were consistent with Wassermann's statement and with DAP principles.

Lesson Two differed from the others because the participants did not plan their activities. Planning was done by the presenters, who were actual campus employees. Among our group, only Megan fit that description. Though she did plan her presentation and activity, it was structured differently than many classroom lessons would be. Rarely do teachers spend several minutes describing their own background and education for the pupils. Rarely are children asked to do real physical work in the classroom. Nevertheless, that was the format used at each of our workstations - a description of the employee's background, implementation of some activity that would allow practice of authentic employee tasks, then a short debriefing by one of the KA POW students.

The format worked very well, but for the most part, participants were "out of the loop" as far as planning the lessons was concerned. This was reflected in pre-lesson discomfort with their own roles for the day. "I'm not really sure what to expect," wrote Linda. "I guess I'm just feeling unskilled and unable to influence [the lesson] in any way." This was representative of students' concerns about not being in control of the situation.

However, participants did find that their roles were critical in achieving a successful site visit. Once again, Linda's journal represented a common
feeling that even small tasks "were definitely an important part of the day."

Perhaps just as importantly, students gained invaluable information about our

campus as a work site, which would be useful in future lessons, and all but

Megan and Amy had the opportunity to observe other adults presenting factual

information to children. This provoked some reflection on DAP when students

considered how each presenter organized and delivered the lesson. As

Kaufman (1996) points out, observation of other teachers provides "different

perspectives on processes of teaching and learning and on the dynamics of

teacher-learner interactions" (p. 44), and as such, it was a valuable learning

experience for these young educators.

The site visit scenario was an unfamiliar one for the participants.

Although they had taken field trips as children, and some of them had

chaperoned school outings, the site visit allowed them to see a field trip "from

the inside out." They had to think of appropriate activities, to consider safety

issues, and to anticipate every possible calamity. They also had little

experience to prepare them for asking debriefing questions. Yet this was a

critical feature of the day, as supported by Orion's (1993) contention that field

trips are more educational if teachers prepare children for the event and then

"guide them through it" (p. 326).

Students seemed unusually concerned about the roles they would play

for this lesson. This was seen in students' repeated comments about being

nervous, being unprepared, and being unsure whether they were contributing
enough - as well as apprehension about children’s behavior. I believed that these comments reflected, to some extent, a teacher-centered view, but it was balanced by their deep concerns for children’s learning. This is consistent with a developmental view of teacher growth, what Katz (1985) calls being “in progress” (p. 781). The encouragement and support of their peers was beneficial in helping participants to meet the various challenges of the day (Hawkey, 1995).

Lesson Two left me concerned that I had been able to observe far less of the site visit than I had planned. I visited each workstation twice, but there were so many demands on my time that I could spend only a few minutes at each location. However, students’ reflections provided a great deal of information about their own views of that important event. Later I realized that observation would have provided little insight into students’ applications of DAP principles (because they were not teaching). Yet their reflections offered me a window on their understandings.

I reflected that the quarter was nearly over, and my plans for Part II of the course were still emerging. I considered Kaufman’s (1996) view that “in constructivist settings, teacher educators’ initiatives and learners’ needs merge to create opportunities for joint inquiry, discourse, and reflection” (p. 42). I wanted to increase the occasions for students to reflect and share their thoughts, as supported by the constructivist position that social interaction enhances learning.
Finally, I was fascinated by the insights I found in Jeff's latest journal entry: "This whole quarter we experienced cooperative learning skills while we learned in this class. You usually don't think about learning the same way you want your students to learn." Perhaps my efforts at creating a constructivist classroom had helped him to make that connection.

Offering a model for effective teaching is one important goal for teacher education programs that are based on constructivist theory. Another is helping preservice educators to "see themselves in three simultaneous ways: as learners, as teachers..., and as researchers" (Kroll & LaBoskey, 1996, p. 63). Jeff, it seemed, was well on his way to achieving that.

**Lesson Three - Preparing, Planning, Implementing, Reflecting**

**Preparation**

Beginning with the third lesson, we generally had only two weeks of preparation time prior to implementation. One of our major focuses prior to doing Lesson Three was theme teaching, especially as a tool used by teachers to help children build concepts. Students had been unaware of the need for reteaching some material. As Roberts et al. (1996) maintain, "beginning teachers sometimes have unrealistic expectations about the amount of content" (p. 78) children can absorb at one time. Table 4.5 summarizes the in-class activities and instruction that were part of participants' preparation for teaching Lesson Three.
<table>
<thead>
<tr>
<th>Topics of Mini-Lectures</th>
<th>Activities Modeled as Possibilities for Use in Participants' Lessons</th>
<th>Articles Used to Support Learning of DAP</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Activities Provided to Support Participants' Knowledge of DAP</th>
<th>Curriculum Integration and Literature Connections</th>
<th>Other Professional Development (e.g. Teaching Skills)</th>
</tr>
</thead>
</table>
| 1) Course of Study - Locating Topics for Grade-Level. Comparing  2) Combining Topics Under Overarching Themes | **Children's Books**  
Aardema (1991)  
Bunting (1994)  
Forest (1985)  
Polacco (1990)  
Slawson (1994)  
Snyder (1988)  
Waddell (1991)  

**Math Connections**  
Time Problems (Being "on time")  
Accuracy of Work | 1) Prepare Annotated Bibliographies of KAPOW-related Children's Books  2) Redo Bulletin Board |

**Table 4.6: University coursework preparation for teaching lesson three.**
Planning the Lessons

The topic *Positive Work Habits* had three stated objectives. These included: (1) that children could identify examples of positive work habits and attitudes; (2) that children could explain how such attitudes and habits would help them to do well in school; and (3) that children could describe how positive attitudes/habits would promote workplace success. The primary-grade KAPOW lesson plan suggested that pupils create posters about positive work habits, while the intermediate-level plan called for children to list the habits they had noticed during the site visit.

Participants universally decided that they could improve on the KAPOW lesson plans. Jeff and Diane quickly decided to have children design "report cards" for some familiar jobs, then follow up with a listening game. Susan and Holly divided their lesson time into several shorter activities - reading a book aloud (Waddell, 1991), helping small groups act out positive work habits, and having children illustrate activities that might happen at specific times of the day (e.g. 11:15 - eat lunch).

For Ellen and Linda, planning was difficult. Ellen seemed very focused on the activity she wanted to do - a worksheet that was more appropriate for reading instruction than for a hands-on lesson about work. She had forgotten the emergent readers in their assigned classroom, who would be overwhelmed by such reading-intensive work. Linda seemed unhappy with Ellen’s choice but unwilling to say anything.
When I reminded Ellen about the objectives, she wanted to divide the class into groups which would either discuss a specific job or prepare a short skit about it. I asked her to consider the timing problems generated by doing two very different activities simultaneously, and she decided that all children would just have to “discuss jobs.” At this point, Linda finally remarked, “I’m sorry, but that sounds boring.” After more discussion, Linda and Ellen decided to adapt a cooperative activity we had done in class. They also planned a short skit to perform for the children. Linda seemed happier with this, while Ellen appeared resigned to losing control of the planning.

Amy’s planning difficulties lay in the fact that her partner was absent, while she herself had missed more than half of the previous week’s class. Consequently, she had too little information and no one with whom to collaborate. Though I had asked students to meet in their grade-level groups (based on their assigned classrooms), partners still planned fairly exclusively. Amy was left on her own. When I met with her, she was planning to have children brainstorm negative work habits, an interesting adaptation of the objectives. After more discussion, she decided that she and Megan would probably do some kind of cooperative activity. It was difficult for Amy to commit to a plan, however, and she intended to call Megan for input during the following week. The preliminary plans submitted by all four pairs are summarized in Table 4.6.
<table>
<thead>
<tr>
<th>Student Pairs</th>
<th>Objective 1</th>
<th>Objective 2</th>
<th>Objective 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Intermediate Classrooms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amy/Megan</td>
<td>Class brainstorms negative habits, contrast with positive ones.</td>
<td>Class discussion, recorded on chart; practice communication skills with a coop. activity, <em>Build What I Say</em>.</td>
<td>Discussion and related chart.</td>
</tr>
<tr>
<td>Diane/Jeff</td>
<td>Informal skit - Jeff enters late, Diane berates him and both discuss habits.</td>
<td>Class discussion following skit and again after “report card” activity, communication practice in Telephone Game.</td>
<td>Class designs report cards for familiar jobs.</td>
</tr>
<tr>
<td>Ellen/Linda</td>
<td>Short skit by done participants will reveal bad habits.</td>
<td>Class discussion; <em>Build What I Say</em> to practice communication skills.</td>
<td>Small-group discussion activity, plus additional review questions at the end of the lesson.</td>
</tr>
<tr>
<td>Susan/Holly</td>
<td>Read book aloud (Waddell, 1991) with participation by children, then discuss it.</td>
<td>Children draw pictures about positive work habits, relate to time of day, then label miniature clocks.</td>
<td>Small groups act out habits for various jobs chosen by volunteers.</td>
</tr>
<tr>
<td></td>
<td><strong>Primary Classrooms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>For Cooperative Learning</strong> (italicized) descriptions, see Appendix B.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.7: Plan components for field experience three.
Pre-lesson journals included some references to DAP. Megan wrote, “I believe what we have planned is developmentally appropriate. The kids should have a lot of fun with the building [activity] and they will be able to relate to the skills we will be talking about.” Susan also wrote that she believed their plans were “appropriate.” Less directly, Amy reflected on the need for learning to be personally engaging: “The objectives are harder to meet than before. I can have a discussion about positive work habits and how they relate to school, but that is too boring. These kids learn their regular subjects in ways that are more fun.”

Linda also wrote about objectives: “My main concern is that we be sure to fulfill the objectives through our explanations as well as activities, and that we get our point across to the kids.” Jeff, too, was concerned about whether “the kids understand the concept of positive work habits.” However, the biggest concerns of most students were the shortness of their planning time and whether the lesson would go well.

Implementation

For Lesson Three, scheduling conflicts allowed my observation of only one intermediate-grade lesson (Diane/Jeff) and one lesson with the younger children (Ellen/Linda). However, my two research assistants were able to help, with Laura viewing Amy and Megan’s morning lesson, while Jennifer observed Susan and Holly in the afternoon.
In the following paragraphs, I describe how students implemented KAPOW Lesson Three, noting the ways in which DAP principles were applied. As with Lesson One, I have coded my description to point out students’ use of these principles - Age Appropriate (AA), Individually Appropriate (IA), and Culturally Appropriate (CA). Once again I describe the two intermediate lessons, then the two primary lessons, to facilitate comparison.

Laura’s notes on her recording sheet provided an excellent description of Megan and Amy’s lesson with Mrs. B’s fourth- and fifth-graders (Build What I Say, discussion). Participants reintroduced themselves, then divided the class into pairs by passing out playing cards and asking children to find the classmate with a matching card (AA). When all were seated, the volunteers modeled how to play Build What I Say, using identical sets of plastic building blocks (AA), with Amy trying to duplicate Megan’s construction from verbal instructions alone. Their designs did not match, and Megan explained that she “didn’t communicate” well to her partner.

The children then had the opportunity to play the game, using folders as barriers to hide their matched sets of building blocks, which Amy and Megan had prepared. When time was almost up, Megan turned off the light to get the children’s attention and gave them a two-minute warning (AA). Then the blocks were cleaned up.

In the discussion that followed, Megan elicited the skills children had used in this activity, while Amy wrote children’s comments on the board. This
was especially helpful for the poor readers in the classroom (IA). The
volunteers also helped children to relate the listening and concentration skills
used for both the game and their school work (AA, IA, CA). Megan and Amy
continued with their plan by discussing work habits that are positive. The
children seemed to have more difficulty with this part of the lesson. When few
comments were forthcoming, Amy and Megan tried various strategies to help
children make connections - rephrasing questions, defining terms, and using
examples that children would find familiar (AA, IA, CA). There was still little
response from the class. (Interestingly, Megan and Amy did not ask children
to brainstorm negative work habits, as Amy had planned. This potentially
useful idea was “lost” in the process of partner planning.)

Megan also reminded children of what they had seen at the site visit
(AA, IA, CA). Because no one would speculate on the positive work habits
Megan needed for her job, she supplied the information to them. Amy did the
same. Children were better able to relate to Amy’s job (AA, IA, CA) and they
decided that, as a ballet instructor, she would need to be on time and have
something to eat before coming to work. Megan closed by telling children,
“The connection we are trying to make here is that the qualities you learn
here, you will use in a job.”

There were many positive aspects to Megan and Amy’s lesson. Their
activity was well-organized, appropriate for the age level, and fun for the
children. It gave the fourth/fifth-graders an opportunity to talk among
themselves in a constructive way (AA, IA), and it provided them a chance to move around the classroom, a welcome break for many children of this age (AA, IA). Both Amy and Megan made a strong effort to help children forge mental links between their school life and the adult world of work (AA, IA, CA). The fact that their pupils did not seem to be making solid connections meant that the volunteers would have to readdress this objective in a future lesson. Finally, references to the site visit were an effective attempt to help children to build concepts (AA, IA, CA).

In Mrs. C's fourth/fifth-grade classroom, Diane and Jeff’s lesson was a close approximation of their plan (skit, creating “report cards,” discussion, telephone game). They began with a short skit, with Jeff arriving “four-and-a-half minutes late,” apologizing profusely to Diane and the children, and saying that he had “failed them” because he was not on time. He and Diane had manufactured this “teachable moment” so that they would have a real situation (AA) that illustrated positive/negative work habits.

They continued with a whole-group discussion of Positive Work Habits, with Jeff writing children’s suggestions on the chalk board for all to see (AA, IA). Often he or Diane consolidated and simplified children’s answers (AA, IA), which was especially helpful for the poor readers in the room. After Jeff related work habits to those printed on one side of most report cards (AA, IA, CA), Mrs. C brought out an actual grade card so that the two KAPOW volunteers could read the headings aloud (AA). Diane made a nice connection
by asking children to look inside their desks and see how organized they really were (AA, IA), then created a link with the adult world (AA, IA, CA) by suggesting that workers might find it difficult to function in a disorganized environment. Students also connected the need for good attendance at school and at work, using familiar jobs suggested by the children (AA, IA, CA).

Diane and Jeff then divided the class (according to where they were seated - AA, IA, CA) into six smaller groups for cooperative work (AA, IA, CA), a good choice for a mixed-ability classroom. Each group was given a small blank "report card." Groups were to choose a job (AA, IA, CA), then write the positive work habits which should be included on a report card for that worker. Jeff and Diane first modeled the activity (AA) by sharing a report card they had created for a school janitor, a job which was familiar to all the children (AA, IA, CA). As children worked, the two volunteers circulated the room, giving praise and help (IA) and physically getting down to each child's level (AA). Jeff validated their work (AA, IA) by warning children when they had only a few minutes left. Pupils shared their results, with participants relating the answers to children's school life (AA, IA, CA).

After all groups had shared, Jeff reemphasized listening skills by organizing the children into one long line to play the telephone game (AA). Three messages were whispered from Jeff at the front to Diane at the back. The first was badly garbled, but the last two arrived intact. Jeff said they could obviously pass the message accurately if they wished.
This was a very good lesson. Children enjoyed both activities. The cooperative work allowed them to talk among themselves and share ideas (AA, IA). Although one group did not work well together (children were seated in a configuration that did not encourage conversation), the other groups were very cooperative. Jeff and Diane helped children to make many cognitive connections by relating the adult world to their life in the classroom (AA, IA, CA), and they used jobs with which children were familiar (AA, IA, CA). The final activity, combining physical movement (AA, IA) with an emphasis on listening skills, was a nice culminating activity.

**Ellen and Linda** were preparing their materials when I arrived for their afternoon lesson with Mrs. A's second- and third-graders (skit, *Build What I Say*, discussion with activity). Ellen, I learned, was not feeling well. She looked feverish and could speak only in a hoarse whisper. Linda reintroduced both of them, asked the children what “KAPOW” meant, and praised their good responses (AA, IA). She mentioned the site visit immediately, asking children what they remembered about it (AA, IA, CA), then supplementing their recollections (AA, IA).

Linda continued by talking about good and bad work habits. She and Ellen had everything written and displayed on an easel so that children could see the words in printed form (AA, IA). She reminded them of Mrs. F, who was in charge of the Day Care, and asked what would happen if Mrs. F did not come to work. Children were able to relate to this (AA, IA, CA) and were
especially focused on Mrs. F's need to be at work. Further questions about parents' jobs (AA, IA, CA) allowed children to think about work habits in a familiar context. When one boy talked about his mother's work as a nurse, Ellen used the opportunity to bring up listening skills and prompted children to consider the consequences if a nurse did not listen well.

Ellen and Linda had planned three short activities (AA). The first was a skit they performed for the children. Linda was supposedly giving directions for folding a bandanna, which Ellen tried to follow. The only problem was that she had "not listened carefully," and so she was using a banana instead. This was very amusing, and it vividly showed children the value of listening (AA, IA). Next came a cooperative activity, Build What I Say, in which children were randomly paired (AA, IA, CA) to work together. One of each pair made a design with objects given to him/her by the KAPOW volunteers. He/she then described the design so that his/her partner could duplicate it sight unseen. Before children began work, Ellen and Linda modeled the activity very effectively with two overhead projectors (AA).

The final activity was somewhat confusing. Children were divided into four groups (AA, IA, CA). Each was monitored by an adult - Ellen, Linda, Mrs. A, or me. Each group was assigned a work habit (attendance, being on time, attitude, and completing work). Within each group, children were to name familiar jobs (AA, IA, CA), then talk about good and bad aspects of each habit as related to those careers. It was difficult for us adults to
understand the directions. My group (discussing attitude), found it hard to generate ideas until I asked them to act out good or bad attitude for the careers they had listed (AA, IA). After about five minutes, the adults shared the information they had discussed in their groups.

Most of this lesson was extremely well done. Linda and Ellen did an excellent job of helping children relate their own work habits to those of adults (AA, IA, CA). Their modeling was superb (AA), especially the use of the two overhead projectors, and it added interest to the lesson as well. Furthermore, the cooperative activity allowed children to talk together while it honed their communication skills (AA, IA).

There were some minor difficulties. At one point, Linda gave each child a sticker, then instructed children to pair up by finding another child with the same sticker. This was an excellent idea, requiring children to apply discrimination skills (AA, IA). However, this was to be done without talking, and nearly all of the children ignored that direction. Because the focus of the lesson was on listening, Linda should have sent children back to their seats to try again, but she did not. Listening skills were not valued. In addition, the final activity required children to think of an occupation, understand what was meant by good and bad work habits, and then apply that knowledge to the jobs listed - quite a few steps for the second-graders in the room. This task might have been more effective as a whole-group activity. All in all, however, Linda and Ellen did apply their knowledge of DAP in a number of ways.
Jennifer used the recording sheet to observe Susan and Holly’s lesson (story, group skits, art, discussion) in Mrs. D’s second/third-grade classroom. The lesson began with Susan’s review of children’s participation in the site visit (AA, IA, CA). She asked the class if they remembered how to spell “KAPOW,” which they demonstrated in a unison chant (AA, IA). Susan then focused on the day’s lesson, and she related the entire discussion to the good work habits children should have at school (AA, IA, CA).

The two volunteers moved children to the room’s carpet area (AA) so that Holly could read them a story (AA, IA). She and Susan had chosen Farmer Duck (Waddell, 1991). Susan asked the children to help by saying “Quack” along with the duck in the story, simultaneously moving their hands like the duck’s bill (AA, IA). They also joined in on the other animal sounds included in the story (AA). Afterwards, Susan asked questions about the book and related good work habits to those children might see at a popular fast-food restaurant (AA, IA, CA).

Holly and Susan alternated then with a presentation of Positive Work Habits. Holly broadened children’s concepts by asking questions and giving examples (AA, IA, CA). While Holly discussed attendance, punctuality, and attitude, Susan wrote the words on the board (AA, IA). Then the two switched roles as Susan led a discussion of what it means to be dependable. By reminding them of their site visit tasks (AA, IA, CA), Susan helped the children develop stronger understandings.
Next came a small-group activity (AA, IA, CA). The children worked together to create and perform brief skits of various jobs (AA, IA), including cashier, wait person, postal worker, bus driver, and garbage hauler (AA, IA, CA). Susan and Holly had brought props to enhance the activity (AA, IA). After each skit, the audience guessed the name of the occupation (AA, IA) and the two volunteers led a discussion about what good work habits that worker needed.

Susan and Holly finished with an art project. Each child received a sheet of paper with a small paper plate glued to the top edge. Numbers on the plate showed a clock format. Children were to draw the clock's hands at any time they wished, then illustrate what they would usually be doing at that time (AA, IA). Participants circulated to help individuals as needed (AA, IA), collecting the projects at the end of the hour.

This lesson was very developmentally appropriate. It included a book which invited group participation and movement (AA, IA), continued with short skits that allowed whole-body movement (AA, IA) and props to link the activity with reality (AA, IA), and ended with an art project (AA, IA) that nicely extended the lesson. References to the site visit and familiar work places helped children to build stronger concepts (AA, IA, CA). Susan and Holly also improved in their ability to "share the stage" with one another but still needed to work on team teaching.
Reflection

As usual, students reflected on their lessons both in written form (journal responses) and in oral form (the whole-group debriefing session). The major themes to be found in their reflections included: (1) feelings of nervousness about the lesson; (2) planning difficulties; (3) issues of classroom management, including the use of time and maintaining a quiet classroom; (4) issues about teaching and learning; (5) concerns about working well with a partner; (6) hopes that the children’s learning was positive; (7) their judgments as to the developmental appropriateness (DAP) of the lessons; (8) concerns about their own performances with analyses to facilitate improvement for next time; and as before, (9) description of lesson implementations, including (10) “how it went”. (Ordering of themes does not indicate importance.)

The following constructed conversation summarizes emergent themes in the students’ words, with underlined portions taken from journal entries. My role as researcher is interjected through explanatory text written in italics (with key words denoting themes). Small changes in direct quotations to improve readability are enclosed in brackets.

Several of the participants commented about their feelings of nervousness or discomfort before doing this lesson. This may have reflected the two-month gap since their last KAPOW experience.
Susan: We did not have a lot of time to plan this lesson, [so I felt] a little less confident about [it].

Holly: I am feeling relieved that it is all over.

Amy: [I was] leery of this lesson, which might have affected my post-performance [self]-evaluation. I was going into the classroom with negative expectations so I came out with negative feelings.

There were a number of comments about the planning process, as suggested by the following typical excerpts.

Ellen: This was a really hard lesson to muster up.

Diane: Jeff and I [also] had a more difficult time coming up with a lesson centered around positive work habits. I don’t think we had quite enough time to come up with our lesson.

Linda: [I agree that] this was a difficult lesson to plan.

Jeff and Diane’s use of a report card to provide context emphasized the value of concrete examples to help children learn more effectively (DAP). The discussion set up the activity, in which children chose occupations and constructed report cards by listing appropriate work habits.

Diane: We ... had the kids as groups make up pretend “grade cards” listing good work habits for workers. Mrs. C really helped ... by giving us [a grade card] cause we wanted to introduce what Positive Work Habits were.
Jeff: That was really helpful because the kids were giving us just real
general answers. By using that, we were able to have something that they
could really relate with, something that they could see.

Participants' descriptions of their lessons included many excellent
examples of modeling the instructions, something we had talked about in
class as being developmentally appropriate (DAP).

Jeff: Diane made these grade cards. (Children's finished product is
passed around for the others to see.)

Diane: I had an example - you know, what a janitor does. [The
groups] came up with the jobs [for the grade cards they made].

Holly: [Susan and I] had an art project where Susan made clocks out of
paper plates and we had [the children] draw a time on it. Then they had to
draw a picture of what they were doing at that time. They really enjoyed
doing that.

Susan: I had made examples for them to see.

Ellen: [To model how children should play Build What I Say], we had
two overhead projectors and we used the [window] blinds [for screens]....

Linda: [But] for the last activity we broke the kids up into four groups,
by counting off. Each group was to go with a different adult in the room.
And each group came up with a different result. Perhaps if our instructions
had been clearer, we might have done better.
Classroom management was a big issue in this debriefing session. One major concern was the noise level in the classrooms and the attendant difficulty of getting the children’s attention when necessary.

Diane: The kids were on task. I mean, as we went around the room, they were genuinely trying to do [the activity].

Jeff: A lot of the time they were just arguing about what they thought was a positive work habit for [the occupation they had chosen].... I didn’t think they were all that loud while we were doing that, cause they had to talk.

Diane: [But] then we did the telephone game, and they were really loud. Maybe we should have gone through it a little more and told them they had to be quiet to play.

Jeff: And it was a game, and they were going to be loud. It was playtime. That’s what they thought.

Megan: [Our class] got noisy and I flicked the lights, and it worked! It worked great.

Linda: I felt like I had a lot of problems with my classroom management, doing things just right. We paired [children] up by handing out stickers, ... then we told them to quietly match up, and of course, they started talking about two seconds later. I thought that the sticker idea would work ..., but the children did not take our no-talking task seriously. By the time they found their partners, they were talking so loudly that it was difficult to talk over them.
Megan and Amy then brought up a new issue - what happens when the lesson just doesn’t go well in spite of all efforts. Both were very disappointed in their lesson and were struggling with issues of teaching and learning - questions about the best ways to teach to promote learning.

Amy: We modeled how to play Build What I Say and explained the directions, and that went fine. We let them play that for a long time, and it worked fine. They liked the game a lot. And then we tried to move into the Positive Work Habits, and they would not discuss. They just sat there.

Megan: I’m glad that we did the Build What I Say first because it got their attention. [But then] our discussion seemed to lag. Maybe we didn’t lead the kids strongly enough or maybe I just wasn’t sure where we were going with the discussion.

Amy: Megan and I did as much as we could but nothing worked. We talked about using those skills at work, asked about the site visit jobs, and brought up my job... And finally we just had to leave. I mean, we couldn’t do anything else.

Megan: I was real intent on doing something with puppets, and I didn’t have the time to develop it or to really think it through. The activities were developmentally appropriate. I’m not sure if we met our goals. I’ll have to look into that.

Amy: I knew I didn’t like this lesson from the beginning but I know [we] tried. I told [Megan] not to feel bad because we did our best.
it a learning experience but I said it wasn’t, because what did we learn? At this point I don’t know what we should have done differently so I didn’t learn anything except that what we did didn’t work!

Several participants commented on working with a **partner**, some expressing frustration with trying to “team teach.” Ellen showed that she and Linda were making a strong effort to work together despite their difficulties, while Diane had discovered that she appreciated her partner’s teaching abilities.

**Megan:** It was nice to have a partner, because we could fill in for each other with other questions or comments.

**Amy:** I’d like to maybe try to prepare a little more because it’s hard for me to work with a partner. I feel like we’re always stumbling over each other.

**Ellen:** [Linda and I] had a lot of trouble getting started on planning, a lot of trouble sitting back there talking. I was terribly frightened that we were going to leave that day without anything [planned]. I like to be very organized and she does not. Therefore, stress is a reoccurring factor with each and every lesson.

**Linda:** This lesson scared me a little to begin with. I felt like it was difficult to plan and it would be difficult to carry out.

**Ellen:** [But] I liked what Linda and I have been able to do together in terms of how we have been able to communicate... If we’re struggling, the
kids have no idea one of us is having a conflict or a problem. We just know what’s going on, and we can pick up where that person’s left off.

**Jeff:** [In our case] I think, I don’t know how Diane feels about this, but I think maybe I’m still too controlling.

**Diane:** I don’t think it’s that, I think it’s just that [you’re] really good.

**Jeff:** I just feel like I don’t give Diane enough time to talk.

**Instructor:** Your give-and-take was much, much better this time.

**Diane:** Yeah. But I think it’s because he knows, he just knows what he’s doing. You’re really good on your feet, Jeff... I really do think Jeff is ... good. Teaching is really a niche for him.

_Students were also concerned over the children’s learning._ Holly brought up an important point, the need for review. While she did not mention the term “evaluation,” this is something we had discussed in class.

**Linda:** I liked the *Build What I Say*. I think [the class] really got it. I think they learned a lot about listening. On the car ride home,... I realized ... that I was more disappointed in myself than I was in the lesson, and the way that it went. Overall, the lesson was good. A lot of things went right, and as a perfectionist, sometimes that’s harder to see than the things that went wrong.

**Susan:** We reviewed positive work habits and bad work habits in the book [that Holly read]. [The children] were quick to pick them up.
Holly: [Our lesson] took quite awhile, so we didn’t have time to review. So I’m not sure if they learned a lot out of it or not.

I asked participants to comment during the debriefing session on whether or not their lessons had been developmentally appropriate. One member of each pair chose (apparently spontaneously) to answer the question. Students’ answers were quite specific, ignoring some of the more salient features of DAP that I had observed in their lesson implementations.

Ellen: I thought ours were [developmentally appropriate]. When I was able to go around to the kids [during the game], ... I listened to all the comments.... So I think it was individually appropriate because ... I repeated everything [one child] said, and she [snapped her fingers] and said, “I got it, I got it”.... I thought in terms of individual accountability (a cooperative learning term) with the Build What I Say, and that was really good.

Megan: [In our lesson] we used Lego blocks to do the building. I think it was very appropriate. [The blocks] were big enough, and since we had an older group, they were able to deal real well with it. I also had some smaller blocks, but I wasn’t sure that there weren’t any kids in the classroom that had fine motor skill problems. Cause if they had, I wanted to make sure they got the bigger blocks.

Diane: I think in ours, you know there were a few kids that do have special needs, but I think they could help each other. Maybe they couldn’t
write it down, ... but there was a writer in each group. [And] I think that by
giving the grade cards to the kids, they didn’t just hear us talking about
positive work habits. They actually kind of related it back to what their
parents do.

**Instructor:** So you’re bringing in the cultural aspect, too.

**Susan:** I think [our lesson] was [developmentally appropriate]. We had
the skits and everybody participated and seemed to enjoy it. We tried to give
each one something to do. It wasn’t big to do, but they each had to be a part
of it to have things work out. And the art, too.

**Instructor:** All of you [had] the children get up out of their seats.
There was some activity, using their bodies, they were speaking with one
another. Very developmentally appropriate, I think, in general...

Finally, students’ feelings about “**how it went**” were mixed. Some felt
positive, while others were less certain about it. Holly, Megan, and Amy were
all concerned about **improvement** as teachers.

**Ellen:** The lesson that we planned was actually right on the money. I
was totally pleased with the day and felt that we far exceeded our own
expectations.

**Holly:** I don’t know if I was that happy with it. I wasn’t sure how it
really went [at the time]. **Overall, I guess [our lesson] went really well. I did
improve a little this time.** I want to be able to feel more comfortable.
**Megan:** I came away from our lesson feeling a little disappointed. I know, not all our lessons are going to be superb and that the kids will not always learn the lesson or be enthusiastic. I think maybe we should have planned another activity [to fill more time].

**Amy:** I think we need to remind ourselves that we don't see these kids often and so classroom management might be a problem. The next lesson sounds like ... a lot more fun so we should just look forward to it.

**Researcher Reflections**

Students seemed much more focused on their own teaching than after the previous lessons. This lesson sparked many questions, primarily about classroom management. Ellen, for example, wanted to know how much classroom noise was acceptable. Our debriefing session was quite lengthy because participants’ descriptions of their field experiences were frequently broken by discussions about how to quiet the class, how to claim and hold children’s attention, and the like.

Journal entries, too, focused on students’ feelings about why the lesson had succeeded or failed. Han (1995) remarks that preservice teachers who wish to advance as reflective learners must “move into the center of the learning situation and into the center of their own doubts” (p. 229). Lesson Three had become a learning situation for participants, and they were indeed doubtful about their emerging pedagogical skills.
I was not surprised that the students seemed intensely interested in this practical information. My previous conversations with preservice teachers have been liberally peppered with attempts to answer their “What should I do if...” questions. Though this class is meant to address such questions, I was not expecting so many at once. I wondered if the flood of practical questions was related to the fact that students had not implemented a lesson in over two months. The site visit had provided some contact with children but little opportunity to practice teaching skills.

Again, I looked for attention to DAP and found that only Susan’s and Megan’s journals addressed it directly, aware of DAP on a theoretical level. I recalled that both had school-age children, a daily reminder of child-centered practice. In that sense, they were unique among the group. Among the other participants, only Ellen had a son, but he was a young adult. Susan, Megan, and Ellen were also “nontraditional students” who had returned to college some years later than the norm. Susan was an education major whose goal, since she had returned to college, was always to be a teacher. Until recently, Megan had been a psychology major, so child development was a familiar subject for her. However, Ellen was a contrast to everyone else in the group. She had not focused on children or teaching until the end of the previous year. The prior beliefs, knowledge, and experiences these women brought into the program impacted the “depth, interconnectedness, and access” (Leinhardt, 1992, p. 21) of their understanding, as well as their teaching (Tatto, 1998).
There were also many indirect (or practical) references to DAP principles. For example, when Diane wrote about Jeff “going through his whole song and dance (apologizing for being late) which [she believed] helped the children grasp what [she and Jeff] were going to talk about,” she was referring to their skit making the situation real for young learners. In this way, children related the theme, *Positive Work Habits*, to something they had actually seen. Jeff and Diane extended this by using a grade card to discuss the good work habits valued in school. Jeff’s comment (during debriefing) that this gave children “something that they could really relate with, something that they could see” showed the importance of teaching on the children’s level.

The NAEYC (1997) might refer to what Jeff and Diane had done as “build[ing] on what the children already know” (p. 20). One might also think of that event in terms of intersubjectivity, building a common understanding between conversing individuals who are working toward a goal. “Adults try to promote it when they translate their own insights in ways that are within the child’s grasp” (Berk & Winsler, 1995, p. 27). This is what Jeff and Diane did, aided by a familiar real-world object, the grade card.

Similarly, Holly talked about being unsure that the children learned anything because she and Susan had no time for review. This certainly showed evidence of a child-centered attitude. If we believe that children construct their own knowledge, then the teacher cannot judge that the class learned something simply because the information was presented. Besides offering
informal assessment of what children had gained from the lesson, questions should be included throughout to help children learn (Pratt, 1994). Holly’s call for a review was very appropriate.

A third practical reference to developmental principles was found in Megan’s journal, describing how she and Amy tried to make this abstract topic familiar by including their own jobs in the discussion. According to Megan, they “were able to relate positive work habits [to their] jobs.” This was appropriate because it gave the children a starting point for further concept building. This example, and other similar ones, showed that students were attempting to practice what they had been learning.

In the debriefing session, I asked students if their lessons were developmentally appropriate. Their responses showed a lack of awareness about DAP applications that had seemed obvious to me. I reminded them that active learning and children’s social interactions were developmentally appropriate teaching practices. I also told students that physically getting down to children’s levels, rather than towering over them, was a way in which they were already applying DAP principles. I agreed with Kaufman (1996) that “teacher candidates must apply theory into practice in real classrooms” (p. 46), but I believed they should know when they had done so (Leinhardt, 1992) if understanding and application were not to remain unrelated.

Planning and teaching Lesson Three was much more difficult than for previous lessons. There were two possible reasons for this. First of all,
Positive Work Habits was not a theme that easily lent itself to active learning. Students felt that it was quite abstract. Secondly, participants had only two weeks of preparation time, so they had sampled fewer lesson options than for Lesson One.

Neither Amy nor Megan had felt comfortable with their sketchy preparations, caused by absence due to illness. Megan commented on this in her pre-lesson journal: “I don’t feel as confident about this lesson as I did the previous lessons. Perhaps it is because I missed Friday’s class.” Amy, too, expressed concerns, writing that their final lesson plan was “still more discussion/lecture” than she preferred.

One positive result of their difficult lesson was that it generated some discussion about teaching methodology. “We were prepared and knew how we wanted the lesson to go,” Amy had written... “Nothing worked.” Similar comments during the debriefing led me to emphasize the need for reteaching. This was a new concept for the students, who had assumed that if they had presented the information, then the children must have learned it. Beginning teachers have no “grounded understanding of what [children] are like as learners” (Feiman-Nemser & Parker, 1990, p.33). Participants still had little knowledge of how to evaluate what children had learned.

In retrospect, I wondered if Amy and Megan had also learned something about the role of the teacher. Fosnot (1996b) points out that novice educators base their views of learning on personal experience in classrooms where
teachers dispense what students “need to know” (p. 206). Yet, believing in individual knowledge construction means that the teacher cannot force children to learn. That will happen only when the learners themselves are ready (Prawat, 1992). I had expected that when students learned about constructivism, the role of teacher-as-facilitator would make sense. Now I saw that it might happen in the reverse, that students would come to understand the value of facilitating children’s learning - and then embrace constructivism.

For many students, what they perceived as the brevity of their planning time had been a major concern related to this lesson. “I don’t think we had quite enough time to come up with our lesson,” was Diane’s pre-lesson comment. Ellen aired her own frustrations in a journal entry, saying that “if [Linda’s and my] attitudes towards this topic could cut paper - the paper would be shredded by now.” She and Linda, who shared a ride to and from class, usually finished their planning on the journey home. Holly and Susan also mentioned that the planning time had seemed short. I could see no way to increase the time allotted, but I appreciated their concerns. Though “the key issue is how time is used” (Evertson & Harris, 1992, p. 74) for instruction, not how much time is used for planning, students felt stressed.

My own concerns about the students’ planning were related to the quality of their work. Participants had created good lessons (constructed around appropriate activities and discussions that could help children build the
necessary concepts), but I wondered if that was mostly due to chance rather than a conscious application of knowledge acquired in class. Because they were still learning about developmental theory, students were unclear about whether practices really were developmentally appropriate (Wortham, 1995).

I had felt like an arbiter for Ellen and Linda during their planning session. Ellen was very activity-focused, latching onto almost anything and trying to force-fit it into the lesson. Linda disagreed with her partner’s approach but apparently did not want to comment. These two women taught very well together, making the process look almost effortless. However, joint planning was difficult for them both, and Ellen wrote in her journal that planning with Linda was very stressful.

McCutcheon (1995) maintains that “conflict is less likely if the group has a common position from the outset” (p. 150). I realized that these two participants might never share a “common position” when planning their lessons. Linda’s child-centered stance would never match Ellen’s innate need for a teacher-directed lesson, and vice versa. Yet I hoped they would find some points of agreement as the weeks progressed. Though the other pairs all seemed to be functioning well, I planned to watch for signs of stress in their relationships as well. If possible, I wished to make the planning process a comfortable one for all participants.

Students unanimously judged *Positive Work Habits* as a difficult topic to plan and to teach because of its abstract nature. It did not easily suggest
concrete experiences, something that children still need throughout the elementary grades. "The more unfamiliar the phenomenon, the more this is true" (Kostelnik et al., 1993, p. 59). Mrs. C had intervened in Diane and Jeff's lesson, offering a grade card that brought the discussion into the children's world. Amy and Megan were less fortunate as they tried to rely on words alone to make their point. The former approach worked, while the latter did not. This was a lesson for me as well. Though we had talked about the need to provide concrete experiences for young learners, I was unsure whether I had sufficiently emphasized it. I would certainly do so in the future.

Lesson Four - Preparing, Planning, Implementing, Reflecting

Preparation

Preparation for Lesson Four was again limited to two weeks. Our curriculum emerged from the Lesson Three debriefing. Decisions about planning led to a multi-week discussion of the "five most important questions" to ask oneself when planning a lesson. Students' initial questions are listed in Appendix B. To encourage thought about the need for concrete experience when learning difficult topics, I included a mini-lecture on the range of classroom experiences teachers plan, based on the Learning Experiences Ladder (Roberts et al., 1996). This may also be found in Appendix B. The activities and instruction comprising students' in-class preparation for teaching Lesson Five are shown in Table 4.7.
<table>
<thead>
<tr>
<th>Topics of Mini-Lectures (See Appendix B for details)</th>
<th>Activities Modeled as Possibilities for Use in Participants' Lessons</th>
<th>Articles Used to Support Learning of DAP</th>
</tr>
</thead>
</table>
| 1) The Learning Experiences Ladder (Roberts et al., 1996) | 1) Corners  
2) Human Bar Graph  
3) Film Clip - Self Awareness  
4) Word/Content Web  
5) Discussion Web (Alvermann, 1991)  
6) Chart - Personal Job Preferences (See Appendix B for Cooperative Learning Activities) | 1) Alvermann (1991)  
2) Barclay, Benelli, Campbell & Kleine (1995)  
4) Workman & Anziano (1994) |
| 2) Reflective Questions During Planning: “Five Questions” | | |

<table>
<thead>
<tr>
<th>Activities Provided to Support Participants' Knowledge of DAP</th>
<th>Curriculum Integration and Literature Connections</th>
<th>Other Professional Development (e.g. Teaching Skills)</th>
</tr>
</thead>
</table>
| 1) Midterm Exam - Focus on DAP  
2) Learning to do Webs - Content Webs, Discussion Webs (Alvermann, 1991) | **Children's Books**  
Hodges (1964)  
Isadora (1976)  
**Economics Link**  
“Econ & Me” Segment2 (AIT)  
**Art Connections**  
Designing Snow People  
6-color Snowflakes  
**Math Connections**  
Correspondence, Graphs | 1) Discussion of Professional Writing  
2) Graded Course of Study - Finding Themes Across Grade Levels  
3) Redo Bulletin Board |

Table 4.8: University coursework preparation for teaching lesson four.
Planning the Lessons

The KAPOW lesson on Self-awareness had two stated objectives: (1) that children gain awareness of their interests and abilities; and (2) that children identify careers in which those interests and abilities would be useful. Because Megan and Amy had not met all the objectives during the previous lesson, I emphasized review and added “our own objective - mention the site visit where appropriate and briefly reteach as necessary.”

For primary-grade children, the KAPOW lesson plan suggested that small groups brainstorm jobs to match personal preference statements (e.g. “I like to work indoors”) from a worksheet. As an extension, children would illustrate jobs they would like to do. For the intermediate-graders, the KAPOW lesson plan recommended that volunteers analyze their own jobs in terms of preference statements (provided), then have children select cards with occupations written on them and explain how each matched a particular preference statement. The children would draw and color their own choices of occupation and write a paragraph describing it. Participants elected to plan their own activities, however.

Planning occupied the last hour of our second day of preparation. Ellen was absent, and Diane had to leave early. Their partners, Linda and Jeff, sat with students whose classrooms were at the same grade levels. Lesson Four seemed much easier than the previous one to plan, and I found that students appeared to have more than enough ideas.
In most cases, students were adapting ideas that were presented in class during the previous two weeks. Megan and Amy, however, were reworking an activity we had done in the previous quarter. Susan and Holly had added a new idea of their own, combining self-awareness with a valentine theme that fit the date (February 13th). Planning on her own, Linda was adapting Megan's final project from last quarter.

Some groups were planning more than could be accomplished in one hour. This was especially true of Linda, and of Megan and Amy. However, the latter were concerned that they have enough activities planned because their last lesson had seemed too short. In class, we had talked about overplanning. Now I reminded them of our previous discussions about the use of time, how teachers may lengthen or shorten a lesson slightly to fit the allotted time period. I urged them to consider which of their activities could be stretched or tightened up if necessary.

Although there were three participants at each table, pairs again planned almost exclusively, leaving the “odd man out” alone for the most part. Some of them asked for assistance in evaluating how long activities would take. Megan and Amy wanted suggestions for interview questions the children could ask one another, while Jeff had a question about materials for an art extension he wanted to do. I spent some time with each group, mostly to give Jeff and Linda a sounding board for their planning. Table 4.8 shows the plan components for Lesson Four.
<table>
<thead>
<tr>
<th>Student Pairs</th>
<th><strong>Objective 1</strong></th>
<th><strong>Objective 2</strong></th>
<th><strong>Objective 3</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intermediate Classrooms</strong></td>
<td></td>
<td></td>
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<tr>
<td>Amy/Megan</td>
<td>Read book aloud (Greene, 1980); paired children will do <em>three-step interview</em>, share information.</td>
<td>Small groups create web of jobs related to their own likes and dislikes.</td>
<td>Use listening skills to form groups for webbing activity.</td>
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<tr>
<td></td>
<td><strong>Primary Activity/s - Story, interview, word webbing, discussion.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diane/Jeff</td>
<td>Children fill out job self-awareness worksheets, all transfer their preferences to class chart.</td>
<td>Children create snow people from paper, dressed as themselves in their future careers.</td>
<td>Review the site visit during the discussion.</td>
</tr>
<tr>
<td></td>
<td><strong>Primary Activity/s - Chart, designing snow people, discussion.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Primary Classrooms</strong></td>
<td></td>
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</tr>
<tr>
<td>Ellen/Linda</td>
<td>Same as Diane/Jeff above; paired children interview each other; apple activity shows individuality.</td>
<td>In a whole-group activity, volunteers help children chart and discuss likes &amp; dislikes discovered in interview.</td>
<td>Review the site visit during the discussion.</td>
</tr>
<tr>
<td></td>
<td><strong>Primary Activity/s - Apple activity, interview, chart/s, discussion.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Susan/Holly</td>
<td>Pass out valentines with &quot;I love to...&quot; - children then add drawings to illustrate their preferences.</td>
<td>Discussion &amp; completion of job self-awareness chart; book (Isadora, 1976) &amp; discussion activity.</td>
<td>Introduction and discussion to accompany chart.</td>
</tr>
<tr>
<td></td>
<td><strong>Primary Activity/s - chart, drawing, story, discussion.</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For *Cooperative Learning* (italicized) descriptions, see Appendix B.

Table 4.9: Plan components for field experience four.
Students' pre-lesson journals reflected real concerns over planning and preparation. "I don't feel like we are as prepared... as we were for the last lesson," wrote Holly. Megan judged that she and Amy had "a lot planned for this lesson." Linda, fighting illness along with her partner Ellen, wrote that they "were both so tired (they) tried to do it as fast as (they) could" - and that this technique worked! Jeff, who usually seemed very self-assured, wrote that "planning for this lesson was very hard."

Only Megan addressed developmental appropriateness directly in her pre-lesson journal: "Students will be able to identify jobs that would be appropriate for individual interests and abilities.... I believe our lesson fits the guidelines for DAP." Megan was also alone in directly addressing whether or not her and Amy's lesson would meet the KAPOSE objectives. The majority of the remaining journal entries were concerned with planning and preparing the lessons or with projected responses of the children in the classrooms.

**Implementation**

For Lesson Four, three of our lessons were scheduled for roughly the same time. However, Linda and Ellen were both too ill to teach and had to reschedule with Mrs. A. Ultimately, they decided to combine it with Lesson Five three weeks later. I approved this as the only viable solution.

The following is a description of students' implementation of their fourth KAPOSE lessons. For the sake of continuity, I have included that
portion of Ellen and Linda's double lesson which pertained to *Self-awareness*, even though it was not implemented until several weeks later. As in the past, I have coded my description to call attention to DAP principles in evidence - Age Appropriateness (AA), Individual Appropriateness (IA) and Cultural Appropriateness (CA). I followed the same sequence as before, describing both intermediate-level lessons and then both primary-grade lessons.

Amy and Megan were well-prepared for their lesson with Mrs. B's fourth- and fifth-graders (story, interview, word webbing, discussion). Megan set the tone by reading a book (AA, IA), *I Am Somebody* (Greene, 1980). Children were attentive as Megan read expressively and showed the pictures (AA). Afterwards, she asked the class to list some of the things the story's protagonist liked or disliked (AA), then related them to children's personal talents (AA, IA, CA). Children understood this to mean that they would like to do activities for which they possessed some talent.

Next Amy introduced a cooperative activity (AA, IA, CA), the *Three-Step Interview*. She passed out papers, asking children to find a number in one corner. Children would find their partners by locating the person whose number matched (AA, IA). She asked children to match up without talking (AA) - her attempt to focus on the listening skills which children had not exhibited in the previous lesson. Amy read the interview questions aloud (IA) and gave very clear directions (AA, IA). As children interviewed one another, the volunteers provided individual help (IA), often bending to talk with
children on their own levels (AA). Megan respected their work by warning them when time had nearly expired (AA), and soon Amy flicked the lights to end the session (AA). Children selected and shared one interesting fact about their partners (AA, IA). Interestingly enough, they unconsciously spoke in complete sentences.

After the sharing was complete, children formed groups of four or five by matching up shapes written on their blue papers (AA, IA, CA). Amy hung up a chart she had prepared, which children recognized as a "web." The central heading - "I Like To ..." - was surrounded by six sub-headings: "Be active, help others, build things, work with numbers, tell others what to do, and work with my hands." Groups were instructed to think of one job to fit each category (AA, IA, CA), to write them on adhesive-backed notes, and add them to the web under the appropriate headings (AA). Again, participants gave individual help (IA) and flicked the lights to signal that time was up (AA). Amy and Megan took turns reading children's work aloud, then distributed Valentine's Day treats.

This lesson displayed many aspects of DAP principles. There were several opportunities for conversation on topics which the children found meaningful (AA, IA). In addition, children had a number of chances to move about the room for legitimate purposes (AA, IA). Megan nicely "set the stage" with a well-chosen story (AA, IA), and the activities offered an appropriate level of difficulty for this age level (AA).
However, Megan could have improved her story by assigning children to listen for specifics before she began reading. Either she or Amy should have given instructions about what to do when a task was completed so that there was no wandering about the room. In addition, while Amy’s grouping procedures (by matching a number or shape) showed creativity and planning, having children do this without talking did not necessarily show listening skills, but rather the ability to remain silent! Finally, although the objectives were met, class discussions were not developed sufficiently. It would have been difficult to evaluate what children actually learned from the lesson. Nevertheless, both Megan and Amy applied developmental principles numerous times in this lesson.

Using the recording sheet I had provided, Jennifer observed Diane and Jeff’s lesson in Mrs. C’s intermediate-grade classroom (chart, designing snow people, discussion). They began by using a Job Self-awareness chart similar to one we had used in class. Children were given worksheets on which to evaluate their own job preferences (AA, IA, CA), and later the choices of all would be transferred to the chart. Diane and Jeff read each of the preference statements aloud to aid non-readers in the classroom (IA). Pupils were called up a few at a time to tally their answers (AA, IA). There was some confusion as to how this was to be done, and Diane gave help as needed (IA).

Soon Jeff realized that the children in their seats were getting restless, and he started the next activity (AA, IA). He passed out papers, each of
which had three circles to resemble the shape of a snowman. He explained that they would use crayons, markers, and construction paper to decorate their snow people in the guise of their future careers (AA, IA, CA). Diane gave a familiar example, suggesting children consider what clothing might typically be worn by a fireman (AA, IA, CA). Jeff proposed that they think about the choices they had indicated on their worksheets, thus relating the two activities and helping children to build stronger concepts (AA, IA, CA). He offered some examples as well (AA, IA, CA).

Children worked on their snowmen, monitored and aided by Jeff as needed (IA), while Diane continued to call small groups of pupils to add their tally marks to the chart (AA, IA). Jeff warned children when the time had nearly expired, validating the importance of their work (AA). Jeff and Diane then invited the children to describe their snow people for the group, but only those children who wished to share were required to do so (AA, IA). Diane summarized the results shown on the chart the class had made together (AA, IA), then asked if she and Jeff could take their finished artwork back to the university to display it for awhile (AA, IA). Jeff used Diane’s comment as a way to remind children of their visit to the campus a few months before, thus connecting Lesson Four to children’s previous learning (AA, IA, CA).

This lesson used many aspects of developmentally appropriate practice. There were opportunities for children to leave their seats legitimately (AA, IA) and to talk productively with one another (AA, IA). The art project was
creative (IA), and it also allowed pupils to apply what they were learning about their own job preferences (AA, IA, CA).

Jeff and Diane’s plan should have considered what all of the pupils would be doing at all times. That would have avoided what Jeff later referred to as a “chaotic” situation. However, he and Diane were novice teachers, still learning to anticipate children’s actions and reactions. Jeff showed a child-centered attitude when he started the art activity early so that children would not have to sit idle (AA, IA). Even though he was starting a new activity, Diane wisely continued to give individual help to children working on the chart (AA, IA). In Jennifer’s words, “this lesson was very good and presented in a developmentally appropriate manner.”

Because of illness, Linda and Ellen did Lesson Four three weeks later (apple activity, interview, chart/s, discussion). I observed their work with Mrs. A’s primary-grade children. They distributed large apple stickers which were used as children’s name tags (AA, IA). They reviewed the previous lesson (AA, IA); then Linda said that they would talk about apples and relate them to the children. Ellen began with a Big Book, An Apple a Day (Berger, 1997) (AA, IA). Because she still had laryngitis, she asked the children to help her read it (AA). They enjoyed that and actually read the whole book in choral fashion as she pointed to the text (AA, IA). On each page, Ellen asked children to name the color of the apples (AA), which was a nice lead-in to their next activity (AA, IA).
Linda divided the children into small groups (AA, IA, CA) according to where they were seated, giving each group a bag of apples. Each child was to select an apple, study it for a moment, then put it back in the bag. After another minute, children were to find their own apples again and be able to tell how they knew which one was theirs (AA, IA). Linda related this to people, all similar in some ways, but different in others. Ellen cut four apples cross-wise to reveal the star-patterns inside, again relating it to the fact that people may look different but be the same inside (AA, IA, CA). Children were given a chance to examine the cut apples closely (AA, IA) as Ellen asked a child (AA, IA) to help display them. Finally, each child received a wedge of apple to eat (AA, IA).

Next Ellen asked those whose name tags had a blue star to pair up (AA, IA, CA) with those who had a silver star (AA). Children were instructed to discuss their likes and dislikes with their partners (AA, IA, CA), though they made no written notes. Linda and I circulated among the class to ensure they understood what to do (AA, IA), while Ellen passed out papers (turned upside down) and strips of stickers (one each of green and red apples). After a short discussion, children were asked to turn over their papers. Ellen then read aloud (AA, IA) the ten statements on the paper. These were related to career preferences (e.g. "I like to work indoors."). Pupils were to mark statements with a red sticker if they agreed with them and use a green sticker if they disagreed (AA, IA).
Linda then hung up an oversized chart with the same statements (AA, IA). It was headed “Work I Like to Do.” She told children to use large apple stickers (AA) provided by Ellen to mark their individual choices on the group chart (AA, IA). Because girls and boys received different stickers, the finished chart would reveal choices along gender lines. Linda called pupils in small groups (AA, IA) to mark their preferences. Those at their seats soon got restless so Ellen allowed them to use their leftover stickers to make designs on their papers (AA, IA).

While Linda completed the chart, Ellen asked children about the likes and dislikes they had discussed with their partners earlier. She wrote these on another chart and related them to jobs (AA, IA, CA). Children gave examples of familiar jobs (AA, IA, CA), such as teachers and telephone customer service workers. Linda then finished the lesson by discussing the results of her chart, having children compare the number of boys and girls who had indicated they liked to do each kind of work (AA, IA, CA).

There were so many developmentally appropriate aspects to this lesson - children’s active involvement (AA, IA), the relation of current likes to familiar real-world jobs (AA, IA, CA), and the opportunity for creative expression with the stickers (AA, IA), as a few examples. There was room for improvement, largely in planning for all children to be active at all times. It took 10 to 15 minutes for the class to mark the chart with their job preferences, far too long for children to wait. Ellen planned to give pupils the
Susan and Holly did their lesson (chart, drawing, story, discussion) with Mrs. D’s primary-grade children in the afternoon. Susan immediately asked two children to help her hang a chart that she had made (AA, IA), titled “Job Self-awareness.” (It was a list of ten statements, such as “I like to work outdoors.” and two columns headed “yes” and “no.”) When it became apparent that children did not understand the title, Susan explained it in children’s terms (AA) as “what you like to do.”

Susan had brought two puppets - “Lambchop and Mouse” - for whom she provided high-pitched voices. She discussed some of the statements on the chart from the puppets’ points of view (AA, IA). Lambchop “told” children that she liked to work outdoors and that she used numbers to count the sweaters she made from her wool. Mouse “said” she preferred to work inside, making holes in the walls.

Holly gave each child a sheet of eleven mini-stickers. Susan called the children a few at a time (AA, IA) to come to the chart, attach one of their stickers and write their names beside their own stickers. Then Holly read each
statement aloud one at a time (AA, IA). After each reading, she called a few children to come up again to put a sticker in the “yes” or “no” column (AA, IA, CA) to indicate work-related preferences. Meanwhile, Susan entertained those at their seats by having the puppets discuss the statements as Holly read them (AA). When all ten statements had been marked, Holly asked the children which column had more stickers (AA). The “yes” column had many more than the “no” column.

Susan and Holly followed this with an art project. Children drew something they “loved to do” on large pink hearts (AA, IA, CA). Susan glued the completed hearts on a length of red and white mural paper while Holly read aloud (AA, IA). Holly read Max (Isadora, 1976), the story of a little boy who finds that the best way to warm up for baseball practice is to attend ballet class. Holly asked the children to consider whether Max should keep dancing, and she encouraged them to list reasons both for and against this issue (AA, IA, CA). She used an example from one of the children’s heart drawings (AA, IA) to help her make the point that both boys and girls can do anything they want to do (CA). After the brief discussion, there was just enough time for Susan and Holly to pass out the Valentine’s Day treats they had brought.

This lesson was very developmentally appropriate. Susan’s puppets were eye-catching, and they engaged these young children in pretend play (AA, IA). The chart was written in large letters with the contrasting columns written at either side to avoid confusion (AA, IA). Children had many
opportunities to leave their seats (AA, IA), and they were able to talk with one another during much of the lesson (AA, IA). The art activity was fun and creative, and it provided an appropriate cognitive challenge for these seven- and eight-year-olds (AA, IA).

One less appropriate aspect of the lesson was the length of the first activity. It took over 10 minutes for children to put their stickers on the chart. Though the chart was exactly like one I had modeled in class, for these primary-graders, students could have cut the number of statements. Susan's discussion during the activity also lost its impact because the children were moving around so much. A review at the end would have been very useful, too. Susan briefly referred to earlier lessons, but there was no mention of the site visit to connect with prior learning.

Despite these shortcomings, these two participants did apply DAP principles in quite a number of ways during their lesson. In addition, Susan made a great effort to help her partner to participate, a task she had taken on for herself. Helping Holly to overcome her shyness was a goal for both partners, and they succeeded admirably in this lesson.

Reflection

Student reflections took the form of their individual journal entries and the whole-group debriefing. Nine major themes were found across both written and oral reflections, including (in no special order): (1) the discussion of
developmentally appropriate practices (DAP); (2) dynamics of working with a partner; (3) concerns about planning; (4) classroom management issues, including use of time; (5) analysis of “how it went” and thoughts about how to (6) improve their performances for the next lesson; (7) comments about the children’s learning that had resulted from the lesson and how that could be evaluated; (8) judgments about whether their objectives were met; and (9) an overall theme, descriptions of lesson implementation methods.

In the following constructed conversation, created from post-lesson journals (underlined portions) and comments from the debriefing session, students express these themes in their own words. My role as researcher is included as italicized text (with key words denoting themes). Brackets enclose those words which are actually small changes in students’ direct quotations, made to improve readability.

Although their reflections included few theoretical references to DAP, students’ descriptions touched on aspects of this area in many practical ways.

The following comments address a number of DAP principles.

Amy: [To introduce our lesson], Megan found a book that really made the point we wanted to hit - “You don’t have to be good at everything, but discover what you like to do and are good at.”

Susan: We [started by asking] the class what they remembered about the last KAPOW lesson. They remembered a lot. [Then] I asked a few kids to
help me put up the survey [chart] on the board. I brought two puppets, ... and I just used them as props [to discuss the chart].

Diane: [We started with the chart. Jeff and I] went around the room and made sure the kids answered the questions.... I kind of stood with [one little girl] and helped her out cause she was having a hard time. And she had a hard time focusing, too. So we went around and made sure [they] got their answers lined up.

Jeff: Then when they were doing their snowmen, I think they really had fun.... We've had them write, read, and everything like that all the other times, so we tried to be creative this time.

More than for any of the previous lessons, working with a partner was a big issue. Though Jeff and Diane had become a good team, Amy's comments indicated that, for her, some problems still remained.

Amy: I was scared at first but this lesson seemed to go well [after all]. Megan and I were supposed to meet at 8:30 and she didn't come until about 8:45. I was getting really scared that I would have to go to [the school] alone.

Holly: For the last lesson, Susan and I had planned who was going to do what, and this time we didn't. I had planned that she would do the question on the book, but instead, I did it while she glued on the hearts [for the art project].
Jeff: [For our lesson], I was going to talk less, .... [but] because Diane was sick, I tried to talk more so she didn’t have to do much.

Diane: I think we work pretty good together, so I don’t think you have to worry about that anymore....

Jeff: (Explaining) She does a lot of the one-on-one type of things.

Planning was a big issue for nearly all of the students as they prepared their lessons. They were discovering that even careful planning did not eliminate all problems.

Megan: Amy and I came away wondering if we should have planned more. At first, we believed we had over-planned.... [Our instructor] observed our lesson and [told] us perhaps this group of kids are just faster and need more activities.

Amy: I was surprised that with everything we planned, it still ran about an hour. We need to plan a lot for this class.

Jeff: [At first] I didn’t know exactly what I wanted to do... Diane had to go to a funeral, so I was planning it [alone].... I absolutely didn’t know what to do. I kind of had a framework, but I didn’t know. So, it was pretty good, but what we ended up doing ... It was kind of chaotic at points.

Linda: [For our lesson], I felt like Ellen and I didn’t click as well as we usually do. We each had our own ideas of what should be done next and how we would carry it out, regardless of our pre-planning.
As always, classroom management was of primary concern to these beginning teachers. Comments by Jeff and Amy indicate a critique of their own teaching, while Susan and Holly attempt to rationalize problems - and probably to make their classmates feel better.

Jeff: When the kids went up to the board [to mark their answers on the chart], ... we hadn't planned for the other groups sitting there to do anything. I thought ... when I was planning it out, [that it would go quickly] and there wouldn't be a big problem. But it took quite awhile, and the other groups waiting were kind of getting very restless.

Susan: Some days, like Friday, being at the end of the week, the children are ready for the weekend. A lot of classes are noisy then.

Amy: [But] when they get out of control it seems like forever.

Holly: I feel that it is the [classroom] teacher's responsibility to get those kids to behave. Our class always behaves and listens.

Ellen: [In our case], finding a substitute in [Mrs. A's] classroom was hard. I was concerned, ... seeing her there. My worst fears of child conduct were about to come true. Lordy, lordy, were they ever louder [than ever before].

This discussion of classroom management was part of a larger recurrent theme which I refer to as "how it went." Attempts to analyze problems and or plan for improvement were prominent topics.
**Diane:** I forgot to give each student a different color marker... When we got done with the [chart] there were all these .... pencil X’s or one color marker. And you really couldn’t tell [who had made each mark], you really couldn’t hold everybody individually accountable.

**Jeff:** I feel bad that the classroom was somewhat noisy. Mrs. C consoled us by saying that her lessons are sometimes like ours - noisy and unstructured.

**Amy:** [Megan and I] need to think about what [the children are] going to do when they finish. [I’Il write a] reminder to myself - plan “when you are finished” directions for those who get done faster.

**Ellen:** [Linda and I also] had forgotten to plan an activity while the remaining groups ... were posting their results - [Our instructor] was quick to point this out to me and I immediately thought of using the remaining stickers for an apple project on the back of this sheet of paper. That helped, but a more planned out activity would have been better.

**Susan:** [In our lesson] we tried to ask [children] about the different jobs that might pertain to the chart [we had]. Some kids listened, and some kids didn’t.

**Holly:** [And] I think doing the chart ... kind of took up too much time, and so we had to speed up everything else. [Then] when I wrote the book question on the board, I had to take the chart down. That left a moment of silence. If I was their teacher, the class wouldn’t have been so quiet.
Students were also concerned about children's learning, and especially, whether the lessons had been enjoyable.

Holly: I think they had fun with the art. I'm not sure how much they got out of it, cause we didn't get to review.

Diane: We had the children do snowmen dressed like what they want to be when they grow up. Their snowmen were great! Some children were models, some were firemen. We had wrestlers and even sewer men. It was great.

Megan: I was real happy with the way our lesson turned out cause [the children] were real involved in the story, and they seemed to really enjoy doing the interview [of one another].... [Later] they came up with some real creative jobs on our web.

Linda: Who says that learning can't be fun!

In my role as instructor, I encouraged students to take this a step further by asking them how they evaluated children's learning.

Diane: [Jeff and I] went around the classroom and we asked [the children] what they drew and why.

Jeff: And how that related to what they [wanted to be someday].

Megan: To evaluate our lesson that day, I really believe that [it was] by [children] filling out the interview. Everyone participated. So we knew that they had to think about what their abilities were or their likes and dislikes; and
because everyone had to put something up on our web ..., we were able to tell that each group participated and they understood.

**Susan:** [To begin each lesson] we usually ask them a few things they learned from the last lesson. Like, “Do you remember what we did last time?” [We] try to get a little bit of that just at the beginning.

*A further extension of this thought was whether or not each pair had met the KAPOW lesson objectives.*

**Instructor:** You feel that you all met your objectives?

**Susan:** Oh, yeah, I think we did.

**Jeff:** I think that we accomplished our objectives [too].

**Megan:** I know we did. *We successfully met our objectives and were able to relate our jobs, once again, to our topic of [Self-awareness].*

**Researcher Reflections**

With Lesson Three, students had entered a second phase of this three-part course, but the difference became more striking with the implementation of Lesson Four. Our entire first quarter had been geared toward orienting students to the KAPOW Program and providing them with basic knowledge about DAP principles. They taught one lesson and did extensive work on the site visit as groundwork for the remaining two quarters. Now they were doing a new lesson every third week, with little preparation time. Partners depended
on each other and had to accomplish their goals cooperatively. Essentially, students were engaged in group knowledge construction (McCutcheon, 1994), a challenging process. In Vygotskian terms, they were operating at the upper ends of their pedagogical abilities and were “scaffolding” one another’s progress (Wood & Middleton, cited in Berk & Winsler, 1995).

Minor friction between partners became an issue for some pairs, while others seemed to find a comfort level that allowed for smooth collaboration. I speculated that temperament might be a factor. Jeff and Diane, for example, were very much alike - both extroverts, with good communications skills and high levels of empathy. Diane found that she enjoyed letting Jeff take the lead in their lessons, while she tackled the problems plaguing individual children. For his part, Jeff was concerned that Diane get enough opportunities to speak, and he made an effort to curb his natural tendency to dominate. They were an outstanding team.

Amy, on the other hand, was becoming frustrated with her partner. Both young women were excellent students. However, Amy was a self-professed “perfectionist” whose work was always impeccable, while Megan was a busy mother who had to take a less-structured approach to her course work, always getting it done but prioritizing it differently. It was Amy who dotted every -i and crossed every -t. Megan, on the other hand, was content to let her partner take that role, but Amy worried that Megan would not follow through with her preparation assignments. This underscored Hawkey’s

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contention that “some pairs work more effectively and productively than others” (p. 181).

I was pleased with students’ strong focus on planning, which I saw as a complex process requiring teachers to make many decisions. Planning requires that teachers “select objectives, select and organize content, choose the appropriate learning experiences, determine the most appropriate sequence for the learning activities, and determine how to assess both children’s growth and the program itself” (Brewer, 1998, p. 192). Participants were responsible for all of those decisions (except selecting objectives), and I was happy to see them taking it seriously.

Students worked hard on their plans for Lesson Four. In general, they had been less satisfied with their previous lessons. Positive Work Habits was a difficult topic, and participants were determined to do a better job this time. Amy and Megan concentrated on planning enough material to fill an entire hour and were ultimately just five minutes short of meeting their goal. More importantly, their lesson flowed well, with each part building on the last and enhancing it. Both Linda (paired with Ellen) and Jeff (Diane’s partner) had to plan alone but spent time with their partners outside of class to get their planning done. Susan and Holly seemed able to plan most quickly of the participants, for both were naturally creative.

My one concern after the lesson was that students’ reflections contained few theoretical references to DAP. Susan, who usually attended to this,
submitted a detailed lesson description, digressing hardly at all from the bare facts. Amy and Holly were thoughtful as usual, but Amy focused more on the mechanics of the planning than on the appropriateness of the lesson, while Holly's journal emphasized a natural preoccupation with her ability to handle the class. Megan directly addressed DAP principles, but in a cursory fashion. Etchberger and Shaw (1992) refer to reflection as a "minds on" (p. 412) process, but I found little indication of such mental engagement about DAP.

There were many practical references to DAP, however. Megan, for example, described how she and Amy randomly assigned children to small groups and asked them to think of occupations to fit specific categories. The challenge was appropriate for the class, and asking for familiar jobs was respectful of all cultures. Megan's journal did not mention that some cultures (as expressed in home and community life) might be more or less supportive of children's knowledge about jobs, but participants' actions showed appreciation of the relationship between "educational contexts and the surrounding social [environment]" (Zeichner & Liston, 1987, p. 31).

In general, student responses to one another were more analytical than their journal recounts of their own lessons. Amy, for example, devoted much of one journal entry to her personal reactions to the day's events. Yet in a response to a classmate's journal she advised Holly, "I think you will do much better if you don't plan what to say. That way you can react to the children's actions and responses. They may take the lesson in a new direction.
or make you think of something that you hadn’t considered before.” Amy was describing a form of emergent curriculum.

Similarly, Jeff’s written response to his own partner’s journal was, “Your evaluation of our lesson was much nicer than mine. The thing that I was discouraged about was our planning of what the kids should do while [the others] were marking their X’s on the board. We forgot to have the other kids do anything.” Although Diane talked about this in the debriefing session, her post-lesson journal entry did not mention it. Jeff’s comment showed self-evaluation and a child-centered view.

I was pleased that most of the pairs had planned lessons that were not based only on what we had done in class. Holly and Susan created an original art activity, having children draw pictures on heart-shaped papers to show what they “love[d] to do,” then gluing the finished drawings onto a larger paper prepared by Holly. It was developmentally appropriate, an activity that encouraged children to express themselves creatively and apply what they had learned in the lesson’s opening discussion.

Megan and Amy’s use of an activity from the Autumn quarter also showed application of developmental principles. They had replaced a KAPOW Program worksheet with an interview format that called for children’s movement and small-group discussion, as well as allowing for independent thought. Though we had talked about cooperative tasks as being in agreement with DAP, we had not discussed the use of the Three-Step Interview (See 227
Appendix B) within the context of this lesson on Self-awareness. It was Megan and Amy who made that connection.

Finally, Linda and Ellen adapted Megan’s final project from the previous quarter, showing that they were able to apply another student’s ideas. This, I believed, signaled a greater awareness of DAP principles than simply using one of the activity ideas I had presented to the class. Instead of implementing what they could have judged as a “safe” choice, Linda and Ellen implemented an activity that had not been introduced by me. While Linda did most of the planning for Lesson Four, Ellen was in agreement with her partner’s decisions, and she contributed several ideas and materials that extended the “apple” theme.

Though Jeff and Diane’s plan included no novel ideas, it was in their lesson that I saw the first indication that participants were becoming aware of the children’s perspective as the lesson unfolded. When Jeff realized that he and Diane had planned no activities for those who were waiting to mark their tallies on the chart, he changed the plan to fit the circumstances. Decision-making that is “preactive, interactive, and postactive” (Jackson, cited in Westerman, 1991) is a hallmark of expert teaching. Jeff was certainly not an expert teacher, but his alteration of the plans as needed showed that in some areas his skills surpassed those of many novice teachers.

As part of the lesson preparation, each student had submitted “five questions” that he/she considered while planning. (See Appendix B for a
summary). The results were quite interesting. I had meant the activity to provoke thought about the planning process, but the assignment also became an assessment tool for me. Students' questions provided a window on their thought processes. In addition, this task was consistent with constructivist principles because "learners need to be immersed in an activity by doing it in order to internalize it" (Moulds, 1996, p. 146). Students learned more by writing out their own questions than from any lecture I might have given on the subject.

I was encouraged that nearly all the students had included DAP in their lists of questions, though only Susan, Diane, and Ellen mentioned all three aspects. Similarly, all participants except for Holly believed that meeting lesson objectives had to be considered. However, only Linda, Holly, and Ellen listed the need to evaluate the lesson's effectiveness.

In attempting to make sense of student reflections, I once again reviewed the questions they had written to help them with their planning. While most of the participants did include one or more aspects of DAP principles (especially age appropriateness), many of their questions were focused on the mechanics of planning. For example, Megan and Amy both highlighted the need for materials, and Megan also thought about time constraints. Students' concentration on the what and the how of planning as opposed to the why which underlies the process was obvious in their reflections. Yet, only by challenging themselves to consider the what, the
how, and the why of planning could they make informed decisions about instruction (Bruner, 1966; Roberts et al., 1996).

According to Katz (1985), it is normal for young teachers to be concerned about the mechanics of teaching. Holly was still discovering her own ability to manage the classroom, what Katz described as the "survival stage" (p. 780). The other students were a little more confident of their own abilities and in some ways had moved on to the second stage of teacher learning described by Katz, that of "consolidation" (p. 780). Teachers in this stage have some knowledge of what to expect from children of a specific age. It makes sense, then, for students' questions to focus on age appropriateness rather than on individual or cultural appropriateness. It makes sense, too, that students were concerned about objectives. They were advanced enough to have some understanding of children's capabilities. What they were unsure about was how to help youngsters build the strong concepts which are the hallmark of learning.

Katz (1985) writes that "teachers as learners" (p. 778) must study their own pedagogy. Dialogue with peers would provide support and increase the knowledge of all involved. I hoped that students would really think about their teaching, share their ideas with one another, and accommodate their pedagogical knowledge schemes if they learned something new. I hoped, too, that constructivist principles would frame their teaching decisions to an ever greater extent.
I recalled that a constructivist teacher education program must build on students' current levels (Kaufman, 1996). Their reflections revealed a strong preoccupation with management and organization. In Holly’s case, it seemed most important to provide a comfort level that would let her enter a classroom with confidence. The others needed advice on handling the real-life problems they encountered in their lesson implementations. Maybe thinking about developmental theory and how to apply it was not a high priority for students at this point. It remained to be seen whether it would gain precedence as the year progressed.

Lesson Five - Preparing, Planning, Implementing, Reflecting

Preparation

We had just two weeks to prepare for the implementation of Lesson Five. Participants decided to repeat a popular activity from the previous year, a simulated assembly line that vividly illustrated the need for Interdependence. However, the children would be creating a “product” that was new to them. Students had to select and prepare the materials, then choose some additional activities to support the theme. Our in-class time also included a series of activities that focused on the improvement of planning through reflection (See Appendix B). Table 4.9 summarizes students’ in-class preparation for teaching Lesson Five.
<table>
<thead>
<tr>
<th>Topics of Mini-Lectures (See Appendix B for details)</th>
<th>Activities Modeled as Possibilities for Use in Participants' Lessons</th>
<th>Articles Used to Support Learning of DAP</th>
</tr>
</thead>
</table>
| 1) Planning Considerations - Moving Toward Child-centered Lessons | 1) *Venn Diagrams*  
2) *Blanket Ball*  
3) *Interdependence String Game*  
4) Assembly Line  
5) Flow Charts  
6) Film Clip - Interdependence  
(See Appendix B for descriptions of *Cooperative Learning Activities*) | 1) Castle & Rogers (1993/94)  
2) Cronin (1993)  
3) Elrich (1994)  
4) Stone (1995) |

<table>
<thead>
<tr>
<th>Activities Provided to Support Participants' Knowledge of DAP</th>
<th>Curriculum Integration and Literature Connections</th>
<th>Other Professional Development (e.g. Teaching Skills)</th>
</tr>
</thead>
</table>
| 1) Planning - Discussing and Refining the "Five Questions" | **Children's Books**  
Charles (1988)  
Flora (1994)  
Patron (1994)  
Thomson (1993)  
**Math Connections**  
Measurement  
Sequencing | 1) Focus on Organizing Time and Materials  
2) Plan to Support the Assembly Line  
3) Present Appropriate Literature for KAPOW  
4) Redo Bulletin Board |
| 2) Alternative Forms of Assessment | | |

Table 4.10: University coursework preparation for teaching lesson five.
Planning the Lessons

KAPOW Lesson Five, *Interdependence*, listed the following objectives:

1. that children would become aware of interdependence within the school environment;
2. that children would realize the importance of every individual's role in these relationships;
3. that pupils would also identify these interdependent relationships as they occurred in the site visit; and
4. that children would see how individual jobs were important to the operation as a whole.

The KAPOW lesson plan for intermediate-graders suggested that children pantomime examples of *jobs*, *work*, *interdependence*, or *teamwork*; the plan for younger children suggested that small groups make a food item such as fruit punch or instant pudding.

All participants would build their lessons around an assembly line activity involving a food product, so our plan somewhat resembled that suggested for second-graders. However, rather than working in small groups to mix up a simple recipe, children in all classrooms would assemble a "mini-meal" from cookies and candy mints. The product would look like a miniature version of a typical fast-food meal. Students would divide their classes into two "assembly lines," with every child having a specific job. Afterwards, children would consume the product.

Ellen was absent again, continuing her recovery from a serious illness, so Linda planned with Susan and Holly. However, Linda was really on her own as the other pair worked together. Though I did not suggest it, Megan
and Amy went to one table while Jeff and Diane sat at another. I believed that pair relationships were becoming increasingly strong and effective when it came to planning.

Much of the planning involved the mechanics of setting up and managing the assembly lines. Megan and Amy were especially concerned because their larger-than-usual class necessitated the creation of some extra jobs. Students also had to be ready to add or subtract jobs from the assembly-line plans, for children might be absent, or a new child may have been enrolled since the previous lesson. This required a great deal of flexibility in planning. Each pair also planned the discussion periods that would either introduce or follow the main activity, and they added other supporting activities such as Roundtable, planned by Jeff and Diane, or Blanket Ball, Susan and Holly's choice (See Appendix B for descriptions of each).

For Amy and Megan, an important objective was to fill an entire hour. This was not required by the KAPOW Program, but becoming aware of timing is one of my goals for these young teachers. Megan and Amy were constantly striving to occupy their class for the targeted amount of time. They planned to use a film clip we had talked about in class, hoping that discussion and possibly a cooperative game would fill the remainder of their hour. Megan seemed content with this, but Amy was not convinced that they had planned enough activity. They continued to plan long after the others had departed. The plan components for all four pairs are shown in Table 4.10.
<table>
<thead>
<tr>
<th>Student Pairs</th>
<th>Objectives 1 &amp; 3</th>
<th>Objective 2</th>
<th>Objective 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intermediate Classrooms</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amy/Megan</td>
<td>Introductory and closing discussion.</td>
<td>Assembly line; vicarious experience through video clip of actual assembly line.</td>
<td>Children will do simulated assembly line activity.</td>
</tr>
<tr>
<td><strong>Primary Activity/s</strong></td>
<td>Film clip, assembly line, discussion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diane/Jeff</td>
<td>Discussion on various jobs and the role of interdependence in each.</td>
<td>Assembly line; groups develop job lists for products; accompanying discussion.</td>
<td>Simulated assembly line activity and small-group job list activity.</td>
</tr>
<tr>
<td><strong>Primary Activity/s</strong></td>
<td>Cooperative job lists, assembly line, discussion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ellen/Linda</td>
<td>Discussion after the assembly line activity, using chart created for Lesson Four.</td>
<td>Children participate in assembly line.</td>
<td>Children will do simulated assembly line activity.</td>
</tr>
<tr>
<td><strong>Primary Activity/s</strong></td>
<td>Assembly line, discussion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Susan/Holly</td>
<td>Introductory discussion.</td>
<td>Children participate in assembly line; then play outdoor cooperative game <em>Blanket Ball</em>.</td>
<td>Children will do simulated assembly line activity and cooperative game.</td>
</tr>
<tr>
<td><strong>Primary Activity/s</strong></td>
<td>assembly line, discussion, <em>Blanket Ball</em>.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For *Cooperative Learning* (italicized) descriptions, see Appendix B.

Table 4.11: Plan components for field experience five.
Students’ pre-lesson journal entries showed greater attention to applying DAP principles than for the previous lesson. Jeff speculated about whether the children would learn what he and Diane intended. Susan wrote of her lesson as being both individually and age-appropriate. Megan analyzed her lesson as to how each part would fulfill objectives. Through all participants’ journals, however, there remained a strong concern for “who is going to say what” (Holly), keeping control of the classroom (Diane), and the complexity of the activity (Linda).

Implementation

KAPOW Lesson Five was implemented in all four elementary school classrooms early in March. I was to view Jeff and Diane’s lesson in the morning, while Jennifer was observing Amy and Megan. In the afternoon, Laura watched Susan and Holly’s lesson while I was observing Linda and Ellen. All of us used the recording sheets I had developed.

The following paragraphs describe students’ implementations of their lessons. As with previous lessons, I have coded my description to make note of their application of DAP principles as: Age Appropriate (AA), Individually Appropriate (IA), or Culturally Appropriate (CA). Comparison of grade levels is facilitated by first considering the two intermediate-grade lessons, then the two lessons that were done with the primary-grade children. Participants’ application of DAP principles is discussed in light of the
activities they had planned to support the assembly line (included in all four lessons) and in the ways they chose to implement that activity.

Because all four classrooms were doing assembly lines that day, I will first describe the common process that all participants used. Children were divided into two “lines” to make “mini-meals” from thin chocolate-covered mint wafers sandwiched between two plain vanilla cookies (a “hamburger”), potato sticks scooped into small paper cups (the “fries”), and two mini cookies, all assembled on “trays” made of Styrofoam meat containers donated by Jeff’s employer. Each child had a specific job to do. For the larger classes, extra jobs were “created” by assigning some children to do Quality Control or Delivery functions.

Amy and Megan's lesson (film clip, assembly line, discussion) in Mrs. B’s intermediate classroom was described by Jennifer. Megan began with a quick review of the site visit, then tied the teamwork children had experienced on that occasion to the current lesson (AA, IA, CA). She asked children to define several terms (AA, IA) - jobs, work, interdependence, and teamwork - before she gave them what she called “exact” definitions. In doing this, she tied each definition to children’s work at the site visit (AA, IA, CA). After the discussion, participants showed a short film clip to provide a vicarious example of assembly line work (AA, IA). Megan prefaced this by asking children to find examples of interdependence as shown in the video (AA, IA). As she elicited responses, a child related the interdependence in this video to
what he had seen in another familiar movie (AA, IA, CA). Jennifer wrote that “[the children] seemed to be getting it!”

Amy took over then, explaining the assembly line activity children would be doing. She read through all of the jobs and the responsibilities of each (AA, IA). In addition, she told the children what each part of the “hamburger” would really be made of (AA, IA). Mrs. B took her class to wash their hands while Amy and Megan set up the two assembly lines, double-checking their line-up of items with their job list. Finally, they coded job tags by color (purple and orange) (AA, IA) to show which of the two lines each child would join. Every child was given a tag as he/she entered the classroom (AA, IA).

Megan’s bird call simulated the factory whistle to start the lines working (AA). She and Amy pulled one worker from each line during the process to see what the other children would do (AA, IA). (One line continued its work, while the other stopped in confusion.) When the work was completed, a “delivery person” passed out the finished meals (AA, IA). Amy debriefed the children about their understanding of the activity, asking them how they had depended on one another, what would happen if a specific worker was absent, and so on (AA, IA). Megan continued by asking children if they had seen any positive work habits in action that day, thus reviewing a previous lesson (AA, IA). She gave them an example (arriving on time) to refresh their memories on the topic (AA, IA). When a child mentioned
personal grooming, Megan suggested further situations to extend children’s thinking (AA, IA). In conclusion, Megan reviewed her vocabulary words (AA, IA), using school-related jobs as examples (AA, IA, CA).

This lesson was very developmentally appropriate. The film clip presented a contextualized example, providing vicarious experience for the class (AA, IA). Children were actively involved in a simulated work experience (AA, IA), which participants enhanced by pulling a child from each line. Participants used simple examples to introduce vocabulary (AA, IA), and their questions tied it all together (AA, IA), meeting all objectives.

According to Jennifer, “Megan and Amy did a wonderful job organizing, preparing, and implementing this lesson. They had a strong introduction, utilized visuals, had all materials ready in advance, and managed the classroom very well.” Her only suggestions were that they speak louder and work on their questioning techniques to avoid yes/no responses. Jennifer’s report reinforced what I had deduced from Megan and Amy’s journal entries and the debriefing session - that this lesson was very well-planned and implemented.

When I arrived to observe Diane and Jeff’s lesson (cooperative job lists, assembly line, discussion) on Interdependence, I found them rearranging Mrs. C’s intermediate-grade classroom. Jeff told me that Mrs. C had forgotten they were coming and asked them to reconfigure the desks so that the arrangement was suitable for their assembly line activity. This used the fifteen minutes he and Diane had allotted for last-minute planning.
Jeff began by telling the class that they would talk about “positive interdependence” (confusing, I think, our KAPOW lesson with a term from Cooperative Learning; however, because we want interdependence to be “positive,” I did not intervene). To ensure that children understood this term, Diane reminded them of a previous lesson (AA, IA) and had them define the word “positive” as they did for Positive Work Habits. Diane related “interdependence” to interstate highways (AA, IA, CA), which the children understood to mean “roads that are between states.” Diane told them that, just as states must share the work of maintaining roads, so people must share their work responsibilities sometimes as well.

Jeff also related the lesson to real life (AA, IA, CA) by asking children how many of them had been to a popular fast-food restaurant (AA, IA, CA). (All had.) He explained the assembly line, in terms of fast-food workers depending on one another to complete their work (AA, IA, CA). Then he asked children to name familiar workplaces where people did their work on assembly lines (AA, IA, CA).

As a warm-up activity, Diane and Jeff paired children according to where they were seated (AA, IA, CA) and asked each pair to take out a piece of paper. Their task was to agree on a favorite cookie (AA, IA), then make a list of all the jobs required to get that cookie from the raw materials stage to the finished product in their homes (AA). Some pairs had problems with this, so Jeff, Diane, and I gave individual help to get children started (IA). After
five minutes, those children who wished to do so (IA) shared their lists orally. Jeff commented on the unique approaches each pair had used and asked children to consider the ways in which each of them had addressed the problem differently (AA, IA).

While Jeff and Diane (and I) completed the final preparation of their assembly line materials, Mrs. C kept the class busy by reviewing (orally, accompanied by hand gestures) recently-covered material (AA, IA). After a few minutes, Diane and Jeff were ready to begin. Jeff modeled the assembly of the product (AA, IA), giving concise directions (AA, IA). Diane called for quality, efficiency, and neatness, reminding Quality Controllers to praise workers who did well (AA, IA).

When the activity was completed (about ten minutes), Jeff said that the children would be able to “buy” their lunches by answering questions. He and Diane used this opportunity to review, relating this lesson to previous ones (AA, IA). After a short discussion (AA, IA), children were summoned in small groups to collect their meals (AA, IA). Diane and Jeff continued the discussion as children ate their lunches, ending with the interrelationship of familiar jobs within the school (AA, IA, CA).

This lesson was very developmentally appropriate. Jeff and Diane’s discussion of cookie-producing jobs allowed for creativity, cooperation, and plenty of conversation (AA, IA). It provided a nice mental challenge for these children (AA, IA). In addition, participants’ questioning techniques helped
children to link the activity with the real world and to connect this lesson with previous ones (AA, IA, CA).

There were a few problem areas. For one thing, participants were disorganized. They had counted on having preparation time before the lesson, but that was usurped by Mrs. C when she asked them to move the desks. Consequently, Mrs. C had to occupy the class for several minutes so that Jeff and Diane could count out cookies and separate icing into small containers. Had she not been there, the classroom would have been in chaos. In addition, I had to suggest to Diane that she and Jeff talk about school jobs, one of their lesson objectives. They had either forgotten it or neglected to read it in the first place. Despite these two negatives, the lesson was well done. The children enjoyed it immensely and appeared to be building their concepts about Interdependence.

Implementing Lesson Five posed a special challenge for Ellen and Linda. Because they had missed last month's lesson, they executed Lessons Four and Five on one afternoon, finishing Self-awareness just before recess and beginning Interdependence (assembly line, discussion) fifteen minutes later. They completed their preparations during recess.

When the children returned from their outdoor play, Ellen and Linda took them to wash their hands (AA, IA). Ellen began the lesson by showing children that materials were laid out on a table, explaining that they would do an assembly line there, and that each kind of material was accompanied by a
white card with a job name. Linda passed out matching cards at random, and children found their jobs by finding the same card taped to the table (AA, IA). Linda helped each line model the assembly of one mini-meal (AA, IA). Ellen then told children that if they talked, they would lose their jobs! She said that if they lost their jobs the line would stop and no products could be completed.

The activity was completed in about ten minutes. Ellen then discussed interdependence with the class. She told them something positive she had seen in the activity and asked them to mention something positive they had noticed (AA, IA). Linda asked how many of them had liked or disliked their jobs, and for what reasons (AA, IA), then extended this by asking if the most coveted jobs should pay more (AA, IA). (Most children thought job satisfaction and pay should be unrelated.) Linda reviewed the “Work I Like to Do” chart from Lesson Four, relating it to interdependence (AA, IA, CA), and Ellen finished with interdependent relationships in school-based jobs (AA, IA, CA).

Some parts of this lesson were very developmentally appropriate. For example, children had opportunities to work with concrete objects (AA) and experience a simulated assembly line (AA, IA). Ellen and Linda also did an excellent job of relating one part of the lesson to another and to previous lessons (AA, IA, CA). In addition, they were extremely well-organized so the class never had to wait for instructions (AA, IA).

However, Ellen’s insistence on having children work silently was not developmentally appropriate. There was no need for the children to be silent.
When trying to simulate a real work environment, teachers must acknowledge that adults do talk to one another on the job. Children may have gained erroneous ideas about typical workplace rules. Even more importantly, the class may have missed out on opportunities to learn from one another because conversation was banned. It would have been more appropriate to ask children to keep their voices at a moderate level.

In addition, although Linda and I advised against it, Ellen insisted on setting up the assembly lines on both sides of a single six-foot-long table. When we suggested that the space was unsuitable, she said that the children were small and "could fit," and that it would minimize mess near the end of the school day. This proved to be a very small space for so many children, and the close quarters may have distracted them from their task. Ellen put her needs as a teacher ahead of children's comfort and learning. It was not developmentally appropriate.

Although I felt that these two points were critical, I was also aware that Ellen contributed much that was positive to this lesson. Her organizational skills are outstanding, and they served her well in this complex activity. In addition, she asked some excellent questions and related them to children's previous learning (AA, IA, CA), thus helping to meet the objectives. The lesson was also saved by Linda's child-centered outlook, which balanced her partner's more structured attitude. Overall, the lesson was adequate, though it could certainly have been better.
Susan and Holly's lesson with Mrs. D's primary-graders (assembly line, discussion, Blanket Ball) was observed by Laura. After explaining the words "interdependence" and "teamwork," they set up the lines while the children washed their hands. Susan randomly placed children at "Line One" or "Line Two" (AA, IA, CA), then passed out name tags with the jobs written on them and color-coded to match labels at the workstations (AA, IA). Some children did not like their jobs, but Susan explained that workers may not always get to do what they want to do (AA, IA).

There were directions at each station. Susan's were in standard 12-point font, but Holly's copy was done in large colorful letters (AA, IA) that were more attractive and easier for the children to read. Susan modeled the assembly of a "mini-meal" (AA, IA) and related the task to work at a familiar fast-food restaurant (AA, IA, CA), then counted down (3 - 2 - 1) to start the lines (AA). Line One was set up with more workers, so it finished first, allowing the volunteers to point out the problems of not having enough workers (AA, IA).

After the product was made, and the children had picked up their trays, Holly asked if they could think of jobs that use assembly lines (AA, IA, CA). Susan extended children's thinking with a discussion of the many ingredients and jobs needed to produce various foods (AA, IA), then reminded children of the meaning of interdependence once again (AA, IA). Participants reviewed (AA, IA) before starting the final activity.
When the children had finished eating, Susan explained the *Blanket Ball* activity, which would be done outdoors (AA, IA). She and Holly each monitored a group of children. Both groups were divided into two smaller groups (AA, IA, CA), each holding a blanket that was used to bounce a ball back-and-forth. When Susan’s group had trouble, she explained that one child was flinging the blanket upward too strongly (AA, IA). Holly, on the other hand, gave her group no feedback (and her group was less successful). The participants gathered the children afterwards and had a short discussion (AA, IA) relating the activity to interdependence (AA, IA, CA).

As usual, Susan and Holly applied DAP principles in many ways. Chief among these were experiential learning in the simulated assembly line (AA, IA); the outdoor activity, unique in our lessons (AA, IA); and the opportunity for children to express themselves orally (AA, IA). Relating the assembly line to a familiar fast-food restaurant (AA, IA, CA) helped children to extend their concepts about interdependence as well. In addition, staffing the assembly lines unevenly was a way to show (not tell) children about the importance of having enough workers (AA, IA). Holly’s failure to help children with the *Blanket Ball* activity offered a similar benefit, even though it was apparently unintentional.

Although the participants used appropriate “child vocabulary” to explain new terms, they gave few examples. Offering more examples would enhance concept building opportunities, especially for the younger children in
this class of second- and third-graders. Also, because the whole-group discussion mentioned neither the school nor the site visit, Susan and Holly did not fulfill all the objectives. However, the children certainly had fun with the assembly line. Their enjoyment and the appetizing product made this a memorable lesson for them.

Reflection

Students reflected about their teaching in written form (journal entries) and orally (whole-group debriefing session). These reflections revealed several major themes, including (in random order): (1) students’ analysis of “how it went”; (2) concerns about classroom management, including the use of time; (3) children’s behavior; (4) positive and negative aspects of working with a partner; (5) assessments of the children’s learning as a result of this lesson; (6) thoughts on the application of developmentally appropriate practices (DAP); (7) individual professional growth (or plans to improve); and (8) overall, descriptions of each lesson implementation.

Excerpts from the post-lesson journal entries (underlined) and the debriefing session are combined here to create a “constructed conversation” in the participants’ own words. Italicized text (with key words denoting themes) highlights researcher comments, while brackets enclose any words in the quotations that were changed slightly to improve readability.
The mechanics of lesson implementation - "how it went" - was the biggest concern after students implemented this complicated activity. They talked about which elements of the lesson went as planned, which parts did not work well, and how quick thinking sometimes salvaged the lesson.

Instructor: Let’s talk about this assembly line. What worked?

Susan: [Our lesson] went smooth. I had made name tags the same color as their stations. So they had to go find it and match it up. Even if they couldn’t read, it was the same color, the way it was written.

Megan: We started our lesson by introducing the... vocabulary words: job, work, interdependence, and teamwork... I asked the kids to look for examples of these words in the movie clip... that we showed next. After watching [it], the [children] were able to give examples.

Diane: We had [children] answer questions before they could get their tray [of food] - about the site visit, about the previous lesson, about all kinds of different things, and I think that really worked.

Megan: Also, during the middle of it, we pulled someone from each line, which was kind of interesting. [The children on one line were] saying, “What do we do?” and the other line just kind of filled in and took over. So we talked about that afterwards.

Susan: [In our activity]. Holly’s line finished first. So I explained that they had 12 in their line, we had 9, so they could see that when you fill all the job positions, you get done quicker.
Instructor: Okay, let's ... talk about what didn't work.

Jeff: Our lesson crashed. [We] got to school early so that we could finalize our plans. As soon as Mrs. C saw us, she sent the class out to wash their hands and start the lesson. We had planned [to wash hands] in the middle of the lesson .... so I could set up the classroom.

Diane: And you've never seen Mrs. C's room. She has got every kind of thing in the world in there.... There's just no room.... And then, I forgot totally that there were going to be two lines of eleven.... I didn't always have two of the little cups [for the icing] to give them [one for each line].

Holly: [Our problem was that] Susan ... hadn't divided her icing up for [two lines, but] that problem was solved because I used her lids so we could divide it.

Amy: When I got [to our classroom], there were only twenty-two kids instead of twenty-seven.... We had worried about coming up with enough jobs. All of a sudden, we didn't have enough kids for all the jobs that we had. So Jennifer was the mayonnaise spreader.

Ellen: The table layout [didn't work] for us.... I was bound and determined [to keep] the food in one place, so I could clean up, [Linda] could finish the lesson, and we were going to get ... out of there! [Linda] kept saying..., “Are you sure you want all those kids at this table?” It wasn’t even [as big as the one we’re sitting at now]. Taking in another table would have been better.... [but] it worked out better than we thought.
Related to this was the usual concern about classroom management techniques and the use of time. For some participants, this meant concerns about children's behavior, while others focused on their own problems with organization or time constraints.

Jeff: I felt that we looked very unorganized. We tried to be organized but plans fell through and we had to compromise.

Diane: The kids were loud. I was embarrassed when [the school principal] came in.

Linda: [Our children were] so active and were having such fun with the assembly line that it was a little difficult to get them to listen afterwards.

Ellen: We spent more time at the light [switch], [turning the lights] off - on - off - on [to signal for quiet]. I had taken my inhaler out and sprayed my throat to keep going.... I was just beside myself.

Instructor: Amy, how did you feel about the time factor?

Amy: I think we were really close this time.

Megan: This time we just kind of let it flow a little more, just kind of extended [the lesson] more. We just took our time because we knew we had the time to work with.

Amy: We were going to let [the children] eat, and then go into our final discussion, but they ate so slowly. They ate tiny little bites at a time. So we went ahead and discussed while they were eating, which worked.
Working with a partner was still an issue for some participants. Students mentioned both positive and negative aspects of team planning and teaching, mostly in their journals (underlined). Participants were invariably considerate of one another’s feelings in the oral debriefings.

Linda: Ellen and I have some different ideas about when and how to control a class, and when to let [the children] learn with some amount of classroom noise involved. Ironically, I feel that parts of the lesson did go smoother because we had two people in the classroom. We were able to do most things quickly and efficiently.

Ellen: [The children] were able to sit down and [have a lesson] with [Linda] and then I was able to clean [the mess] up. So that was great. I thought that was excellent. They could have her total attention.

Holly: [Susan and I had some problems because] we really hadn’t decided who was going to talk about what things, so it wasn’t divided equally. There wasn’t a lot of talking to do, but I felt that we should have taken more turns because I felt left out.

Jeff: The first lesson Diane and I did, I didn’t let her talk much. Now I have to make a conscious effort to not talk and let her [do it].

An area of critical importance was children’s learning - whether they had acquired or formed key concepts. Participants were divided as to the effectiveness of their lessons, as seen in Holly’s comment.
Susan: This lesson went well. I think [the children] will remember it for a long time.

Holly: We did get to review some this time, but I still don't know if the kids learned very much.

Jeff: [Diane and I] related to the kids the points of ... interdependence but I'm not sure they were paying attention. Too much was going on - hand washing, desk arranging, food, last-second preparation. The kids had a great time, but I'm afraid that is all they had.

Megan: [Amy and I] had a discussion at the end, pulled it all together, went over our vocabulary again and discussed what it was like to work on an assembly line.... We also brought in positive work habits, because I really feel that ... [they] don't have a clue on this. [They] had a difficult time explaining or talking about [that, but] they understood what interdependence meant and how it relates to different jobs.

Linda: [I thought our class] learned a lot about cooperation and interdependence - what it's like to depend on everybody to do their job and do it well.

As usual, there were also some reflections about whether the lessons had been developmentally appropriate (DAP). In the debriefing session, I challenged participants to be more specific about their assertions, to share why they judged their lessons to be developmentally appropriate.
Ellen: [It was developmentally appropriate] cause [the children] could relate to what a hamburger was, to what a french fry was, to what a cookie was. They all know what a “kids’ meal” is. This was perfect.

Susan: It was individually appropriate. They could all do a job. If they couldn’t do a certain job, they could at least fold a napkin.

Diane: [The lesson was] culturally appropriate, cause everyone eats...

Instructor: [Jeff], you asked if everyone had been to [Fast-food Restaurant A].

Ellen: How would you deal with that, if you asked that question, and then really someone might not have been [to that restaurant].

Jeff: [Restaurant B, Restaurant C, Restaurant D]... Or [I’d ask] if they had ever made a hamburger, and what you put on that.

Finally, for some participants, their professional growth as teachers was an important repetitive theme in their reflections. Megan’s comment was typical of students’ consistent attempts to encourage one another.

Diane: I don’t know what happens when I get in there. When I mentor, and the kids get out of hand, I’m really good about ... raising my hand and saying, “Okay, you guys are a little loud.” [But in Mrs. C’s room], I just totally lose it.

Megan: [But from what you have said], it sounds that even though it was chaotic, you accomplished your goals.
**Linda:** [In my case], my experiences in my field placement this quarter have allowed me to become much more independent. Between our first KAPOW lesson this quarter and our last, I had planned and taught more than 15 lessons. I feel much more comfortable.

**Holly:** This lesson was definitely a new experience for me. I got to experience what it felt like to lead a game... Hopefully, later on, I will become better at leading a game and controlling it!

**Researcher Reflections**

Besides being popular among the children in our KAPOW partner school, the assembly line was an evaluation tool for participants, allowing them to test their organizational and classroom management abilities in the planning and implementation of this very detailed lesson. "Activities in which [children] create products or encounter novel problems require complex management decisions" (Evertson & Harris, 1992, p. 75). Mrs. C unwittingly added to students' concepts about the reality of managing a classroom. When she interrupted Jeff and Diane's last-minute planning, they learned that what is not done early may not get done at all!

A positive aspect of this implementation was that once again I saw evidence of students' becoming more interactive in their decision-making (Westerman, 1991). Although it made them feel uncomfortable, Jeff and Diane had to adjust their plans, first to accommodate Mrs. C's needs, then
because of children's responses (e.g. asking questions to assure children's understanding of terms). Jeff's post-lesson journal stated that they "had to compromise." Similarly, Amy wrote, "Lots of things didn't go the way I thought they would but I adapted and tried not to panic." This lesson forced students to be flexible in achieving their goals.

However, the lesson also pointed up a problem area for many participants - planning for ways to cover objectives and following through on them. The implementations made it apparent that some students were not reading their objectives carefully enough. Neither Diane and Jeff nor Linda and Ellen would have included school-related jobs in their lessons if I had not reminded them to do so. Laura reported that Susan and Holly did not discuss either school-related jobs or the jobs children saw at the site visit (though in our debriefing session, both Susan and Holly thought that they had "probably" included these areas). Only Megan and Amy had planned to cover all of the objectives and were sure they had done so.

I worried that participants were becoming too activity-oriented. I warned them against becoming "activity directors," reminding them that they had bigger goals for themselves. Because they were creating their own lessons, students did not pay sufficient attention to the objectives listed in the KAPOW lesson plans. Students felt they had met most of the objectives, but some of them also admitted that only my reminder had prompted a discussion of interdependence in school-related jobs.
I was reminded of McCutcheon's (1980) contention that even experienced teachers plan around children or activities rather than objectives and that teacher education programs should emphasize reflective planning as well as written goals. My students were far from experienced, however, and our participation in the KAPOW Program obligated us to meet objectives as well as we could. Yet, relating theory and practice through mental planning would have value as well. It occurred to me that the “Five Questions” exercise we had done in preparation for Lesson Five (See Appendix B) might offer some of the same benefits. If participants used those questions, they would be doing a sort of meta-planning, thus grounding their work with theory.

I also talked with participants about being child-centered. To me, being child-centered must include more than the desire to nurture and love. A child-centered teacher is one who holds children’s learning as a high goal. Children want to be active, to have fun, to talk with each other. No less important is their need to learn. The challenge for curriculum planners and teachers is “ensuring the teaching of the rich content of the primary-grade curriculum, while taking full advantage of the child’s developing abilities, interests, and enthusiasm for learning” (Bredekamp & Copple, 1997, p. 142).

That child-centered teachers must be concerned with meeting lesson objectives and doing it in a developmentally appropriate way had become clear to me only in the course of this inquiry. Because it was a new concept to me, I was not surprised that students had not yet seen the connection. They
were prepared to address children's academic needs, but like many new teachers, they also wanted to be liked and to fill children's emotional needs. Nevertheless, I believed that meeting objectives in appropriate ways was important, and I would continue to emphasize it.

After this lesson, I was encouraged that several students referred directly (theoretically) to applying DAP principles and/or meeting objectives in their implementations. However, I wanted more than just a statement that an activity had been developmentally appropriate or that all objectives had been met. When I challenged students to explain their assertions, the replies were initially very tentative, indicating that their concepts were limited. In addition, students continued to overlook their application of some very obvious DAP principles - the need for active learning and social interaction in the classroom, for example. Most of them were applying these ideals but remained unaware of it - or at least were unable to express their knowledge.

I speculated that students were still developing their understandings of exactly what constitutes developmentally appropriate practices. Continued experiences, conversations, and reflections would consolidate their thinking over time as their schemata about developmental theory became richer (Sparks-Langer & Colton, 1991). Students could make use of DAP principles much more effectively, however, when they understood "the foundations as well as the surface features" (Heuwinkel, 1996, p. 27). During the third quarter of our program, I would persist in emphasizing the need for specific
explanations of how DAP principles were applied and how lesson objectives had been fulfilled.

I became more greatly concerned with Ellen's progress after this lesson. How interesting it had been for me to observe her and Linda in the classroom, where their disparate views on how to teach were often quite apparent! In Lesson Five, that disparity was very obvious. Ellen's teacher-centered stance as she and her partner implemented the assembly line activity reminded me of Fosnot's (1996b) statement that if novice teachers are to embrace a constructivist view, they must be "engaged in learning experiences that confront traditional beliefs" (p. 216).

I wondered if I had done enough to challenge Ellen's existing views, or those of the other participants, for that matter. I was still convinced that this course offered an ideal venue for applying DAP principles, but I reflected that some of the students would very likely build stronger concepts about application of developmental theory than others would. In general, Ellen seemed much more teacher-centered than were any of the other participants. This was especially apparent because her partner, Linda, seemed to be unusually child-centered.

Ellen's previous field experiences had been minimal, and unlike most of the other participants, she would supplement KAPOW with no additional field work during this academic year. Possibly she just had fewer opportunities to extend her learning. The fact that illness had forced her to miss three of our
Winter-quarter sessions had put Ellen at a further disadvantage. Though her post-lesson reflections indicated some awareness that her actions had not been developmentally appropriate, she did not express a desire to change.

After the most recent lesson implementation, Linda wrote, "the only things that Ellen and I had trouble with were classroom management (including when to manage the classroom) and coordinating our usual flowing routine." She speculated that this second quarter of her M.Ed. work had affected how she worked with Ellen, and that she herself was now so much more experienced and comfortable in the classroom that she worried less about what her partner was doing. Although classroom control remains a major problem for many beginning teachers (Osborne, 1997), Linda’s increased experience was helping her to move past this concern. Ellen was still focused on keeping order.

This, I thought, was very interesting. It reminded me of Ellen’s first journal entry from the previous quarter. In it, she had commented on the difficulty of planning with Linda, whose experience level was, according to Ellen, “at the opposite end of the spectrum” from her own. Ellen meant that she herself was more advanced than her partner in terms of actual time spent in the classroom, and at the time, she may have been correct. I realized that Linda’s very rapid progress would surely change the dynamics of this pair. Would it also affect Ellen’s learning? I wanted to be alert to this factor during the next quarter.
Finally, I considered students' concerns about presiding over quiet and orderly classrooms. Goodman (1986) maintains that many clinical teaching experiences emphasize just that. "Getting the pupils through the required lesson(s) on time in a quiet, smooth, and orderly fashion becomes the main criteria for judging successful practice teaching" (p. 111). From the first day of class, I had taken the approach that helping students to deal with some of their initial concerns would allow them to go beyond those more superficial aspects of teaching. I had tried to de-emphasize what the participants might perceive as my supervisory role (viewing their lessons in order to “critique” them) and underscored instead my own participation in the KAPOW Program (visiting their classrooms to provide help and feedback). Helping students to attain a comfort level that would allow them to focus on the theory which must underlie their practice remained an important goal for future lessons.

The completion of Lesson Five brought us to the end of another quarter. I reviewed my reflections from the previous quarter, remembering my determination to include more opportunities for oral and written discourse among students. I believed that I had accomplished that. I had included more cooperative work that was designed to teach something about developmentally appropriate practices. Our in-class sessions also included three hour-long planning sessions, an equal number of journal exchanges and lengthy debriefings, and five group activities. All offered insights into DAP principles. I hoped to provide similar tasks as part of the following quarter's plans.
I contemplated my plans for Part III of the course, which would commence in only a few weeks. My syllabus was still in the formative stages. In analyzing the events of the past two quarters, I now understood the meaning of an emergent curriculum as one which is "socially constructed rather than ... certain" (Zeichner & Liston, 1987). What I would include as in-class content for Part III must provide opportunities for students' continued learning (based on their current levels), even as it supported the requirements of the KAPOW Program. The ten weeks of Spring quarter seemed far too short as I thought about all that I hoped still to accomplish and to learn.

**Lesson Six - Preparing, Planning, Implementing, Reflecting**

**Preparation**

As we began preparing for Lesson Six, we were also beginning our final quarter together. Seven participants (all but Linda) were able to return, though we had to start an hour earlier to avoid their scheduling conflicts. Even so, I had to excuse Megan for one hour out of every class. My planning became a challenge as I tried to make sure she did not miss what I considered the most important parts of the class: the planning sessions, journal exchanges, and post-lesson debriefings. By planning creatively, I was able to include her in many other activities as well. Our continued emphasis on DAP included a focus on the characteristics of child-centered teachers (See Appendix B).

Table 4.11 summarizes our in-class preparation for Lesson Six.
<table>
<thead>
<tr>
<th>Topics of Mini-Lectures (See Appendix B for details of number 1)</th>
<th>Activities Modeled as Possibilities for Use in Participants' Lessons</th>
<th>Articles Used to Support Learning of DAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2) Relating DAP and Fulfilling Lesson Objectives</td>
<td>3) <em>Find Someone Who Knows...</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4) Film Clip - Bias and Stereotypes</td>
<td></td>
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<tr>
<td></td>
<td>5) ABC Brainstorming</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6) Miniature Houses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(See Appendix B for descriptions of <em>Cooperative Learning Activities</em>)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activities Provided to Support Participants' Knowledge of DAP</th>
<th>Curriculum Integration and Literature Connections</th>
<th>Other Professional Development (e.g. Teaching Skills)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Summarizing and Presenting Articles</td>
<td><strong>Children's Books</strong></td>
<td>1) Using Board Games to Teach Academics</td>
</tr>
<tr>
<td>2) Sorting Items into Dichotomous and Non-dichotomous Categories</td>
<td><strong>Economics Link</strong></td>
<td>3) Finding Curricular Connections</td>
</tr>
<tr>
<td></td>
<td>&quot;Econ &amp; Me&quot; 3 and 4 (AIT)</td>
<td></td>
</tr>
<tr>
<td>3) Midterm Exam - DAP Applications</td>
<td><strong>Math Connections</strong></td>
<td>4) Redo Bulletin Board</td>
</tr>
<tr>
<td></td>
<td>Geometric figures Money, problem solving</td>
<td></td>
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</tbody>
</table>

Table 4.12: University coursework preparation for teaching lesson six.

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Planning the Lessons

There were five objectives for KAPOW Lesson Six, *Decision Making*: (1) that children would recognize examples of everyday decision making; (2) that children could identify the steps in the decision-making process; (3) that children would understand the value of accurate information as part of that process; (4) that children could describe the consequences of their own decisions; and (5) that children would relate good decision-making skills with success in school and in later careers. For intermediate grades, the KAPOW lesson plan suggested that groups take a school-related problem through the decision making process. The plan for primary-graders called for hearing a story (Numeroff, 1985), then doing activities related to consequences.

Planning was difficult for some of the participants. Jeff wanted to make miniature wood houses, as we had done in class recently, but could not construct a lesson around it that met the objectives. Diane wanted to solve a "real" problem such as the playground renovation at our partner school but feared the teachers had already covered it well. They decided to read a book aloud (Viorst 1978), then have pupils work in groups to build model houses from cardboard boxes, making group decisions about which materials to "buy." Discussion would round out the lesson.

Amy and Megan discussed a number of options before deciding to adapt the activity from an article I had given students that morning (Burns, 1995).
It extended A Cloak for the Dreamer (Friedman, 1994), a story of a tailor who must use oddly-shaped pieces of cloth to create a cloak. Amy and Megan planned for children to practice decision-making skills by designing "cloaks" from geometric shapes. Children would also write letters to the tailor, offering solutions to his problem.

Ellen planned with Susan and Holly. All had decided to make the miniature wooden houses and have children make decisions related to that (e.g. naming the streets). Ellen planned to open her lesson with a story about Anansi the Spider, her favorite fictional character. Susan and Holly were beginning with a book by Numeroff (1991) and asked me to lend them a puppet I had borrowed from the library.

I emphasized the need for meeting lesson objectives. I reviewed the objectives, discussing ways in which each might be fulfilled. I also gave each student a "preliminary planning sheet" for Lesson Six (instead of having pairs share one as I had done previously) and called attention to the objectives at the top of the page. We decided that the second objective was too detailed for the younger children, so participants would address it in a limited way - discussing the gathering of information and the need for accuracy. As Susan pointed out, this would be more "age appropriate" for their classrooms. I also reminded students that I expected them to give more thought to their journals this term - "Tell what and why," Jeff said, and I agreed. Plan components for all pairs are shown in Table 4.12.
<table>
<thead>
<tr>
<th>Student Pairs</th>
<th>Objectives 1</th>
<th>Objectives 2</th>
<th>Objectives 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intermediate Classrooms</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amy/Megan</td>
<td>Introductory discussion on five steps of decision making.</td>
<td>Introductory discussion on five steps of decision making.</td>
<td>Book (Friedman, 1994); writing letters, creating “cloak” designs.</td>
</tr>
<tr>
<td></td>
<td><strong>Primary Activity/s -</strong> Story, letter writing, “cloak” design with group decisions, discussion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diane/Jeff</td>
<td>Read book aloud (Viorst, 1978) &amp; discuss everyday life decisions.</td>
<td>Discuss actual playground problem at the school.</td>
<td>Discuss consequences related to the playground construction.</td>
</tr>
<tr>
<td></td>
<td><strong>Primary Activity/s -</strong> Story, miniature houses with group decisions, discussion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Primary Classrooms</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ellen</td>
<td>House-building activity: discuss group decisions; film clip.</td>
<td>Limited - discuss gathering information for decision making.</td>
<td>Discussion of Ellen’s previous illness.</td>
</tr>
<tr>
<td></td>
<td><strong>Primary Activity/s -</strong> Film clip, miniature houses with group decisions, discussion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Susan/Holly</td>
<td>House-building activity: discuss group decisions; book (Numeroff, 1991) &amp; puppet.</td>
<td>Limited - discuss gathering information for decision making.</td>
<td>Discuss the consequences of personal decisions.</td>
</tr>
<tr>
<td></td>
<td><strong>Primary Activity/s -</strong> Story, miniature houses with group decisions, discussion.</td>
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</tbody>
</table>

(Continued next page)

Table 4.13: Plan components for field experience six.
Table 4.13 (continued)

<table>
<thead>
<tr>
<th>Student Pairs</th>
<th>Objective 4</th>
<th>Objective 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intermediate Classrooms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amy/Megan</td>
<td>Final discussion related to book and activity (Burns, 1995).</td>
<td>Final discussion and review.</td>
</tr>
<tr>
<td></td>
<td><strong>Primary Activity/s - Story, letter writing, “cloak” design with group decisions, discussion.</strong></td>
<td></td>
</tr>
<tr>
<td>Diane/Jeff</td>
<td>Consequences related to house-building activity; money and group decisions.</td>
<td>Review past themes and incorporate into the lesson.</td>
</tr>
<tr>
<td></td>
<td><strong>Primary Activity/s = Story, miniature houses with group decisions, discussion.</strong></td>
<td></td>
</tr>
<tr>
<td>Ellen</td>
<td>Discuss decisions made by “people who influence children.”</td>
<td>Discuss consequences in context of review of prior lessons.</td>
</tr>
<tr>
<td></td>
<td><strong>Primary Activity/s - Film clip, miniature houses with group decisions, discussion.</strong></td>
<td></td>
</tr>
<tr>
<td>Susan/ Holly</td>
<td>Examine finished houses &amp; discuss consequences of building choices.</td>
<td>Discuss consequences in context of review of prior lessons.</td>
</tr>
<tr>
<td></td>
<td><strong>Primary Activity/s - Story, miniature houses with group decisions, discussion.</strong></td>
<td></td>
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</tbody>
</table>
In their pre-lesson journal entries, students analyzed the effectiveness of their lesson plans. Megan wrote about asking questions “to evaluate what students had learned.” Jeff and Diane had decided to introduce “money” (candy) into their lesson to extend the decision-making process. “The money is in short supply and it is also candy,” wrote Jeff. “This should make the decisions interesting.” Amy thought about different ways of learning:

We are meeting most of our objectives through discussion. In the past this has not been individually appropriate for our students.... Of course, it may be best for some to learn by just listening - that was me...., taking in everything I hear while everyone else verbalizes their thoughts. So, maybe discussion is individually appropriate after all.

There was a real sense that students were actually reaching conclusions in the act of writing their journal entries.

**Implementation**

Scheduling permitted me to view two of the lessons - Amy and Megan in the morning, Susan and Holly in the afternoon. Because both Jennifer and Laura were unavailable on this occasion, I asked one of the university field supervisors to cover the other two classrooms. Mrs. M agreed to help. She used the same recording sheet used by all observers in previous lessons. After each implementation, she and I discussed what she had seen.

**Amy and Megan** were a few minutes early for this lesson. When I entered the room, Amy and Mrs. B were creating a list of children who were “good writers.” Megan arrived soon thereafter and joined Amy in preparing
for the lesson (story, letter-writing, cloak design, discussion). Amy began by asking what kinds of decisions children made (AA, IA, CA). The class gave examples, including choosing clothes, what foods to eat, and whether to get up on time for school. Amy related this last comment to a previous lesson, commenting, “Now you’re naming positive work habits!” (AA, IA, CA).

She expanded the discussion by talking about decisions made by parents, teachers, and principals — all familiar figures, each a little more removed from children’s daily lives (AA, IA, CA). After eliciting a definition of the word “consequences” (AA, IA), Amy asked children to name examples of these as well (AA, IA). She then went through the five steps of decision making as laid out in the KAPOW Program, reading each one aloud (AA, IA) and asking children to explain it (AA, IA).

Megan took over, calling the “good writers” on Mrs. B’s list to the front of the room. Each of them was asked to choose a partner (AA, IA, CA), someone with whom he/she “worked well.” A few children seemed unable to choose, and Mrs. B stepped in to choose for them. After this first group was seated again, Megan asked all children who did not have a partner to come up, then sent them to sit with any group they wished (AA, IA, CA). This was a good solution to the problem of including a good writer in every group.

Amy asked all of the children to turn toward her so they could see the book she planned to read next (AA, IA), A Cloak for the Dreamer (Friedman, 1994). As she read this tale of an apprentice tailor who must piece a cloak
from oddly-shaped cloth, Amy spoke clearly and showed the pictures (AA, IA). She stopped at a critical point (AA, IA) and asked children to examine the picture and speculate on how the cloak could be “fixed” (AA, IA). After hearing several suggestions, Amy told the children that their groups would write letters to the main character to share their ideas (AA, IA). She wrote, “Dear Misha,” on the board to help children get started (AA, IA).

Both Amy and Megan circulated to help the children (IA), Amy giving each group a close-up view of the pictures (AA, IA). When one group had trouble deciding who would do the writing, Megan sat down to discuss the problem (AA, IA). Ultimately, she gave them a time limit to discuss it and to select their writer (AA). She helped another group start their letter by reviewing the five steps of decision making with them (AA, IA). Passing the observer, Amy smiled and remarked, “They’re really thinking about this more than I thought they would.”

After about ten minutes, Amy flicked the lights to signal the end of the activity (AA), then asked each group to share their letter orally (AA, IA). Next, Megan read the remainder of the book. When she came to the word “hexagon,” she asked a child to count the sides as seen in the illustration (AA, IA). The final element of the lesson was for each group to use two colors of paper and two or three shapes to design a “cloak” of their own (AA, IA). Again, both volunteers gave individual help (IA). Megan ended the lesson by reviewing the five steps in light of the story and the project (AA, IA).
This was an excellent lesson. The story interested the children and set up the activities, which were appropriately challenging for this grade level (AA, IA). Children had the chance to converse productively as well (AA, IA). Though the discussion lacked depth, it nicely related the book, the activity, and the lesson theme (AA, IA, CA). Participants could increase their “wait time” after asking questions and develop the discussion more fully, but overall, the lesson was very well done.

Mrs. M reported on Diane and Jeff’s lesson (story, miniature houses, group decision-making, discussion) across the hall. They opened with a discussion of the five steps of decision making, based on the process of getting up in the morning and going to school (AA, IA, CA). Next, Jeff set the stage by reading a funny story about foolish actions and bad consequences (AA, IA), Alexander Who Used to be Rich Last Sunday (Viorst, 1978). He explained an unfamiliar term - “bus tokens” (AA, IA, CA) - but told children he did not know the meaning of “lox.” Afterwards, he asked children some questions related to the topic (AA, IA), but he did not give them much time to reply before stepping in with the answers.

Diane and Mrs. C grouped the children according to where they were sitting (AA, IA, CA). Small groups would work together on their primary activity, making miniature houses from cardboard boxes (AA, IA, CA). Children would have to make group decisions because each group must “buy” their materials with candy supplied by the participants (AA). One boy tried to
sneak more than his share of candy. Jeff talked to him personally, maintaining
a light tone (AA, IA), but thereafter he stayed close to that group.

Meanwhile, Diane moved from group to group to offer assistance and
suggestions as needed (IA). She encouraged all of the children to make good
choices in selecting their supplies and to work together (AA, IA). Children
were excited about the activity, and most of the groups were able to agree on
their purchases. However, one girl was upset because she was given little
opportunity to help construct the house, and Diane addressed the problem by
talking with the group and asking them to let everyone help with the work
(AA, IA).

Diane seemed only a little bothered by the classroom noise this time.
She and Jeff allowed the children to talk together (AA, IA), breaking in only
on those occasions when it was important to give some directions. Both
participants were somewhat frustrated, however, at the difficulty of trying to
regain the children's attention after the activity. Jeff and Diane attempted to
review the lesson with a final discussion (AA, IA). Although the children
seemed to be confused at Diane's attempt to help them relate this activity to
previous lessons (AA, IA, CA), they were able to recall the five steps of the
decision making process.

In general, this lesson was quite developmentally appropriate. The
participants opened with a good discussion and set the stage with an
interesting storybook (AA, IA). Children enjoyed the activity, which allowed
for conversation and some movement (AA, IA). It was open-ended enough to give them choices (AA, IA), and they were able to make some group decisions (AA, IA). Jeff and Diane also used real-world examples that were familiar to all of the children (AA, IA, CA), including a recent project involving the rebuilding of the school playground.

While the participants had prepared their materials well in advance for this lesson, they still had some difficulties with the discussion. Their introduction seemed better developed than the review at the end. Jeff and Diane needed to spend more time developing questions to evaluate children’s learning. Also, Jeff should have checked all vocabulary before reading the book aloud, and he should have given children more time to reply before supplying the answers to questions. The lesson reflected both a developmental approach and the participants’ lack of experience.

In the afternoon, Mrs. M viewed Ellen’s lesson (film, miniature wooden houses, group decision-making, discussion). Ellen brought a very short film of the story Anansi the Spider (McDermott, 1972), part of her own collection of African literature (CA). She introduced it with information about the author (AA, IA) and followed it with questions about the characters and the decisions they had made (AA, IA), thus relating it to the lesson theme. She continued with a discussion of “decisions and consequences.” These two words were written on chart paper to help children connect the written and spoken words (AA, IA). The discussion centered around consequences for bad decisions.
(e.g. going hungry after throwing away a partially-eaten lunch), using examples that were familiar to all the children (AA, IA, CA).

Ellen gave clear directions (AA, IA) to introduce the primary activity, making miniature houses from blocks of wood and small sheets of paper. She exhibited a sample that she herself had made (AA, IA), but she did not allow children to touch it or view it closely. She told the children they would have 15 minutes for the project.

While they began their work, Ellen cleaned up the area, took some pictures, and talked with the classroom teacher. Only when the children had been working for about ten minutes did she begin to visit each group to offer encouragement and advice. She did, however, give individual help to a boy who wanted to add detail to his work (IA). Although the stated time limit was 15 minutes, Ellen actually allowed the children 25 minutes. Later, she had the whole group decide what “props” could be added to create a community for their houses (AA, IA, CA).

Ellen finished with a discussion that related decision making to the creation of the houses (AA, IA, CA). She asked children about features of their houses, why they had chosen those features, and how that might affect the imaginary people (AA, IA) who could live in the houses. She related decision making to real life, making use of familiar objects and activities (AA, IA, CA), and she managed to include a brief review of one of the previous lessons (AA, IA).
In some ways, this was a good lesson. The short film was a good choice, providing vicarious experience and a multicultural tone (AA, IA, CA). Children loved the open-ended activity, which appealed to their creative natures (AA, IA). Ellen’s excellent organization ensured that children’s time was never wasted (AA, IA), and the discussion was fairly well-developed. In addition, Mrs. M reported that Ellen did not seem too bothered by the classroom noise and only “shushed” the children a few times while giving them directions (AA, IA).

On the negative side, Ellen planned a well-developed lesson, but she planned too much for the time period. She was forced to rush through much of the discussion because she included too many steps. She sometimes lost sight of the objectives in her desire to integrate literature (her personal interest) into the lesson. She also had preconceived answers for many of her questions, and if a child’s comment did not match, Ellen ignored that and simply paraphrased it to fit. She specified a time limit but did not enforce it, and her lesson went well over the time allowed. Finally, leaving the class on their own to begin the activity was inappropriate. By the time she began to help, children were well into the project. They may have misunderstood and used materials incorrectly, defeating the purpose of the lesson - learning to make informed decisions.

While Ellen was teaching, I was across the hall viewing Susan and Holly’s lesson (story, miniature wood houses, group decision making,
discussion). Susan began with an effective review of previous lessons (AA, IA), including the site visit. She then introduced the new theme and asked children if they had ever made any decisions. There was good discussion centering around familiar activities (AA, IA, CA), though Susan allowed little time for children to answer. Holly continued with a brief discussion of the word “consequences.” She asked children to define it (AA, IA), then supplied her own definition - “what happens because of the choices you make.” She brought out a puppet of a familiar cartoon character (AA, IA, CA) and offered a brief hypothetical situation in which the puppet gave its food to the children and went hungry as a result (AA, IA).

Holly began the activity by reading a book about consequences (AA, IA), If You give a Moose a Muffin... (Numeroff, 1991). Susan used a moose puppet, which she introduced as “Mr. Moose,” then interjected amusing comments throughout the story (AA, IA). At the end, Holly asked if children had noticed any decisions or consequences (AA, IA). “Mr. Moose” extended children’s responses by relating a story episode to their real-life holiday experiences (AA, IA, CA).

Susan did an excellent job of explaining the primary activity (AA, IA), making miniature houses from wood and small sheets of paper: “It is your decision to make something. It is our decision to say it must be a house. It is your decision to use the paper any way you want to. It is our decision that you will have only 15 minutes.” She explained that children would receive
small plastic bags to store their materials in case they did not finish in time (AA, IA).

Holly and Susan passed out materials and displayed small sample houses they had made (AA, IA). Children “oohed” over Holly’s highly-detailed version, asking how she did it, and she said that she had “made a lot of choices” - a nice relation to the lesson (AA, IA, CA). The examples were placed near children to serve as models (AA, IA), while Susan and Holly helped individual children (IA). Mr. Moose circulated the room with Susan, giving advice in a funny voice (AA, IA). Susan warned children periodically about the time left (AA). A child needed paper, and Susan suggested that he ask the others at his table for some (AA, IA). A moment later, Holly (smiling) said, “They’re sharing paper.”

For the final discussion, Susan asked children to sit together on the floor (AA). A few children did not comply, but she started without them. She grouped the children by counting off five who were near each other (AA, IA, CA). They would create a model community, and each group was to decide the name of their street (AA, IA). While children talked, Susan quickly unrolled a large sheet of green paper and drew in five streets. As each group named their street, Susan wrote it in on the paper (AA, IA) and had children place their houses on either side of her label.

As children began to lose attention, Susan said they had to decide where to place the school and the fire station (she had made them ahead of time).
After a brief discussion, they placed the school on the street which bore the address of their own school (AA, IA, CA), with the fire station in a central location. To name the town, Susan took three suggestions from children. Then she sent children to three different areas of the room to signify their votes (AA, IA) and counted the results. She ended by asking children, “What did you learn today?” (AA, IA). When a child replied that they had learned about making decisions, she knew that they had met at least some of their goals. She and Holly let each child choose a sticker - “one more decision” - and gave each one a hug from Mr. Moose (AA, IA).

This lesson was very developmentally appropriate. Susan and Holly related the discussion to familiar things and activities (AA, IA, CA). The book set the stage nicely, and the class really enjoyed the puppet with its funny “voice” (AA, IA). The primary activity was both age- and individually-appropriate: some houses were more detailed than others, but all were valued. This also respected cultural notions of what may constitute a “house” (AA, IA, CA). Susan validated children’s work by giving them a time limit and periodically restating it (AA). Children had legitimate opportunities to leave their seats and many chances to converse (AA, IA).

However, Susan did not allow sufficient “wait time” before supplying the answers to questions. Both she and Holly could have developed their questions more fully, and they did not move children from place to place in an organized manner. In addition, both consistently spoke before getting the
attention of all children. Yet this was an excellent lesson, with all of the major pieces in place and only some details to refine.

Reflection

Students' reflections in the form of post-lesson journal entries and comments during the whole-group debriefing session focused on a number of themes. These included (in no particular order): (1) assessments about whether their lessons were developmentally appropriate; (2) whether or not the objectives had been met; (3) various classroom management issues; (4) talk about children's learning; (5) concerns about teaching and learning techniques; (6) general discussion about "how it went"; and (7) descriptions of the lessons woven throughout the other themes.

Portions of students' post-lesson journals (underlined) were combined with excerpts from the debriefing session to form the following constructed conversation, representing participants' concerns in their own words. Once again, I have included brief explanatory comments in italicized print, with key words marked to designate the themes. I have used brackets to denote slight alteration of participants' words, made to improve readability and context.

More than for any previous lesson, participants made theoretical references about the developmental appropriateness of their lessons. Virtually all of these references were in their journals.
Amy: I think the lesson was developmentally appropriate ... We tried
to make sure everyone could do something by being in groups. I [also] try to
call on different people when I ask questions, especially when someone only
raises their hand once.

Holly: The puppets [we used] were very age appropriate.

Susan: As for culturally appropriate, we did not put any restrictions on
the way [children] had to make the [miniature houses] so they could make
their house as culturally appropriate as they wanted to.

In addition, there were many, many practical references to DAP in the
participants' reflections, both written and oral. These covered a range of
practices, as in this example about grouping. Susan's comment shows that
attempting to use DAP (e.g. random grouping) requires some planning.

Amy: [For our lesson] the children worked in groups to help each other
with the letter writing. With Mrs. B’s help we had a writer in each group/pair.

Megan: There was one group I had to work with a little bit because
they realized that the one child [who] was chosen to be the writer ... didn’t
want to write. They wanted someone else to write.... And I kind of put it
back onto them and said, “You have to decide.”

Susan: [Our] groups didn’t work out. I just said, “You, you and you
[be in a group]” - then they all got up and left [the carpet area] and I couldn’t
remember who was who.
Students seemed more interested in their objectives than in the past. Several of them analyzed each one as to whether or not it had been fulfilled.

Holly: I was really pleased [with Susan’s and my lesson] until I got home and I ... read all the objectives. I don’t think we followed them that well. We didn’t cover objective number four. We didn’t mention decisions that [people] have to make at school or work.

Amy: [Megan and I] only missed one objective.

Megan: The night before [a lesson] ... I’ll write down the different questions I want [to ask]..., and then I take it back and compare it to the objectives and kind of see [if they are covered]. I make sure.

Diane: Jeff and I accomplished our objectives for the lesson pretty well [too].

Ellen: I felt fully satisfied that I had met all of the objectives [as well].

Although classroom management received less attention than it had previously, there were still many comments about it. However, students seemed less upset by lapses in control.

Susan: (philosophical tone) I thought we lost control at the end.... I was trying to talk while they were all [setting up] their streets.

Holly: [The children] were playing with their houses [instead of listening]. I felt that we had lost their attention after their houses were finished.
Jeff: There are always kids who sit at their desks and don't pay attention. It is no fault of yours.

Amy: [In our case] I partially blame the horrid room arrangement [in Mrs. B's classroom].

Children's learning was a very important theme as participants analyzed their lesson implementations.

Jeff: The thing that we wanted to do was to have [children] be able to make decisions as a whole, group decisions as a whole. [By the end of the lesson], kids were able to list the five steps of decision making, know the consequences and tie it in with other lesson.

Diane: They seemed to work out what decision making was.

Megan: [Amy and I] ended our lesson with a review of the 5 step decision making process. I believe [the class] had a good understanding of the process.

As students gave more attention to meeting objectives, they also increased their focus on issues of teaching and learning. Their lesson descriptions were filled with discussion about techniques that did or did not work, as in this discussion of the ways they had used children's literature.

Susan: We had a moose puppet. Holly read the book If You Give a Moose a Muffin...
Holly: Susan had the puppet, and she said, “I love muffins!” (All laugh at her imitation.)

Ellen: [In my lesson, the children] responded to the action of the book and my preliminary discussion just fine.

Megan: Amy read... A Cloak for the Dreamer... Once [she read] ... the story we asked students to identify the problem and [gave them] a chance to offer solutions.

Diane: [In our case], I think the book could have been eliminated. We could have either started the activity sooner or explained a little more.

In general, participants were enthusiastic about their lessons as they talked about “how it went”. Holly showed that her assessment of the lesson was now colored by whether or not lesson objectives were fulfilled.

Ellen: The plan [for my lesson] went thoroughly well. I knew what needed to be accomplished and was able to accomplish that just fine by myself [since Linda was not there].

Megan: I think [ours] was a really good lesson.

Amy: [Our] discussions were as good as I could have expected.

Jeff: I think that our lesson went really well. [The children] were able to make group decisions as a whole and understand decision making, I think.

Holly: Our lesson went much better than I expected it to.... But if you look at the objectives, maybe it didn’t go as well as we thought.
**Researcher Reflections**

Lesson Six was uniquely suited to talking about planning. Our subject was *Decision Making*, an opportunity to consider the need for activities based on "real problems that the learner is free to explore" (Harte, 1989, p. 98). The emphasis in our discussions was on real-world problems, group decision-making, and the dynamics of choice. However, all of those same elements were part of the planning process that preceded our lesson implementations. In planning each lesson, we had a "real problem" that participants were "free to explore" and to solve.

Students may not have realized it, but they were preparing lessons that would give children a similar experience to their own. As teachers, they would need to make decisions on a daily (if not an hourly) basis. They needed practice in the process of gathering information, evaluating options, and implementing a solution. However, children also must be practiced in such matters. I was reminded of Brenner's contention (cited in King & King, 1998) that although schools aim to teach cognitive skills, "little attention has been paid to how such skills actually are learned and used in the classroom" (p. 101). From a constructivist point of view, our group planning sessions were periodic training for such analysis.

The planning session was very interesting. Ellen was planning on her own for the first time, and I was not surprised to find that she relished this responsibility. In the past, whenever someone was absent, the remaining
partner planned on his/her own even though he/she was seated with another pair. This time, Ellen planned very well with Susan and Holly. She may have solved the problem by seating herself between the other two. They could hardly ignore her! It seemed that Ellen was finding affiliation in the group planning process (Cruickshank, Bainer, & Metcalf, 1995) now that Linda was no longer her partner. (Much later, however, I learned that Ellen’s presence had interfered with Holly’s relationship with her partner.)

As I met with the two planning groups, I found that students seemed much more concerned about objectives than they had been in the past. Ellen presented a good example. Previously, she had been very focused on activities, often ignoring the stated lesson goals. However, this time she wanted my opinion about whether a specific discussion topic would help meet an objective. It would, I told her, but because it had little relationship to her activity, children would have to struggle to make connections. Together with Susan and Holly, we talked about ways to meet objectives by building on the activity she had chosen.

In her pre-lesson journal, Ellen described her thought processes in trying to establish relationships among the parts of her lesson: “After watching Anansi (a film), I saw a connection to home through family support and the implied community and home-based environment through the spider webs,” she wrote, going on to compare Anansi’s spider-children to the familiar workers in local neighborhoods. Though Ellen was able to work out this rather complex
link, it probably required quite a mental leap for the children. She apparently had not considered "what problems [children] may encounter in learning specific content" (Feiman-Nemser & Parker, 1990, p. 33).

Although this inattention to clarity at the children's level was an example of less appropriate practice, I could appreciate the fact the Ellen had tried. She knew it was important to help children make relationships to foster their learning, and she went to a great deal of trouble to make it happen. Her mistake lay in assuming that children would understand things in the same way that she did. Additional work in classrooms might help her to understand her role as an educator and enable her to make increasingly informed decisions about appropriate pedagogy for teaching young children (McDermott, Gormley, Rothenberg, & Hammer, 1995).

There was attention to objectives in Jeff and Diane’s work as well. While planning, they had discarded several activities that did not lend themselves to appropriate discussion that would meet all objectives. Their preliminary plan provided some detail about how they would cover each objective, and both Jeff and Diane believed that they had fulfilled their goals in the lesson. Mrs. M, who observed them, reported that they did meet most of the objectives but that number five “wasn’t really dealt with.” Interestingly, although Jeff analyzed the lesson in his post-implementation journal, he did not mention objectives. Diane did write about objectives but with no detail: “Jeff and I accomplished our objectives for the lesson pretty well.”
In contrast, Amy and Megan's preliminary plan was much more sketchy. Yet they came very close to meeting their objectives. (Although they did not cover objective five in depth, they did touch on it.) Amy, who wrote an outstanding analysis of this lesson in her journal, made this comment: "The lesson was developmentally appropriate and we only missed one objective."
The detailed explanation that followed showed that Amy had a clear understanding of DAP. Similarly, in the debriefing session, Megan shared a technique for writing good discussion questions, by comparing them with the objectives. (Some participants regarded this as a novel idea!)

At the end of the previous quarter, I had told participants that I wanted them to "begin to think like teachers." They must do more than just plan and implement an activity, then describe their actions in their journals. Rather, they needed to plan cohesive lessons that met the objectives and helped children to build concepts. In their journals, I wanted them to consider whether their lessons were developmentally appropriate and/or whether the objectives had been met - and why. This, I hoped, would lead students toward the metaknowledge that is a sign of competency in learning (Leinhardt, 1992).

"Teaching is a complex, situation-specific, and dilemma-ridden endeavor" (Sparks-Langer & Colton, 1991, p. 37), and it requires more than a careless response. Students' reflections showed some evidence of thought. Yet some students (notably Amy, Susan, and Holly) went into great detail
about “what and why.” Others didn’t address the issue at all or never got past the “what.” This is consistent with Jadallah’s (1996) finding that preservice teachers who were focused on the “how to” of teaching were less able to communicate the reasoning behind their pedagogical decisions.

Diane, for example, had consistently been very concerned with “how to” manage the classroom, and her reflection showed little analysis. Similarly, Ellen’s journal entries were focused entirely on her own actions, with little in-depth discussion of what she expected of the children. Although she included some interesting observations of the children (e.g. humming as they worked), her feeling of satisfaction after this lesson seemed to be based on her own successful organization of time and materials: “I referred to my note cards during their activity only once, scanned the lesson plan sheet once and was satisfied with being able to clean up ... and leave with only a five minute extension.”

Ellen’s focus on herself was understandable in that this was her first opportunity to teach without Linda’s help. Kagan (1992) maintains that novice teachers begin by attempting to “confirm and validate their self-images” (p. 147). Thus, Ellen did not feel the need to explain how she met her objectives, but it was important to state that she could manage on her own. Kagan (1992) goes on to say that preservice teachers will grow when they experience dissonance, perhaps by sharing a classroom with someone whose pedagogical paradigm does not match their own. Ellen and Linda’s
philosophical mismatch had offered the potential for such cognitive
dissonance, but that possibility vanished with Linda’s departure from the
program.

I was disappointed that Linda would not be with us for the remainder of
the inquiry. Her contributions to our discussions were valuable because they
were informed by her M.Ed. methods courses. Moreover, her child-centered
teaching style balanced Ellen’s teacher-directed approach, thus assuring that
the lessons in Mrs. A’s classroom were more likely to be developmentally
appropriate. I had wanted to see if Linda’s increased knowledge of theory
would influence Ellen’s practice. That was now impossible.

As it turned out, Ellen did a creditable lesson on her own - although
there were some important deficiencies in her application of DAP principles. I
wondered if she did not understand the importance of facilitating children’s
group work (Elicker, 1995), for example, or whether she just rated her own
need for organization as more critical. I suspected that her beliefs about
teaching were so ingrained that they would not easily be altered. Richardson
(1990) writes that two teachers may implement activities that appear to be
quite similar but, in fact, are not because they are “embedded in different
belief sets, intentions, and theoretical frameworks” (p. 16). Ellen seemed to be
operating within the context of a different theoretical framework than were the
other students, and I was not sure whether that would change in the short
term, or even in the long term.
Participants also varied in their judgments of whether or not a practice was developmentally appropriate or objectives had been met. "I feel we met our objectives," wrote Susan in her post-lesson journal. Her partner Holly wrote of the same lesson, "I don't think we met our second objective," and, "we also didn't cover objective number four." One might explain such variances as differences in perspective or as wishful thinking on Susan's part. More likely, these two inexperienced teachers were still developing their understandings of what it means to fulfill lesson objectives, and Holly applied more stringent criteria to her judgment.

I considered Kagan's (1992) contention that preservice teachers need "clear images of themselves as teachers" (p. 146) if they are to internalize the knowledge, skills, and attitudes presented in their university coursework and their field experiences. Participants had extended their reflective efforts because I demanded it - in other words, because they were concerned about their grades. If students were focused on their grades - essentially an externally-imposed view of their pedagogical worth as expressed in "points" - did that have to mean that they were not focused on their teaching, or on children's learning? Were their actions a symptom of an external locus of control (Smith, 1997), or were they just one more sign that my participants really were "over-achievers"? This was something I would continue to ponder in the remaining weeks of the quarter.
Finally, I considered whether I had put too much emphasis on meeting the lesson objectives. I did not want students to concentrate blindly on these externally-imposed goals while ignoring what children were learning. Many of the students, however, had told me that they were not sure when children were learning. For now, I wanted students to use the objectives as benchmarks so that they could begin to measure what had been accomplished in their lesson implementations. As they continued to apply DAP principles, they would learn to "read" children's actions and reactions to evaluate their various levels of understanding. They would also learn to "consider how well the children [had] been helped to achieve their own purposes" (Castle, 1989, p. 212) through a given learning experience.

After all of the attention to objectives during the planning, it was interesting to assess students' accomplishment of those goals. I believed that all participants had made good attempts to cover the objectives. Their deficiencies lay primarily in developing discussion fully enough. Participants seemed to be creating fairly effective introductions, but their reviews were very brief and less related to the events of the lesson. Ellen did not fit this pattern. She extended her questioning to a greater extent than any of the others did, but the questions tended to pressure children's thoughts in some preconceived direction that was not always related to the lesson's theme. Nevertheless, students were generally experiencing more difficulty in finding ways to close their activities. They reminded me of actors who had realized
that their performance was over but could find no graceful means of leaving the stage.

As I considered the events of Lesson Six, I felt that we had come a long way since the beginning of the year. Students were now at ease in their classrooms. They had grown fairly comfortable with the planning process and, for the most part, with team teaching. And if they did not always remember the details of developmental theory, at least they were attempting to apply it.

**Lesson Seven - Preparing, Planning, Implementing, Reflecting**

**Preparation**

Again, the preparation time for Lesson Seven was just two weeks. The lesson's theme, *Overcoming Bias and Stereotyping,* offered a unique connection to DAP, allowing us to spend time on cultural appropriateness. Participants realized that there were several ways to approach this lesson - concentrating on race or gender equity issues, for example. When one student whose spouse was hearing impaired asked if disability would be an appropriate focus for the lesson, we discovered a third possible approach. In addition to cultural connections, students discussed some basic ideas about multiple intelligences (Gardner, cited in Kostelnik et al., 1993) as an extension of the ways in which learners differ from one another (individual appropriateness). Participants' in-class preparation for teaching Lesson Seven is summarized in Table 4.13.
<table>
<thead>
<tr>
<th>Topics of Mini-Lectures (See Appendix B for details)</th>
<th>Activities Modeled as Possibilities for Use in Participants' Lessons</th>
<th>Articles Used to Support Learning of DAP</th>
</tr>
</thead>
</table>
| 1) “Seven Intelligences” (Gardner, cited in Kostelnik et al., 1993) How many had we addressed in our lessons thus far? | 1) *Value Lines*  
2) *What Do You Value*  
3) Film Clip - Bias and Stereotypes (See Appendix B for descriptions of Cooperative Learning Activities) | 1) Casey & Tucker (1994)  
2) George (1990)  
4) Jalongo (1995)  
6) Reach Every Student (1995)  
7) Van Scy (1995) |

<table>
<thead>
<tr>
<th>Activities Provided to Support Participants' Knowledge of DAP</th>
<th>Curriculum Integration and Literature Connections</th>
<th>Other Professional Development (e.g. Teaching Skills)</th>
</tr>
</thead>
</table>
| 1) Use of Multicultural Literature  
2) Midterm Exam (Take-home format, continued) - DAP Applications  
3) Discussing Students' Questions About DAP | **Children's Books**  
**Math Connections**  
Correspondence. Graphs | 1) Discussion of Professional Writing  
2) Graded Course of Study  
3) Redo Bulletin Board |

Table 4.14: University coursework preparation for teaching lesson seven.
Planning the Lessons

There were three objectives listed for Lesson Seven, *Overcoming Bias and Stereotyping*: (1) that children would become able to recognize bias and stereotyping; (2) that children would learn ways to address behavior based on bias and stereotyping; and (3) that children would understand that work and jobs must be available to all people regardless of their gender or race. For the intermediate grades, the KAPOW lesson plan called for children to discuss jobs done in the home, together with the characteristics of the person who must perform them and decisions as to whether that person must be male or female. The KAPOW plan suggested that primary-grade children create a class book exploring adjectives that might be applied to males, to females, or to both.

This was a very productive planning session. Before we began, I went over the objectives, and we talked about some of the ways each could be fulfilled. I reminded students of the "central question" we had discussed during the previous quarter - What will children say they have learned? Susan actually asked that question at the end of Lesson Six, and children's response that they had learned "about decision making" let her know that she had met at least some of her objectives. I could tell that the others liked that idea. Later, I saw that Diane had written a reminder - "What have you learned today?" - at the top of the preliminary planning sheet she and Jeff had filled out together.
Ellen was absent, so the other three pairs went to separate tables to plan their lessons. Though they liked the KAPOW-suggested plans, students wanted to create their own. For example, Amy and Megan decided to concentrate on gender equity. They wanted to combine Megan’s “apple lesson,” her final project from Autumn quarter (Linda and Ellen had done this activity for Lesson Four), with a “culture collage” we had done in class early in the year.

Interestingly, both the other pairs planned to focus on disability. Diane and Jeff would have the older children simulate “blindness” in the workplace, sorting objects by touch alone and negotiating a maze of traffic cones with the help of a “sighted” partner. In contrast, Susan and Holly would have their primary graders experience the difficulties of hearing impairment by following directions they could not hear. Since both Susan and Holly had family members who had disabilities, they could discuss this potential problem from personal experience.

As I went from group to group, I saw that participants were really planning well together. “We’re trying to figure out how to meet the three objectives,” Susan told me, and we discussed ways to do that within the context of their lesson. With each group, I talked about evaluation, emphasizing that it is not whether the teacher “covered” the material that lets us assess learning, but rather the actions and words of the children. Students planned well-developed lessons, as shown in Table 4.14.
<table>
<thead>
<tr>
<th>Student Pairs</th>
<th>Objective 1</th>
<th>Objective 2</th>
<th>Objective 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intermediate Classrooms</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amy/Megan</td>
<td>Apple activity (individuality) and related discussion questions.</td>
<td>Small groups create culture collages; discuss gender equity in the workplace; snacks.</td>
<td>Creation of collages, discussion of campus jobs.</td>
</tr>
<tr>
<td></td>
<td><strong>Primary Activity/s</strong> - Apple activity, collage, discussion, snack.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diane/Jeff</td>
<td>Show film clip; related discussion questions.</td>
<td>Children experience vision impairment through a pair of “blind” sorting activities.</td>
<td>Discussion - review of site visit, jobs on the campus.</td>
</tr>
<tr>
<td></td>
<td><strong>Primary Activity/s</strong> - Film clip, simulated impaired vision, discussion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ellen</td>
<td>Same as Diane/ Jeff above.</td>
<td>Several stories and related discussions (Lionni, 1959; Our World, 1994; Passen, 1991; Van Laan, 1995).</td>
<td>Résumés printed in different colors, with related discussion.</td>
</tr>
<tr>
<td></td>
<td><strong>Primary Activity/s</strong> - Stories, film clip, color mixing demonstration and activity, discussion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Susan/Holly</td>
<td>Short skit by the participants with related discussion questions; book (Carlson, 1990).</td>
<td>Children experience hearing impairment through activity - discuss workers' needs.</td>
<td>Discuss disabled family member (S’s spouse, H’s mother) and how they cope.</td>
</tr>
<tr>
<td></td>
<td><strong>Primary Activity/s</strong> - Story, simulated impaired hearing, sign language, discussion.</td>
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</tr>
</tbody>
</table>

Table 4.15: Plan components for field experience seven.
Students’ pre-lesson journal entries addressed a variety of issues. In general, however, there was a concerted attempt to analyze their lesson plans for whether or not they would meet the objectives set down by the KAPOW program. For example, Holly wrote, “To reach our objectives, we are going to sit down and talk to [the class]. The activities are going to be done so that the [children] are able to get a first hand experience of what it is like to be disabled.” Susan addressed the developmental appropriateness of that same lesson in her own journal: “I think this lesson is age appropriate... You can face bias, stereotype and disablement at any age.” These were typical of students’ comments.

Implementation

As usual, our intermediate classrooms had their lessons in the morning, and the primary-grade KAPOW lessons took place after lunch. I observed Diane and Jeff’s morning lesson with Mrs. C’s class, while Laura was viewing Amy and Megan’s implementation. In the afternoon, I watched Ellen’s work in Mrs. A’s classroom, and Laura observed Susan and Holly’s lesson. Both Laura and I used the recording sheets prepared for that purpose.

The following paragraphs describe students’ implementations of Lesson Seven. As previously, I have coded my descriptions to point out students’ use of DAP principles - Age Appropriate (AA), Individually Appropriate (IA), or Culturally Appropriate (CA). To enhance comparison,
the two intermediate lessons are described first, followed by a recounting of both primary lessons.

Laura reported that **Amy and Megan** began their lesson (apple activity, cultural collage, discussion, snack) in Mrs. B’s room with an activity built around apples. They divided the intermediate-graders randomly into two large groups (AA, IA, CA), each participant working with one group. Pairs of children selected an apple to share (AA, IA). They were to study it, then return it to the bag. After a few moments, children were asked to find their apples again and explain how they knew which one was theirs (AA, IA).

Megan said that, like people, apples look different but are much the same on the inside (AA, IA, CA). Amy then asked children to help define the terms “bias” and “stereotyping.” She used as an example the judgment that all girls can’t run fast (AA, IA, CA), which children seemed to understand well.

The volunteers split children into groups of three, according to their normal seating (AA, IA, CA). Each group received a large cardboard letter that was to become the base for a collage. Children were to select and glue on pictures of people working (AA, IA, CA), supplied by participants. Both Megan and Amy circulated the room to give individual help as needed (IA).

When the collages were finished, children brought their letters to the front of the room to spell out the word “diversity” (AA, IA). Then, the participants asked questions about the pictures selected for each letter, such as whether any pictures showed someone doing a job that seemed surprising for a man or
for a woman (AA, IA, CA). Megan also reminded the class about their site visit, where they had seen only women working at the day care, letting children know that men worked there sometimes as well (AA, IA, CA).

After reviewing the new terms (AA, IA), Megan and Amy provided materials for the class to create a treat (AA, IA). Children received two apple slices, some peanut butter, and a few miniature marshmallows. They could create an edible "smile" by spreading peanut butter on the apples, then sandwiching them together with the marshmallows in between. They enjoyed both making and eating this snack (AA, IA).

This was a very good lesson. In combining two short activities, the volunteers offered children the opportunity to work cooperatively (AA, IA, CA), to extend their creativity (AA, IA), and to use all of their five senses (AA, IA). Both activities supported learning about diversity in an interesting and unusual manner (AA, IA, CA). The discussion questions also extended children's learning (AA, IA), although they were not as fully developed as might be desirable.

One small problem occurred when children selected their collage pictures. Children who chose last felt short-changed because there were many fewer pictures available. This might have been avoided if Megan and Amy had put their pictures into several manila envelopes, then given an envelope to each group, sight unseen. The volunteers were well-organized for this lesson, but they might have saved a little time by portioning out the peanut butter.
ahead of time. Although they kept the treat for the end of the lesson, it might have had a different impact if they had offered it along with the apple activity. Overall, however, this lesson was developmentally appropriate and very nicely implemented.

Diane and Jeff were preparing for their lesson (film clip, simulated impaired vision in the workplace, discussion) when I entered Mrs. C’s intermediate-grade classroom. They began with a discussion of the new terminology, “bias and stereotyping.” They related the terms to familiar sights - a person in a wheelchair appearing to be helpless, an individual who sports eyeglasses and a pocket protector seeming like a “nerd” (AA, IA, CA) Diane and Jeff then asked children to watch for examples of bias in a movie clip they were about to show (AA, IA). The children seemed to enjoy the film, and after the seven-minute segment was over, they were able to name the most obvious source of bias presented. However, Jeff urged them to consider the actions of other characters as well, and the class discovered some additional examples (AA, IA, CA).

Next Diane asked for volunteers (AA, IA) to help pass out some blindfolds. Jeff set up a pattern of traffic cones down the center of the classroom. He told children that they would each get a chance to navigate the obstacle course, first alone and then with a guide (AA, IA). Those who were not actively participating could watch. For safety, Jeff walked near each child (AA, IA) as he/she tried to walk blindfolded through the course without help.
On the "return" trip, Jeff actively took the child's arm and offered guidance. After all had participated, the volunteers led a short discussion about the difficulties a blind person might have (AA, IA, CA), and they related that to work as well (AA, IA, CA).

So that children might experience the problems a blind person would have in the workplace, Jeff and Diane set up a simulated factory. They divided children randomly, according to their seating arrangement (AA, IA, CA). Of each pair, one child would be blindfolded, while his/her partner monitored the activity (AA, IA). The first task was to sort craft sticks into two piles, differentiating by touch alone (AA, IA). Each blindfolded child received five craft sticks, two or three of which had a hardened drop of glue at one end. As children finished the activity, they removed their blindfolds and helped their partners cover their eyes to prepare for the next task - sorting strings of various lengths (AA, IA). Children completed both of these tasks fairly easily.

Jeff and Diane finished with a discussion. They reminded children of the work they had done when they visited the campus (AA, IA, CA). Diane asked if they had seen any disabled individuals at that time. Some of them had noticed the math tutor, who is wheelchair-bound. Diane remarked that "his legs don't work, but he sure can teach, and he sure helped me" (AA, IA, CA). Jeff's final comment was that people who are different in some way let us see that everyone has gifts.
For the most part, this lesson was quite developmentally appropriate. The children had many opportunities for productive talk (AA, IA) and there was much more physical movement (AA, IA) than in most lessons. The workplace simulations allowed the children to experience the reality of a disability, if only for a short time (AA, IA, CA). The movie set the tone (AA, IA), and the discussion helped children to link concepts (AA, IA, CA).

Jeff and Diane did address the objectives fairly well. However, the end of the lesson featured a lecture format rather than a question-and-answer pattern that would have offered the children more participation. Also, some references to disabled individuals seemed to highlight their problems more than their abilities. Even though the activity emphasized what a blind person can do, Diane and Jeff could have included more detail about that in their discussion. Other than that, this was a good lesson - very well planned, well prepared, and well executed.

When I arrived at Mrs. A's classroom, Ellen was reading (AA, IA) what she called a "bonus book," Fat, Fat Rose Marie (Passen, 1991). It was about a child who was disliked by other children for her appearance, so it matched the theme of the day. Ellen had already given each child several sheets of colored paper and a number of colored transparencies stapled to craft sticks. They were not to use them yet, however.

Ellen began her lesson (stories, film clip, color mixing, discussion) by discussing "bias" and "stereotyping." She explained that a bias was "being
partial” to something, relating that idea to having favorite colors, foods, or friends (AA, IA, CA), but neglecting to say that it had negative connotations. When she asked about “stereotyping,” children could only guess that it had to do with a sound system or that it was related to the act of staring. Rather than explain the term, Ellen said she would show them a short film clip.

Ellen showed almost fifteen minutes of the film, far more than was needed to make the point, but the children did enjoy it. Several children lost interest and began playing with the art materials Ellen had given them earlier. Mrs. A and Ellen monitored the room, urging children to watch the film instead. Ellen asked questions afterwards, and children were able to make connections between the film and the “bonus book” regarding bias and stereotyping (AA, IA, CA).

Next, Ellen brought out several displays she had prepared, each a collection of photographs cut from magazines and newspapers. She held up a display - one showing many dancers, for example - and asked, “Which is the best dancer?” Children pointed to pictures and explained their reasons (AA, IA, CA) until Ellen asked, “What if I said they were all the best?” She did this several times (AA, IA) and finally a child answered her initial question by saying that “all” the doctors were the best. She extended this by asking which doctor was the “nontraditional” one. A child pointed to a man, but Ellen would not accept that and continued questioning until someone selected the single woman doctor on the page. Children did not understand what the word
“nontraditional” meant, and Ellen’s explanation left them with the impression that it was the same as “best.” To close this part of the lesson, Ellen brought out another book (Our World, 1994), read a short excerpt, and initiated an effective discussion about the diversity of people in the world (AA, IA, CA).

She then took out still another book, Little Blue and Little Yellow (Lionni, 1959) and read it aloud (AA, IA). Because this book was about two “friends” who were actually paint droplets, she had planned for children to explore colors with the materials she had given them over half-an-hour before. She suggested they experiment, overlaying the transparencies against the colored papers she had provided (AA, IA). The children enjoyed this activity very much. Ellen talked with individual children (IA), occasionally pointing out some “discovery” to the whole group.

After little more than five minutes, Ellen went to the overhead projector. She had set a bowl of clear water on the glass, and the image was projected onto the screen. She added drops of blue and yellow food coloring (to match the book she had just read), then other colors. As the children admired the patterns, she added a large amount of cooking oil (what she called a “new idea”), which spread the colors apart. Ellen questioned children about it. She apparently wanted them to understand this as colors that were not “communicating.” She also extended this concept to the fat child in her first book, saying the “new idea” (the oil) was like a “bad idea” (children not playing with the fat child). This was very confusing, but Ellen continued
asking questions until someone gave a response that was close enough to what she wanted.

Finally, Ellen set out four colored sheets of paper, each with a cut-out figure glued to it. These, she said, were “résumés,” and she asked what the figures represented. Apparently she wanted children to relate them to familiar jobs (AA, IA, CA). A child suggested “manager” as a job, and Ellen asked about the “qualifications” for that job and what kind of person children “visualized” in it. Children looked confused, and one girl asked, “What’s qualified anyway?”

Eventually, Ellen got the class to say that either men or women could do the job and that skin color was irrelevant. She continued in a similar way with a few other jobs until a child mentioned a local “chicken factory.” When she asked what was there, the boy answered, “Chickens.” Ellen agreed that chickens were indeed workers, elicited the fact that roosters do not lay eggs, and said this would introduce her final book, *Sleep, Sleep, Sleep* (Van Laan, 1995). This time she shared a few pages to demonstrate that both men and women of different cultures were good parents (the relationship to chickens was unclear). Except for collecting the color-mixing materials (still on the children’s desks), this ended the lesson.

There were some good elements to this lesson. The film clip provided a nice vicarious experience for the children (AA, IA) - though it was longer than necessary. The books furnished context for the lesson (AA, IA, CA) - though
there were far too many of them. The color-mixing materials were a wonderful idea (AA, IA) - though they should have been passed out when it was time to use them and collected immediately afterwards, and more importantly, there needed to be some relationship to the theme of the lesson. The food coloring experiment was unique and interesting (AA, IA) - though the discussion forced connections where none were readily apparent.

Ellen worked very hard to prepare this lesson and seemed to be pleased with the results. Unfortunately, her approach was extremely teacher-centered. Except for the short period of exploration with the color-mixing materials, the children were fairly passive. Ellen read - they listened. Ellen asked questions - they supplied answers until someone matched her preconceived idea. They looked at displays she had made and watched her do the experiment.

Ellen included far too many elements in her lesson, then tried to force-fit them into the theme. Her adult vocabulary and her unrelated questions made the discussion almost incomprehensible. And though she tried hard to include numerous cultures, her acceptance of chickens as "workers" may have denigrated the job of some child's parent, which was certainly inappropriate from a cultural standpoint. The children probably enjoyed the respite from their usual routine, but some of them may have finished more confused than when Ellen arrived.

In contrast, Laura described Susan and Holly's lesson (story, simulated impaired hearing in the workplace, sign language, discussion) as "very good."
They entered the classroom with Holly affecting blindness, Susan pretending to be deaf. Children laughed, and Holly used the opportunity to discuss reactions to people who may seem different but who have feelings just as everyone else does (AA, IA, CA). She extended this by reading a book about a wheelchair-bound child (AA, IA, CA), then discussed the new terms “bias” and “stereotyping.”

The volunteers divided the children into two large groups (AA, IA, CA), with each of them monitoring one group. They passed out cotton for children to put into their ears to simulate hearing impairment (AA, IA). Each child was given some paper, and as Susan and Holly mouthed directions, they tried to reproduce a picture of a house according to specifications they could not hear. As children became frustrated, participants passed out more paper and did the exercise again, this time with clear directions and no cotton (AA, IA). This comparison helped children understand some of the problems of hearing impairment (AA, IA, CA).

Next, children were asked to raise the hands they used for writing, and volunteers marked the raised hands with stickers (AA, IA). They asked each child to hide the sticker behind his/her back and use only the other hand. Each child was given four interlocking blocks and asked to connect them (AA, IA). This was not difficult, but then Susan challenged the children to take the blocks apart again (AA, IA). The participants gave children plenty of time to experiment with ways to do this (AA, IA).
Finally, Susan invited children to join her on the floor (AA) and asked what they had learned. In the ensuing discussion, participants reviewed previous lessons (AA, IA) including the site visit (men do work at the day care) and Lesson Three (when children acted out jobs, and some did not want to do the “girl’s job”). Susan asked for examples of a “man’s job,” pointing out that women also worked at the locations children suggested (AA, IA, CA). Holly told the children about her mother, who is blind in one eye, and Susan described the difficulties of her hearing-impaired husband (AA, IA). Holly displayed a poster of the manual alphabet and Susan, who was familiar with it, reviewed it with the children (AA, IA). Susan then “signed” the names of some jobs and had children guess them (AA, IA). They loved this and were quite good at it.

This lesson was very developmentally appropriate. It included plenty of hands-on activity (AA, IA) that made the world of the hearing impaired or the physically disabled very real (AA, IA, CA). There was opportunity for children to converse (AA, IA), and there was physical movement involved as well (AA, IA). Holly and Susan started out with a relevant skit that included their own family members (AA, IA) and introduced an appropriate storybook (AA, IA, CA). Though participants did not follow up on a child’s comment about a disabled person he knew, they did include a meaningful discussion (AA, IA). They ended with a guessing game that turned sign language into real communication (AA, IA, CA). This was an excellent lesson.
Reflection

After their lesson implementations, students reflected on their teaching in both written (journals) and oral forms (debriefing session). A number of major themes were found in students’ reflections, including (in no special order): (1) students’ assessments about “how it went”; (2) judgments about the developmental appropriateness (DAP) of the lesson; (3) consideration of whether the objectives had been fulfilled; (4) discussion related to children’s learning; (5) talk of classroom management issues; (6) analysis of teaching and learning methods; and throughout both oral and written reflections, (7) descriptions of their lessons.

The following constructed conversation combines portions of the participants’ post-implementation journal entries (underlined) and excerpts from the whole-group debriefing session. Students’ primary concerns are thus stated in their own words. I have again included brief explanatory comments in italicized print, with key words marked to designate the themes. Brackets enclose any words or phrases that were altered slightly to aid in readability and provide context.

As always, students were eager to share their assessments of “how it went” as they described their recently-implemented lessons.

Ellen: I had a terrific day with these kids and this program... I was very pleased with everything.
Diane: We showed that clip from [a popular movie] that we all saw in the classroom, which I think they really liked, [and our activity] was so successful.

Jeff: Our lesson went really well! .... I was really encouraged after we completed the lesson [when] Mrs. C said that the subject was very appropriate and timely.

Participants made a number of comments about developmental appropriateness on a theoretical level. Susan and Holly, for example, analyzed their lesson on disability.

Susan: We talked about Holly’s mom being blind, ... and then my husband and different things he’s had to do - and he’s deaf.

Holly: [Susan] also taught them how to count in sign language. The signs that she used were also age appropriate because they were easily produced and were words that [the children] might use.

Susan: The lesson was very age appropriate. [The children] each sampled what it was like to be handicapped and figured out how to do a job using other methods.

Some references to DAP were, of course, practical ones. Susan and Holly described their activity as offering appropriate challenge, while Jeff’s comment showed his concerns about using age appropriate materials.
Susan: We marked which hand they used to write with, and they had to put it behind their back, and they had to do (snap-connecting) blocks - stack them up, which was easy, but then taking them apart...

Holly: [Our] building block activity was just challenging enough to make it interesting.

Jeff: [In our lesson], I was afraid that [the children] might not like [the movie] because it was too young. I wasn’t sure if, being fifth-graders, they’d have too high an attitude. But they were really watching.

Diane: And they really understood it.

Participants universally addressed the question of whether or not their activities would meet the objectives. This was done primarily in their journal reflections.

Amy: Our lesson seemed to meet the objectives, and I think the kids learned something.

Diane: We accomplished our objectives, [too].

Susan: I think we did [as well].

While most of the students analyzed their lesson plans as to whether they fulfilled objectives, the above comments were typical of post-lesson assertions - statements that their objectives had been met, but with little accompanying analysis.
Another important theme was children’s learning. For the most part, students were pleased with their teaching. However, partners were not in perfect agreement about what the children had learned.

Amy: Our review was a series of questions. I’m not sure if [the class] did really get it, cause it’s almost as if they were being silly sometimes. And I don’t think we made a point of saying that bias and stereotyping is a bad thing.

Megan: I don’t know. At the end, they knew. They were able to give us the meaning of the words.

Amy: I just think we should have taken it a little bit farther.

Susan: It sounds like in the end [though], most of the children probably understood what bias/stereotype was.

Classroom management issues were consistently of interest. Amy and Megan were not completely happy with the introduction of their apple activity. Ellen remembered her own experience with the activity as part of the Lesson Four implementation she had done with Linda.

Amy: We tried to have [Megan] take half the class and me take half the class cause we’ve heard other groups do that. But that didn’t work very well cause we kept hearing each other talking.

Megan: The only thing I would change the next time I do this exercise is not to split the class in half. Or maybe if we did - you know how when you
read to kids you have to get them in a group in front of you? I thought maybe that would have worked better because we would have been in our own little area instead of spread out.

Ellen: Two groups would work better. When we did this we kept our class whole. Consequently, we had more confusion.

Finally, teaching and learning methods were a major concern. After this lesson, there were a number of comments about this, especially whether the whole-group discussion had served its intended purpose.

Amy: Sometimes I would call on a child and something crazy would come out of their mouth because they had the opportunity to discuss stereotypes.

Ellen: I didn’t want to get into prejudice or race as an issue. But since it had kind of come up a little bit [in the discussion], I thought, “Let’s just continue on.” So it worked out real well, just moving along and acting like I really hadn’t heard [the stereotypical comment].

Susan: It’s hard to anticipate how children will behave and how deep you have to explain a topic you’re talking about.

Amy: [And] I think we should have thought out and discussed more that bias/stereotyping is a “bad” thing that can hurt people.

Students were struggling with their emergent understanding of multicultural issues. Ellen’s ignoring of a child’s comment that made her feel
uncomfortable was a less appropriate pedagogical choice, but not an unusual one for a novice teacher. Her lesson would have been more relevant if she had addressed the controversial issue instead (Banks, 1991 92).

Researcher Reflections

In general, students seemed pleased with their professional growth as they moved into our last few weeks of class. Diane, for example, was happy with the progress she and Jeff had shown in this recent lesson. She wrote, “We accomplished our objectives. We handled the class very well. I think I am learning my pedagogy.” In response, Amy replied, “I think we all feel that it’s finally coming together and there’s only one lesson left! I wish I could take this class again.” I prized Holly’s comment that she was “slowly making progress,” but I, too, felt that there was a great deal to address in the few remaining class sessions.

In this final quarter, I had experimented with the out-of-class written work assigned as a course requirement. This included a midterm exam in a take-home format. My goal was to give students thought-provoking questions that they could answer over a longer period of time (three weeks), and as an additional bonus, extend the amount of class time available for other activity. One question asked participants to describe child-centered teaching, then discuss one incident from their lessons that was child-centered and one that was not. They were to suggest changes for the latter. This analysis of the
learning situation from a child’s perspective was meant to help students plan more child-centered lessons (Castle, 1989). Participants’ responses gave me new insight into their understanding and application of DAP.

All students defined “child-centeredness” similarly (based on a class hand-out), and most thought of good illustrations. As an example of child-centered teaching, Amy wrote about the first lesson she and Megan had done: “We used that lesson to plan future lessons because we had more of an idea of the children’s levels.” In contrast, Holly believed that she and Susan had been too teacher-centered in implementing Lesson Six. She wrote that the activity “was more aimed at the product than on what the [children] were supposed to learn from the activity.”

Interestingly, Jeff analyzed the lessons he and Diane had done, concluding that all of them had “at least one characteristic of child-centered teaching.” He went on to say that he and his partner knew nothing about child-centered teaching (when they began the program), but that he believed they had applied its principles. Diane, however, focused on the details of the lessons, and she was able to think of ways in which she and Jeff had refined their practice (moving about the room more, getting down to the child’s level) to make it more child-centered.

Ellen cited her own low tolerance for noise during Lesson Four (taught with Linda) as lacking a child-centered attitude. However, she attributed the noise level to the presence of a substitute teacher in the classroom. At the
time, Ellen had resorted to repeated on/off flicking of the lights. Her exam suggested that the problem might be solved by having a teacher intervene or “stopping the classroom activity and resorting to quiet time.” She believed this would “[put] consequences into play, teaching [children] another valuable tool, that messing around on the job gets you fired, and placed on written or verbal probation.” Ellen apparently did not understand that children learn to cooperate by talking and working together (Kagan, 1994). Moreover, her idea of classroom control seemed to be a custodial one, stressing “the maintenance of order, distrust of [children], and a punitive moralistic approach to pupil control” (Hoy and Rees, cited in Zeichner, 1980, p. 48). This is inconsistent with a child-centered pedagogy.

While children do sometimes take advantage of a substitute teacher, I had not observed that Ellen and Linda’s lesson was unduly noisy. Given the open-ended activity (examining/tasting apples, interviewing of classmates, charting job preferences), I had judged the noise level as quite reasonable. Ellen accepted no ownership for the problem, so her solutions were stop-gap measures related to the children’s behavior rather than her own. Castle (1989) suggests that teachers question whether they have tried to “understand how children view the learning situation and why they say and do the things they do” (p. 212). I believed that Ellen was analyzing her work from the teacher’s perspective alone. Theoretically, she could define “child-centered teaching,” but she lacked the practical follow-through to implement it.
I reflected then on the three “nontraditional” students in our group. In studying novice teachers, Hollingsworth (1989) had found that “variations in preservice teachers’ thinking about constructivist learning corresponded to their preprogram notions of how [children] learned in school settings” (p. 171). Susan, Megan, and Ellen had all begun their teacher education some years later than the “typical” undergraduate. Metcalf and Kahlich (1998) found that such students often began with teacher-centered views that were altered spontaneously, “prompted by participation as a learner and a teacher in ... peer teaching experiences” (p. 74). If Megan or Susan had ever preferred a teacher-directed pedagogy, such views had already been altered.

Ellen, however, had (of necessity) missed many more classes than the others: Autumn quarter, one class; Winter quarter, three classes; and Spring quarter, two classes. In contrast, Megan was absent only once, and Susan attended every class. Because eight of our 30 class sessions were actually field experiences, this meant that Ellen had already missed six of the 22 available opportunities to learn about DAP, or 27% of our total sessions.

I had structured the course to build on in-class discovery, targeted readings, and peer discussion. Attendance had never been a problem because students enjoyed the class and made every effort to be present. Now I saw that Ellen had “fallen through the cracks” of my plan. Despite our frequent telephone conversations aimed at helping her to “catch up” with the others, she had not progressed as her classmates had. I had no way to determine
whether attending every class might have impacted Ellen's teacher-centered views more effectively, but I speculated that a 27% increased exposure to DAP would have been helpful.

In addition, Ellen had been unhappy with her partner. When Linda left the program, Ellen's journals expressed a concern over teaching on her own, but there was also an undertone of relief. "You have no idea what I had to put up with," she told me after class one day, citing Linda's lack of organization and preparation. I tried to help her see Linda's perspective - that planning lessons with so many different components, utilizing such intricately fashioned materials, was a burden for a busy M.Ed. student, but Ellen remained unmoved. (Ellen always insisted on lessons that were extremely detailed, made up of many elements and requiring many pre-made materials.) Critical factors in this ineffective partnership seemed to be personality differences and incompatibility (Marshall & Herrman, cited in Hawkey, 1995). The other nontraditional students in the group, Megan and Susan, were more flexible in outlook and able to create satisfactory partnerships. As a result, they were better able to learn from their experiences (Metcalf and Kahlisch, 1998).

Planning for Lesson Seven had seemed to be a productive, enjoyable experience for participants. They had more than enough good ideas, including at least one they had tried together in our classroom (the "Culture Collage") and one that had been used successfully by two of their classmates (the "apple activity"). Pairs functioned well, contributing information and easily
negotiating what they would do. This underscored what Leinhardt (1992) calls a “core assumption” (p. 23) about learning - that no one group member knows as much as all the members together. Students worked well and needed my help only to refine the details.

We had begun our planning period, as we did once each quarter, with a search of the graded course of study from our local school system. Students found a number of ways in which this KAPOW lesson could fulfill important instructional goals for the children they would teach the following week. Reading the course of study added a dimension to the planning session that followed, and I was pleased to hear many comments about the importance of meeting objectives. Susan and Holly even asked my help in analyzing their lesson as they tried to make sure that each objective would be met. I felt that I was seeing the evidence of students’ learning. What had once been almost an afterthought had now become an important part of their planning process.

I was interested in the approaches students had chosen for these lessons on Overcoming Bias and Stereotyping. Many of them thought first about the issue of “race” in considering how bias impacts workers and the workplace itself. As part of our preparation, however, I presented examples of children’s literature that addressed not only problems of bias related to race, but also stereotypical treatment connected to gender inequality. Linking cross-cultural and nonsexist topics is consistent with Hendrick’s (1996) point that each child should be encouraged to value both his/her unique ethnicity and gender. As
regards workplace issues, "we want children to learn that people of all races and both sexes have many needs and abilities in common" (Hendrick, 1996, p. 341) that can be utilized to help each individual achieve his/her greatest potential.

Susan and Holly’s addition of disability to our list of possible lesson topics created a richer environment for the discussion of culture. Students were interested in Paul and Jackson’s (cited in Harkins & Nagata, 1998) reference to a “Deaf culture” (p. 8). If one agrees with Bennett’s (1995) conception of culture as “a system of shared knowledge and belief that shapes human perceptions and generates social behavior” (p. 57), including disability in a lesson on dealing with issues of bias and stereotype is quite appropriate. Both Susan/Holly and Diane/Jeff developed excellent lessons around the problems of physical impairment. However, Susan and Holly’s discussion was more engaging because it was informed by their personal experience.

Through no fault of her own, Ellen had to miss both of the class sessions prior to teaching Lesson Seven. She and I talked by phone several times, and she mailed her finished midterm and other written work to me. Nevertheless, I felt very uneasy about having her teach the lesson alone, with no in-class preparation. My misgivings were borne out when I witnessed the inappropriateness of her lesson implementation.

To be fair, Ellen did include some elements that were both innovative and supportive of the theme. She might have used some of them to structure a
very good lesson (e.g. book, color exploration, color-mixing demonstration - with no confusing references to the colors “communicating” - and discussion). It would be critical, however, to somehow relate all of this to bias and stereotyping, to have what Wassermann (1990) calls a “goodness of fit” (p. 101) between concepts to be learned and the tasks that support that learning.

Ellen loaded her hour with far too many activities. Apparently aware that the various elements should be somehow related, she took some gigantic mental leaps, assuming that the children could follow her. Unfortunately, as Ayers (1992) points out, with “too much adjusting, changing, and shifting ... we have no framework of sense-making” (p. 262) Ellen seemed completely focused on her own actions, with the children there to act as audience for her performance. As evidenced by her midterm responses, she was not sure what it meant to be “child-centered.” She could define it, but she could not do it. Essentially, she still saw herself as a dispenser of knowledge rather than as a provider of children’s learning experiences (Etchberger & Shaw, 1992; Wishon, Crabtree, & Jones, 1998).

Ellen’s post-lesson journal response disturbed me very much. In it, she rejoiced that she “couldn’t have done anything more perfect.” Neither did her debriefing comments show any knowledge of the flaws in her lesson. I remembered the children’s bewildered looks, and their repeated requests for definitions of the terms Ellen was using. This had apparently made no impression on her at all. What was important to her was that she had
completed a lesson without Linda and that the children had seemed to appreciate her efforts. In her journal, she wrote, “Today was the first time that the class clapped and thanked me for coming. That, too, was quite an accomplishment. I knew that I had conquered my fears and won. I did a great job today.” Reading that, I felt very sad.

And what of the others? I was quite pleased with the rest of the lessons. None of them was perfect, as no lesson ever will be. Jeff and Diane would have to fight their tendencies to give information rather than asking questions. Holly and Susan would someday learn to recognize the “teachable moments” that present themselves in the classroom. Amy and Megan would continue to refine their classroom organization until they felt pleased and comfortable with it. These were problems resulting from inexperience.

In contrast, Ellen’s difficulties were rooted in her beliefs and attitudes. Although she verbally supported developmentally appropriate practices, her actions did not uphold them. She apparently saw herself as a lecturer in a traditionally organized classroom, not as a facilitator of learning in a developmental setting. I believed that her practice would not be altered until her core beliefs had changed. Whether she would change them in the final year-and-a-half of her undergraduate work was the question. I had no answer.

My concerns over Ellen’s progress went unresolved after the seventh week of the quarter. Unhappy over the feedback she received after her implementation of Lesson Seven (and plagued by transportation problems), she
dropped both the course and the program. She could not understand the changes I wanted her to make in her practice. I could not give her the praise she wanted and felt that she deserved. I would never know whether Ellen could have adapted her teaching style in that final lesson if only she had tried. Unfortunately, neither would she.

Only four more weeks remained in our final quarter - two preparation sessions, a field experience, and then a final meeting to review the year. I believed that my six remaining participants had come a long way. They had learned how to plan and implement developmentally appropriate lessons. More importantly, they were now reflective about their teaching, aware of their own actions and their influence on the young learners in their classrooms. In Amy’s words, things were “finally coming together.”

Lesson Eight - Preparing, Planning, Implementing, Reflecting

Preparation

As we began our preparation for teaching Lesson Eight, we were nearing the end of our third quarter. Mini-lessons focused on (1) judging lessons as child-centered or teacher-centered, and (2) using learning centers to extend theme teaching. Because review of previous lessons would be an important component of the final lesson implementation, we also explored review and informal assessment techniques. Table 4.15 summarizes students’ preparation for teaching Lesson Eight.
<table>
<thead>
<tr>
<th>Topics of Mini-Lectures (See Appendix B for details of number 2)</th>
<th>Activities Modeled as Possibilities for Use in Participants' Lessons</th>
<th>Readings Used to Support Learning of DAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Learning Centers and Theme Teaching</td>
<td>1) <em>Scavenger Hunt</em></td>
<td>1) Maxim (1997)</td>
</tr>
<tr>
<td></td>
<td>4) Film Clip - Occupational Structure</td>
<td>4) Hendrick (1996)</td>
</tr>
<tr>
<td></td>
<td>(See Appendix B for descriptions of <em>Cooperative Learning Activities</em>)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activities Provided to Support Participants' Knowledge of DAP</th>
<th>Curriculum Integration and Literature Connections</th>
<th>Other Professional Development (e.g. Teaching Skills)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Self-assessment of Attitudes Toward DAP</td>
<td></td>
<td>1) Rethinking Lesson Plans</td>
</tr>
<tr>
<td>2) Analysis of Lesson Plans for DAP Application</td>
<td></td>
<td>2) Alternative Assessment Methods</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3) Redo Bulletin Board</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.16: University coursework preparation for teaching lesson eight.

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Planning the Lessons

Only two objectives were listed for Lesson Eight, *Occupational Structure*. These were: (1) that children would become able to categorize jobs; and (2) that they would understand why different job categories were important in the workplace as well as in society. I added one more objective: (3) that children would relate the various KAPOW lessons to one another through some review activity.

The KAPOW lesson plan called for intermediate graders to write “want ads” describing service and production jobs they had observed on their site visit. For primary-graders, the lesson plan suggested that participants help children generate descriptive words and then create a Venn diagram comparing their school and the workplace. Students preferred to create their own lessons instead. All would divide their time between a job categorization activity and a game that reviewed all eight lessons.

Participants felt that *Occupational Structure* did not lend itself well to active learning, and they were unsure of how to approach the review. Before the planning session, I passed out a description of all the cooperative learning structures we had tried over the three terms. We briefly discussed each one and decided whether it offered potential for either teaching the new lesson or doing the cross-lesson review. The we tried out variations of two popular game shows: 1) writing blank spaces on the chalk board, one for each letter of a phrase, then having children take turns guessing letters until they could
identify the phrase; or 2) posting categories (lesson themes) worth varying numbers of points, then having teams choose a category and answer a question. Both would work well to review our lessons. I also modeled a true/false game with motions that would be appropriate for younger children.

Pairs chose to plan exclusively with their partners even though some of their lesson elements were identical, illustrating once again the strength of the relationships they had developed. Planning was fairly easy for all of them. Within minutes, all had decided on their activities, with the remaining time devoted to the details of how to go about it. In Ellen’s absence, Linda had agreed to return for a review lesson with Mrs. A’s class to “give them closure” (Jeff’s words). I would share with her the others’ plans to help her prepare.

Students considered DAP in their planning. For example, Susan and Holly wanted to have children categorize jobs (as providing goods or services) by forming a “human Venn diagram.” When they started listing occupations, however, they realized that many jobs were quite ambiguous. Did a fast-food restaurant sell goods or offer services, they wondered. While such examples fit nicely into a Venn diagram, they might prove difficult for primary graders to understand, especially in a one-hour lesson. Susan and Holly decided to use only the most clear-cut occupations they could find. Instead of using the Venn diagram format, they would ask children to stand in one of two discrete circles. This was both age appropriate and more workable. The components of their plan is shown in Table 4.16, along with those of the other pairs.
<table>
<thead>
<tr>
<th>Student Pairs</th>
<th>Objective 1</th>
<th>Objective 2</th>
<th>Objective 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intermediate Classrooms</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amy/Megan</td>
<td>Children will play a cooperative game, Rotating Review.</td>
<td>Whole-group discussion to follow Rotating Review.</td>
<td>Children will play a game that involves categories, with questions worth different points.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Primary Activity/s - Rotating Review, categories game, discussion.</td>
</tr>
<tr>
<td>Diane/Jeff</td>
<td>Children will play a cooperative game, Rotating Review.</td>
<td>Whole-group discussion to follow Rotating Review.</td>
<td>Children will play a game that involves guessing missing letters to solve a puzzle.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Primary Activity/s - Rotating Review, guessing letters game, discussion.</td>
</tr>
<tr>
<td>Linda</td>
<td>No data collected.</td>
<td>No data collected.</td>
<td>No data collected.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Primary Activity/s - Because Linda was no longer a participant, no data was collected.</td>
</tr>
<tr>
<td>Susan/Holly</td>
<td>Categorization activity - jobs as providing either goods or services.</td>
<td>Discussion of the school’s occupational structure.</td>
<td>Children will play a true/false game with accompanying motions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Primary Activity/s - Categorizing jobs, school jobs, true/false game, discussion.</td>
</tr>
</tbody>
</table>

For Cooperative Learning (italicized) descriptions, see Appendix B.

Table 4.17: Plan components for field experience eight.
In their pre-lesson journal entries, participants reflected on a variety of issues. Most of them analyzed their proposed lessons as to whether the objectives would be met and/or whether the lesson would be developmentally appropriate. Susan believed, for example, that her lesson was age appropriate because “the children [would] be moving around.” Diane wrote, “[Our] lesson is culturally appropriate in that most of the kids are familiar with different jobs in the fields [we have chosen to discuss].”

Finally, nearly every participant commented on their feelings as the end of our year together drew near. Holly’s journal expressed her fondness for Mrs. D’s class - “Susan and I will miss [those children] and miss ‘KAPOWing’ with them.” And Jeff wrote about both our in-class experiences and his field work at the elementary school: “This year has been great! I have really had a lot of fun. I have enjoyed teaching the kids. I enjoyed my partner. And most of all I learned tons!”

**Implementation**

The final KAPOW lesson for the school year was implemented in all four elementary school classrooms late in May. I was to observe Amy and Megan’s lesson in the morning, while Laura viewed Diane and Jeff’s. In the afternoon, I would observe Susan and Holly’s implementation of Lesson Eight. (Ellen was not available to work with Mrs. A’s class, so Linda agreed to do a brief review lesson to provide closure for the children and for herself. I did
not collect data on her lesson because she was no longer a participant.) Both Laura and I used the recording sheets I had developed.

The following paragraphs describe how participants implemented their last KAPOW lessons. To emphasize the application of DAP principles, I have coded my description for the three major facets of DAP - Age Appropriate (AA), Individually Appropriate (IA), and Culturally Appropriate (CA). In order to facilitate comparison, I have once again described both intermediate lessons, then the two primary lessons.

Amy and Megan began their lesson (Rotating Review, Categories game, discussion) in Mrs. B’s intermediate classroom with a discussion of job categorization. Megan led the discussion, asking children to name familiar jobs (AA, IA, CA) that were related to agriculture, transportation, and education in turn. She extended the last by asking what skills might be needed to become an art teacher or a math teacher, for example. This related the day’s topic with discussions from previous lessons (AA, IA, CA).

Megan told the children they would play a game. She said they would work in their table groups (AA, IA, CA), and explained that each group would receive a paper with a category at the top. They would be given a specified amount of time to write all they knew about that category before passing their paper to the next group. Amy read the categories aloud for the benefit of poor readers (IA) - Transportation, Recreation/Entertainment, Services, Health, and Jobs Kids Can Do. She asked Megan to “talk a little more about
services" because this was not part of the original discussion (AA, IA).

Megan gave several examples (AA, IA), including a typist, and the children supplied others. Amy then passed out the papers, asking each group to choose a "writer" (AA, IA). Megan went from table to table, helping children choose the "paper passer" and "readers" (AA, IA).

Megan told the children she would flash the lights as a signal that they must stop writing and rotate the papers (AA). The first round was one minute long, the second was two minutes, and so on. Amy and Megan circulated the room to monitor children's progress as they worked (IA). After the last round, Megan asked the "readers" to share the lists (AA, IA). Some children were not listening well, and both Amy and Megan quietly and effectively redirected their attention (AA, IA). Megan reinforced and/or clarified the children's comments after each list was read (AA, IA).

Next they began their categories game. Amy had put adhesive-backed notes on the chalk board in seven columns to match the previous lessons. At the top of each column was the lesson theme, with five notes below it. Points (100-500) were assigned to the notes, and beneath each one was a second note with a question on it. Amy randomly divided the class into two groups (AA, IA, CA) and invited them to sit on the floor (AA). She and Megan gave each one a number. Amy explained that everyone would get a turn to choose a category and question, consult with the team, then give the answer. She would read the questions (IA) while Megan judged the accuracy of the answers.
The children enjoyed this game very much and cooperated well. They remembered a surprising amount of information about earlier lessons. Amy kept score on the chalkboard and added the points at the end. She and Megan congratulated the children for doing so well. They passed out treats and KAPOW wallet cards to each child.

This lesson was very developmentally appropriate for the group. The participants had chosen two activities that offered mental challenge (AA, IA) but kept the competition at a low level (AA, IA, CA). Children had the opportunity to move around the room (AA, IA) and there were ample chances for productive conversation built into the lesson (AA, IA). The review also helped children build concepts by pulling together all the threads of the former lessons (AA, IA, CA). Amy might have allowed a child to add the points at the end, and Megan's initial discussion might have been a bit better organized, but there was little to criticize in this excellent lesson.

Laura viewed Diane and Jeff's lesson (Rotating Review, guessing letters game, discussion) with Mrs. C's intermediate-grade children. Jeff began with a review (AA, IA) of their previous visit and what the class had done in their lessons over the year. Diane introduced the term "occupational structure" as the "categorizing of jobs" (AA) and led a discussion about jobs in agriculture, communications, and public service.

Jeff then explained the first of their games, Rotating Review. Diane divided the children into groups of five, based on their seating arrangements
(AA, IA, CA). Jeff gave each group a marker and a paper with a topic written at the top - Agriculture, Public Service, Communications/Media, Health Care, and Transportation. They would have a specified time period to write all they knew about the subject, then move to the next station (AA, IA). (This is the same game used by Megan and Amy, played in the same way except that the group moved instead of the paper.) Both volunteers circulated the classroom to offer help while children worked at their tables (IA).

After all five rounds, Jeff took the lists and read examples aloud, asking the children to guess which category he had chosen (AA, IA). This helped children build concepts through a mildly challenging but enjoyable activity (AA, IA). Diane also expanded on this, discussing the ways jobs from different categories depended on one another (AA, IA). She used the familiar example (AA, IA, CA) of a veterinarian who advertises his/her services in the media.

Next they played a review game that required the guessing of letters to decipher a puzzle expressed as lines (one for each letter) written on the chalk board. Children who were grouped by table (AA, IA, CA) would work together to choose the letters or guess the puzzle when it was their turn (AA, IA). After each of three puzzles was guessed, Jeff and Diane related it to previous lessons (AA, IA, CA), asking children questions about the content of prior lessons and the activities that were part of their site visit. This helped children to build stronger and more integrated concepts about what they had
learned over the entire year (AA, IA, CA). As Jeff passed out the treats and the wallet cards they had brought for the children, Diane discussed with them which of the lessons they had enjoyed the most.

This was another good lesson with many developmentally appropriate elements. Children enjoyed being able to move about the room (AA, IA), and they had many opportunities for productive conversation (AA, IA). Although the review game offered less coverage than Amy and Megan’s (only three categories), Diane and Jeff did choose categories that had the potential for rich discussion - Decision Making, Positive Work Habits, and the Site Visit. They were able to integrate many important concepts (AA, IA, CA) within the framework of their chosen categories. Overall, these two volunteers did a very good job.

After lunch I observed Susan and Holly’s lesson (categorizing jobs, school jobs, true/false game, discussion) in Mrs. D’s primary classroom. Holly began by discussing goods and services as a way of categorizing jobs (AA, IA). She used the assembly line as a familiar example (AA, IA, CA), and when children failed to offer others, Susan stepped in with some good suggestions. As the discussion progressed, she and Holly were able to relate new examples to their previous lessons (AA, IA, CA).

Their first activity involved the categorizing of jobs as providing goods or services. Susan asked children to help them (AA, IA) use yarn to outline four large circles on the floor (two for Holly’s group two for Susan’s), and
Holly labeled two circles as “goods” and two as “services.” Susan divided the children into two large groups according to where they were seated (AA, IA, CA). Then she and Holly gave each of the children in their respective groups a name tag with an occupation written on it. They made sure children could read the names of their jobs and understood what the words meant (AA, IA). Within their groups, the volunteers asked each child whether his/her job fit best as a producer of goods or services. After each child had chosen which circle to join, he/she was asked to share the reason for the choice (AA, IA). When Susan’s group finished early, she used the time to review categorization of additional jobs, asking children to decide on a group answer (AA, IA).

Next Holly began to talk about the occupational structures that may be found within organizations. She used the familiar example of a popular fast-food restaurant (AA, IA, CA), pointing out that each one needs an owner, a manager, and individuals to take orders, prepare food, and work at the cash registers. As she extended this to jobs in the school (AA, IA, CA), children were able to name some of the positions they knew. Holly then chose three children to “be” the school board, providing them with name tags. She lined them up single file with other children designated as “superintendent” and “principal,” then three “teachers” and a number of additional jobs within the school. The few remaining children were the “students,” showing that they have an important role to play as well (AA, IA, CA). “See how many people it takes to run this school?” Holly asked.
Susan then explained her own job as the president of a local school board, bringing the lesson into the real world (AA, IA, CA). Children decided that she would be at the head of their line. She asked them to speculate about whether she had to make decisions and display positive work habits in her job, connecting nicely with previous lessons (AA, IA, CA). She assured them that even though she was "above" the principal, she had to listen to him carefully, and that she listened to the children as well. She also pointed out that people in the school served many functions, telling them she had done cafeteria duty that day (AA, IA).

Next the volunteers had the children sit on the floor (AA) for a review of the earlier lessons. Susan had posted signs with names of the eight lesson themes (AA, IA). She and Holly alternated in discussing each one, reminding children of the activities they had done and asking questions about it. In each case, they related the topic to other lessons, to real-world jobs, to the site visit, and to categorization as providers of goods or services (AA, IA, CA). This was very well integrated. Susan even brought out some of the props from prior lessons (AA, IA) - the puppets she had used for Self-awareness and the house model from their Decision Making lesson.

Because children had been seated on the floor for awhile, Susan asked them to stand and stretch (AA, IA). She then reviewed some of the sign language they had used in their last lesson (AA, IA, CA), thus combining review with movement. Children were very attentive, and they remembered
many of the signs she had taught them previously. After a few minutes, she showed them the sign for “Sit down, please” (AA, IA) - and they did.

For their final activity, the volunteers played a True/False game. Each child received a pink index card with a large letter T and a green card with a large F. Susan and Holly alternated reading statements, and the children responded by raising the appropriate card. A child said that this would be an example of making decisions, and Holly agreed, extending discussion about this for a few moments (AA, IA, CA). Children seemed to enjoy the game. After each response, Susan or Holly would ask children to justify their answers (AA, IA) and sometimes asked an additional question or two. This allowed them to further integrate a review of all the lessons (AA, IA). At the end, Susan said that the children could keep the cards if they liked (AA, IA, CA), and the children responded by saying, “Thank you.” The volunteers closed the lesson by passing out the treats and wallet cards they had brought.

Susan and Holly applied DAP principles in many ways in this lesson. Physical movement and conversation were an integral part of the lesson (AA, IA). The activities were varied and appropriate to the age level (AA), and they used many real-world examples to extend children’s concepts (AA, IA, CA). While the definitions of “goods” and “services” were less clear than they might have been, Susan and Holly used so many good examples (AA, IA) that children seemed to be understanding the idea pretty well. But perhaps the best feature of this implementation was the outstanding integration of themes and
concepts throughout the lesson in different contexts and in varied activities (AA, IA, CA). This was an excellent lesson.

**Reflection**

Participants reflected on their lessons in their post-lesson journals and in the whole-group debriefing session. The following themes were found across reflections (in no special order): (1) participants’ assessments of “how it went”; (2) considerations about the children’s learning; (3) students’ reflections about the developmental appropriateness of their lessons; (4) discussion of classroom management issues; (5) analysis of teaching and learning methods; (6) thoughts on their improvement as teachers; and throughout, (7) descriptions of their implementations.

As with previous lesson, I have constructed a “conversation” using excerpts from students’ post-lesson journals (underlined portions) and their comments from the debriefing session. Thus the themes are expressed in participants’ own words. My role as researcher is included as italicized text (with key words marked to denote themes). Brackets enclose words and phrases that reflect slight changes in students’ words, made to provide context and improve readability.

*Students were eager to discuss “how it went”. They were elated that their final lessons were so successful.*
Diane: The lesson went incredibly well. The kids were very enthusiastic about the rotating review.

Jeff: It was really good. It was really neat to see the way they took something that we gave them, and they just went gangbusters on it!

Megan: I was very pleased... The kids really enjoyed [our] activity. They responded well, were active and cooperative, and the game was done in an orderly fashion.

Amy: I was very pleased with our final lesson, [too]. As far as relating to and controlling the kids I think it was the best ever.

Because all of their lessons were structured around a review of the year, it was natural that students would think about children’s learning as they described their implementations.

Diane: It was amazing some of the jobs the kids came up with for each field [we discussed]. They made connections that... slipped my mind.

Susan: Holly started [our lesson] by explaining goods and services. The kids were picking it up quite well.

Holly: Then we reviewed all of our lessons... The things [the children] remembered most were the things they had done - the assembly line and maybe what their job was.

Jeff: One thing I noticed, and it stands to reason, the lessons we did earlier in the year - [The children] had a harder time recalling those lesson,
but the ones where we had big projects, like the assembly line and *Decision Making* and *Positive Work Habits* - those three [the class] really knew.

**Amy:** This lesson was really interesting in showing me how kids enjoy learning if it is fun.... More than any others, this lesson was theirs to learn, and I spent a lot of time just walking around the room and monitoring.

There were many references to developmentally appropriate practices (DAP) and judgments of how the lessons had measured up to those standards. Amy's comment showed unusually good insight into the role of a child-centered teacher, while Holly demonstrated some understanding of cultural appropriateness.

**Amy:** This lesson was developmentally appropriate because for the first time I felt I was guiding the learning rather than dictating knowledge.

**Susan:** [Our] lesson was age appropriate and individually appropriate because [the children] had to decide whether their name tag [represented] a good or service job.

**Holly:** [And] because the [children] like stickers and physical activities. Our examples (a familiar fast-food restaurant and the school system) were very culturally appropriate.

Many other references to DAP were practical ones that reflected application of a variety of developmentally appropriate teaching practices.
Megan offered children choices and the chance to practice social skills. Diane talked of giving individual help, and Susan described a movement activity that gave her primary-graders a break from sitting. All of them reflect appropriate practices for the age groups involved.

Megan: We had the kids within each group decide what job they were going to do as far as being part of the group. One was a writer, one was a reader, another one was a paper passer, and if we had more than three or four kids [in the group], then they shared a job. So that worked out well.

Diane: [In our lesson], Jeff and I went around the room and helped the kids spell certain occupations. We gave the kids some hints where we could.

Susan: [Between our activities], because they were sitting for awhile, we had [the class] stand up and we did some sign language and got them moving a little bit, and then they sat back down.

Our usual discussion of classroom management was a mostly positive one, reflecting a maturing of students' knowledge, skills, and attitudes.

Diane: It doesn’t bother me as much now, the noise and stuff, cause I’ve realized usually - usually - [the class is] working.

Holly: You learn to expect the kids are going to get a little excited doing these things.

Megan: And by walking around the room, too, if Amy’s doing something then I can walk around and just - You know kind of where the
trouble spots are. And just your presence close to [those children] will kind of keep them on task.

Diane: I’ve noticed something.... I let more be tolerated from the boys than I do from the girls. Just in these lessons, I’ve noticed that all the time.

Holly: You expect more from the girls, don’t you?

Megan: But it’s good you realize you’re doing it. That’s a first step. At least you’re aware of it.

Students’ increased consciousness of their pedagogy was seen in their comments about teaching and learning. A good example is this conversation about the Rotating Review game used by Amy/Megan and Diane/Jeff, but structured slightly differently. Amy’s final comment shows that, for her, teaching and learning were connected.

Amy: We didn’t want the kids to move.

Megan: I just thought that would be more confusing. I don’t know, was it confusing?

Diane: No.

Jeff: We had the kids move, just because we thought - well, a somewhat boring subject, you need some action.

Megan: I guess I just figured that with the [categories] game coming up, that they would get the activity there. It is neat to see how the basic lesson can be taught in different ways.
Amy: I think it was good for us to see what topics we might not have covered so well. There isn’t anything we can do [now], but it might help future KAPOW lessons and there may have been a few things that were retaught [as we played the game]!

Finally, students reflected on the **improvement** they had made as teachers since the year began.

Diane: [Classroom management] has gotten a lot better... [cause] we’ve learned how to take it. I know I can just shoot my hand up and say, “Okay guys! Look at me now, I’m talking.” And they get it right away!

Amy: I feel that I am thinking a lot more [when I plan rather] than just trying to decide what activities we will do (like in the beginning).

Holly: [In my case], I have gained valuable experience in working with children, and in preparing a lesson with goals in mind.

Susan: I really had a fun time with the [children]. I think they really learned a lot this year, as I did, too.

**Researcher Reflections**

My thoughts after this final lesson implementation were mostly about change - change in the students and in their teaching, change in myself and my own pedagogy. The most striking of these alterations was seen in students' progression from planning good lessons, tentatively taught, to organizing
outstanding lessons that they implemented with confidence. This did not happen overnight, but rather, the process was an evolutionary one involving many months of small alterations. Appleton and Asoko (1996) found that “change [was] incremental” (p. 178) as regards the adopting of constructivist teaching methods by inservice teachers. That is what I observed to be true of my students as well.

Another change that occurred over the course of the year had to do with the planning sessions. At first, when students began their planning, they read over the pre-packaged plans provided by KAPOW, then decided how they would change them or whether they would use any elements at all from those plans. As we moved toward the end of the second quarter, participants gave the KAPOW plans no more than a cursory glance, almost automatically choosing to plan their own activities. By the end of the third quarter, it was not uncommon for me to find the provided plans still on my desk at the end of the planning session. Students were not interested in them, for they enjoyed the challenge of planning their own lessons.

According to McCutcheon (1995), “deliberation may be the most professional part of teaching” (p. 3). It requires the application of several different kinds of knowledge - knowledge of the content to be taught and the context in which it will be implemented, knowledge of the children who will respond and act on what they have learned, and knowledge of the theories underlying pedagogical decisions. Amy’s pre-lesson journal summed it up
well: “I have found that I [no longer] just plan activities for a lesson. Now I worry about how we will keep control, clearly give directions, and make transitions. I can think about when the kids will have the opportunity to talk and stop paying attention.” Planning now involved much more than listing which activity would be done and gathering the materials to make it happen.

When they entered our classroom at the beginning of Autumn quarter (1997), students admitted that they knew little about careers education. Megan wrote in her initial journal, “When I was first approached about taking this class, I had little knowledge of its purpose or what it stood for.” That was typical of all participants. Learning something about School-To-Work programs (KAPOW in particular) was one outcome of their participation. “I had never really thought of School-To-Work before KAPOW,” wrote Susan at the end of the course. “I think it will help me later when I am teaching. It will help me bring in the community and the ‘real world.’ ”

Even more important than gaining content knowledge about School-To-Work, however, participants had begun to consider the children’s perspectives of the subject matter, to present the information in engaging lessons, and to manage the classroom sufficiently well to promote learning. All four of these aspects of content teaching are important (Feiman-Nemser & Parker, 1990).

Over the year, students had learned about the children in their assigned classrooms, and about children in general. Planning sessions in our third quarter featured comments about what might be “age appropriate” for a
particular classroom or reminders that certain activities were unsuitable for the emergent readers who would be present for the lesson implementation. In addition, although cognitive outcomes were emphasized, students gave some attention to children's social, emotional, and cultural needs. As I observed and facilitated students' lesson planning, it was not uncommon to hear an admonition that the activities must be built around familiar examples or respectful of cultural differences. Students had begun thinking of the children as integrated human beings, an orientation that is sometimes referred to as a focus on the "whole child" (Hendrick, 1996).

Additionally, students had acquired some knowledge of developmental theory. The principles of developmentally appropriate practices had increasingly informed their decisions about how to teach. For example, Jeff and Diane had the children move from station to station in their Rotating Review to allow for some physical movement because they knew the class would be sitting for their final activity. In contrast, Amy and Megan had planned for children to move to the floor for their final review game, so it was the papers rather than the children that moved from table to table in their version of Rotating Review. Although different, both decisions reflected an awareness of developmental principles. According to Garger (1990), the need for mobility may reflect a neurological response that helps some children concentrate on learning. In planning for children's comfort, students enhanced their learning as well.
I was especially interested in comments about cultural appropriateness because we had covered that aspect of DAP less thoroughly than the others. Diane's journal entry, for example, offered some insight into her ideas on culture: "[Our] lesson is very culturally appropriate in that most of the kids are familiar with jobs in the fields [we have chosen to discuss]. They are probably very familiar with [a popular game show involving guessing letters] in a land where the television is a cultural icon." This comment reflects some awareness of culture on both a micro- and a macro-level.

Well-developed classroom management skills allow teachers to concentrate on children's learning (Evertson & Harris, 1992). Participants had repeatedly demonstrated in their lessons that their management strategies were improving. That they were aware of this improvement was evident in their reflections. Diane, for example, admitted that her early preoccupation with classroom noise had diminished considerably, and her classmates also claimed to be less concerned about potential problems. Amy's journal showed an awareness of the connection between organization and children's ability to learn. "I am going to write out all the directions for the game, "she wrote, "so I don't forget to tell the kids something important."

I had begun the year by telling participants that the course had two goals. The first was that they would provide a quality School-To-Work program for the children in our partner elementary school. As I mentally reviewed the lessons I had observed, I believed that they had succeeded
admirably. The recent review lessons had shown that children remembered the site visit and the assembly lines. They would not forget the decision-making steps they had learned in the context of creating miniature houses or the empathy generated by tasks that simulated disability. Their recollection was enhanced by the active learning that framed each lesson.

The second goal of the course was that students would move forward in their preparation to become teachers. I believed that this objective had also been fulfilled. I enjoyed the insights I found in participants’ last journal entries. “[The children] were in charge of how much they wanted to get out of it, “Amy wrote of their last lesson. “Megan and I only provided the framework and I think it was really good.” She was describing the role of teacher in a developmentally appropriate setting. Similarly, Diane described the evolution of her ideas about child-centered teaching as she wrote, “I learned that loud kids sometimes mean busy kids! I also learned that kids are better able to grasp ideas when they actively learn the ideas.”

A number of students had begun - finally - to go beyond their cursory mentions of DAP to explain their own assertions that their lessons were developmentally appropriate. I believed that my continued insistence on analysis in their journals had challenged the participants to move from a surface knowledge of terminology toward a deeper understanding of the developmental theory itself. By explaining how the lesson applied DAP principles, students showed how well they understood those principles.
I also believed that the lessons themselves had offered a venue for deepening students’ concepts about DAP, a view that is consonant with constructivist principles (Kaufman, 1996). Megan wrote after her last lesson implementation, “Since this course, I have learned about DAP and as the course developed so did my skills in applying it to my lessons.” I saw this as a kind of “chicken-and-egg” statement: Did her learning increase her expertise in the classroom, or did her improved proficiency enhance her understanding? I suspected that both were true.

For example, students learned about the value of active, hands-on learning in our own classroom and applied what they had learned to plan lessons built around those features. Increased pedagogical skill proceeded from in-class learning. However, as participants became more proficient teachers, they brought insights gained in the field back to our classroom. Holly wrote of their review in Lesson Eight, “I was able to see the things that [children] remembered were the things that they had done or experienced.... Children learn by playing not by sitting and teachers learn to teach by teaching.” Her improved skills had allowed her to observe the children more closely and draw this important conclusion about her own learning.

I was confident that my six remaining participants had advanced significantly. I felt certain, as well, that Linda had continued the progression I had observed in her teaching over the course of two quarters. About Ellen, however, I was not sure. She wanted to teach, but her approach was to
reduce everything to a safe formula that would assure her success (e.g. what percentage of lesson plan elements could be teacher directed). She spent an inordinate amount of time creating materials for classroom use, yet worried that the children might “steal” them. Her lessons were so well scripted that there was little room for departure from her prescribed path, and she determined the success of the lesson by what she had covered rather than by what the children might have discovered (Gronlund, 1995). Her practice was a dichotomy of what is best and worst in teaching, but I feared that her talents - planning, creativity, and organization - would not be a sufficient framework on which to build an effective pedagogy.

Sizer (1984) has written that “irrespective of their credentials, teachers without judgment stumble. It is the heart of teaching” (p. 3). Amy and Megan, Diane and Jeff, Susan and Holly and Linda were all well on their way to developing the kind of judgment that is essential for good teaching. They were learning to adapt their teaching to the children’s needs, and their planning reflected as much a concern for what children might “learn” as for what they themselves would “teach.” In contrast, Ellen’s judgmental abilities seemed limited to her own actions alone. How could she educate young children, I wondered, if she could not assess how much - or even if - they were learning?

I believed that I had not achieved my second goal in Ellen’s case. If she had progressed as a teacher, I could not see it. While that was disappointing
to me, I hoped that her attitudes would alter in the future. With Jones (1986), I viewed my function as a teacher as “promot[ing] the greatest possible learning for this person at this time” (p. 88). That, I believed, I had done.

Whether or not Ellen had learned anything from her KAPOW course experience, I myself had learned a great deal. My teaching was informed by the theory that I read to support my research. However, practical problems sometimes forced me to readjust my own theories about teaching, as when students’ needs caused me to learn first-hand about emergent curriculum. “Constructivism... construes learning as an interpretive, recursive, building process” (Fosnot, 1996a, p. 30), and for me, that was true. I felt that I had literally built and rebuilt my conceptual framework of what it means to be an educator, altered as I learned something new - or sometimes, as my students learned something new. As Richardson (1996) points out, “teachers construct meaning and understanding by conducting their own research” (p. 267).

**Final Reflections**

Eight lesson implementations, thirty weeks of class - these are worth little without the countless hours of reflection that served to shape each lesson beforehand and analyze it afterwards. In many ways, it was the participants’ reflections that guided this inquiry. It is fitting, therefore, to give them the “last word.”
Most university classes encompass ten or fifteen weeks of time. In contrast, our three-part course was spread across an entire academic year. As such, I felt a need for providing closure for both the students and myself. I had asked them, therefore, to write a final journal entry on what they had learned from the experience. In addition, I had a final individual conference (or exit interview) with each participant. While the former was an open-ended task, the latter was structured by my perceptions of each student's knowledge constructions about DAP. Conferences averaged about thirty minutes each.

Because "the questions we ask make a difference to the quality of the information we collect" (Chase, in press, p. 3), I outlined the projected path of each conference beforehand. This is what Patton (1990) calls an "interview guide" (p. 283). Thus, our conversations could act as "reality checks" of my interpretations. However, I also allowed for deviation from my preset path so that I might continue to learn about what participants considered to be important, and those unplanned-for areas of conversation were every bit as interesting as my predetermined topics. "The opportunity to learn about what you cannot see and to explore alternative explanations of what you do see is the special strength of interviewing in qualitative inquiry" (Glesne & Peshkin, 1992, p. 65).

The following is a final conversation, constructed in much the same manner as those that summarized the journal and debriefing responses after each lesson. This time, however, I have combined students' final journal
entries (underlined) with excerpts from their exit interview transcripts. While Linda and Ellen wrote no final journal entries, each of them did agree to a final conference, and so their voices blend once more with those of their classmates. Although participants’ comments are juxtaposed, all conferences were individually completed, and students’ journal entries were not shared.

The themes were largely selected by me, introduced within the context of the exit interviews. My questions centered around: (1) students’ learning and application of DAP; (2) their opinions about partner issues; (3) their assessment of children’s learning; and (4) their judgments about their lessons. Participants’ final journals addressed these same areas of concern and added one additional theme: (5) their improvement as teachers. As in the previous constructed conversations, words in brackets indicate slight changes in students’ words to improve readability. Although I am present in the conversation as interviewer, my researcher’s voice is also expressed in italicized comments, with key words marked to denote the themes.

This inquiry was concerned with preservice teachers’ learning and application of DAP principles. I was very interested in participants’ views about what and how they had learned, and I asked them a series of questions about that.

Interviewer: What was the most important thing or things you learned about DAP in this class?
Linda: Basically, I think something Ellen and I both struggled with ... was making it age appropriate.... You need to approach the material at their level. It's simple - developmentally appropriate. Teaching at their level!

Jeff: [For me] it was the individual. Cause ... I noticed [in other field experiences], I would direct my thoughts and my ideas to the class as a whole.

Amy: The whole child-centered idea [was most important to me].... That's really how I want to teach - with hands-on and activities and ... no textbooks and worksheets. I knew I didn't want to be a textbook/worksheet teacher, but I didn't have the words for it. Now I know I want to follow developmentally appropriate practices as much as possible.

Interviewer: How did you learn about DAP, besides what we had in class?

Megan: Although I didn’t know what it was called, I was pretty much aware of it.... Because of my experience with my own kids, I knew it was there, I just didn’t have a name for it.

Ellen: Mrs. J (a cooperating teacher from another field experience) - I would ask her, “Why did you teach it this way?” And she told me it was developmentally appropriate.... In [our first quarter of KAPOW], it was almost like a review to me. But it was like bringing terminology current for me, that I had heard in so many different ways. But now I was hearing kind of a unification of all of them.
Diane: I guess I related things to past experiences in schools and how my teachers - I never realized that that's what they were doing, being developmentally appropriate!

Interviewer: How well do you think you and your partner applied DAP in your lessons?

Megan: I believe all of our lessons were age, individually, and culturally appropriate, although culturally appropriate is a little more difficult to tell. I feel real good about the lessons that we taught and I really believe that they were there.

Susan: Well, the culturally [appropriate] was hard to do.... I think we tried to do individual and age appropriate each time, cause we tried to get each child where they had to be responsible - maybe not for group things, but they had their own projects or something to do. Each of them.

Jeff: I think the first three lessons - I don’t think that we did a very good job, but I think as the year progressed, [Diane and I] were able to incorporate it more and more. I think that the activities became more individualized.

Interviewer: How important was actually doing the lessons to your learning of DAP?

Ellen: Oh, tremendously because I think it was like a review - just because I thought I got it doesn't mean I had it. You know?
Amy: I think it was pretty important. You could find out what worked and what didn’t work so well in some kind of situation. It definitely takes a lot of thinking and planning but it is worth it.

Holly: [For me] the lessons were more important than what we learned in class.... [but] maybe it was both, because you learn[ed] about [DAP] and what it was in class and then you went out and saw the kids.... You think of the kids when you’re planning, I guess, too. Maybe it was both.

Jeff: [I think], to be honest, I learn more here.... I like to just listen and have it come straight at me.... And I take that, and I build my framework straight around that.

Students indicated that they found different aspects of DAP important in their teaching. While all claimed to have learned about DAP in our class, Megan also brought past experiences with her own children to bear on her learning. Memories from early schooling took on new meaning in light of recent learning for Diane. And for Ellen, previous learning in a field experience became more meaningful. This is consistent with constructivist principles - that learner antecedents will be unique, directing each individual’s learning in singular ways.

Interestingly, participants had similar judgments as to how well they had applied DAP principles with their partners. Though a few believed that they had initially done less well, all thought they had applied DAP fairly consistently by the end of the course. That application was quite important to
the learning of most of the participants. Jeff's claim to learn best in the university classroom was the sole exception.

**Partner issues** were a major concern early in our second quarter. I was curious as to participants' current views on the subject.

**Interviewer:** How did you feel about partner teaching?

**Amy:** I really enjoyed team teaching with Megan although it wasn’t always easy. It worked out. We had - It took awhile to figure out how we were going to balance it.

**Susan:** I liked it. Especially at the beginning because I felt like I had a back-up, like if I went blank, she could take over. **Holly was fun to work with.** Each lesson she became more outspoken and hopefully, I tried to become less talkative. I think we made a nice combination.

**Holly:** I felt more comfortable with having someone there. But then I wasn’t quite sure about working with **Susan** sometimes because she was a mother, experienced, and she had kids. She knows how to control them better, and she kind of - She would take over sometimes.... I wasn’t ready yet [at first], and then when I was, there were some things I wanted to do.... Sometimes I felt left out in that way.

**Linda:** [For me], in the beginning, I liked it. I was intimidated. I wanted someone to share with. I guess I was a little nervous, so I was glad to have a little help. Not to call her a “crutch,” but...
Interviewer: “Scaffold?”

Linda: Okay, “scaffold” - yeah. Towards the end of it, though, it started to get a little frustrating.... Ellen is very strongly opinionated. And she doesn’t bend very much. But in the same way, she helped build me up a lot. She’d find things [I did] that she liked, and she’d say, “That’s good, we’ll do that.” And that made me feel good.

Interviewer: What did you learn from your partner?

Linda: Cooperation, I guess, ...how to work with someone who has very different ways of doing things ... in situations where it’s necessary.

Ellen: I learned a great deal from Linda. She’s calm. Very laid-back. And she talks slow, when she’s explaining something, and she looks directly at the children.

Megan: [With Amy] patience comes to mind, ... to be more patient.

Amy: I learned a lot about team teaching [from Megan], and working with someone else, that it’s great to have another person’s ideas.

Susan: [Holly] gets down on [the children’s] level.... I think she listens better than I do. I listen, but not as well. She’ll sit there and really listen.

Holly: [In the classroom], I picked up on what [Susan] was doing, and I thought it was really neat how she was able to, when I lost it, she was able to pick it up.... She’s pulled me through a lot by doing things.

Diane: Jeff is good on his feet. I learned that he’s real at ease with the students.... I think I learned to be a little more at ease with myself because of
the way he is with himself. And I learned to approach things in different ways. And so, we’ve learned just different things from each other.

**Jeff:** [Diane] would always come up with a different viewpoint than me.... I was always thinking about the activity and how to incorporate the activity into the lesson, and she would be thinking about how to incorporate the lesson into the activity. So I think those two meshed together.

*In general, participants enjoyed partner teaching and were happy to have had the experience. Holly and Linda both experienced some frustration in dealing with their partners. Interestingly, both were initially quite soft-spoken. Linda outgrew what she considered her “need” for a “scaffold,” but Holly never did quite resolve her feelings about it. All participants were able to think of something they had learned from their partners. I also asked the participants what they thought their partners had learned from them. Except for Diane and Jeff, none of their responses matched what their partners said. The fact that this last pair stated what they had learned from one another in very similar phrases is symptomatic of their outstanding partnership.*

*Children’s learning* was an issue that remained of importance throughout the year.

**Interviewer:** What did you learn about how children learn?

**Megan:** That’s a real important thing to me cause I know each child can learn and succeed if they’re taught in the correct way.... That’s really
something I want to work on and become more aware of, like how to reach the children and know I’m reaching them and that I’ve found their best way of learning.

Jeff: They all learn at different speeds, they all learn in different ways. Some kids did real well with the snowmen (Lesson Four), others had no clue what to do.... They’re all - kids really adapt to different things.

Holly: I learned that kids learn better by “doing” than by watching and hearing.

Linda: Hands-on. A lot of hands-on and getting them into it.... If you get them excited about something, if you just make the learning interesting for them, then they’re gonna remember that.

Students repeatedly mentioned hands-on and active learning methods. In addition, several seemed intrigued with the idea of multiple intelligences, that children’s individual strengths might indicate certain ways of learning as being preferable to others. All seemed conscious of the need to do more than “just stand up and lecture” as Jeff might say.

I was interested in participants’ views about which lesson was their best. Briefly, these are their opinions.

Interviewer: Which lesson was your best?

Amy: I think they got better as we went on because we knew what we were doing more.... Decision Making was probably the best.
Megan: I thought our last lesson (Occupational Structure) was really good. The kids had fun and did well on the activity, but I really loved the review at the end. That was one of the best things we had done.

Diane: I really did like Bias and Stereotyping.... I think [the class] did get the concept that being blind really only means you can’t see and that you’re not any different. So I think that was probably our best lesson.

Jeff: Decision Making was our best.... The kids were really able to relate well to the activity.... That was just a whole solid lesson, I think.

Ellen: My very favorite was Anansi (a book she read for Decision Making). [But] I think probably the most fun for the children was the assembly line. So I have to look at the lessons, kind of dual-faceted.

Linda: I want to say [Occupational Structure], ... because I was a lot more comfortable, and I think the fact that I was alone made it easier.

Susan: I think [this last] review went really well, but for a “lesson” lesson.... I’ll say the houses (Decision Making).

Holly: [For me, the best was] maybe the last one..., but closer to the end definitely, because in the beginning, I didn’t do much at all.

Most of the students judged their “best” lessons by how engaged the children were and or what they felt the class might have learned. Holly still focused on her own role - a good lesson was one in which she herself had a large part to play. I was interested to see that Ellen had based her choice on a favorite literature selection (her own area of interest and expertise), but
she was aware that the children might select a different lesson if given a choice.

Finally, students were naturally thinking of their own improvement or learning as the year drew to a close. The learning that they viewed as important included classroom control, DAP, and group dynamics.

**Holly:** This course was very helpful to me. It gave me a chance to experience what a real teacher does. It introduced that feeling of having some control over and some instruction of a class.... [But] I still am not sure if I am ready to take on a classroom by myself. I don't have that confidence in myself. Maybe it will come as I get more experience.

**Susan:** I never heard of [DAP] before. Now every time I think of it, I'll think if [a lesson element is] - you know, age appropriate, individually appropriate, culturally appropriate.... Just to think constantly [about it] when I'm in the classroom...

**Jeff:** I had never heard of it [either], not one thing. That actually gave me a basis for me to go on with teaching because so much of it, just the mentoring and stuff like that, I did it off the top of my head. But with [DAP], it actually gave me something to start from, gave me a guideline to start from. So it's the basis of what I've learned about teaching.

**Amy:** For the first few lessons I felt totally inadequate. I am really glad for the experience, however, and I have gained a lot.... My ideas about
teaching haven't changed a lot other than I now have some words to express my philosophy.

**Megan:** I learned that it is extremely important to be prepared when teaching a lesson.... I learned that it is important to have a sense of control over the classroom.... I learned that by just giving eye contact or ... touching a child on the shoulder that I was able to discourage inappropriate behavior.

**Diane:** This year's been great [for me]. I learned so much.... We made a really good connection with the kids I think.... We had a really good group. I think we were really dedicated, most of us. We were here. And we were here with our minds. **KAPOW was a wonderful experience.**

Reflecting on those final conferences, I found that my participants' observations rang true for me as well. Like Jeff, I saw DAP as the "basis for me to go on with teaching." Like Amy, it gave me "some words to express my philosophy." And like Diane, I "learned so much" and found this past year to be "a wonderful experience."
CHAPTER 5

THE RESEARCHER'S INTERPRETIVE LENS

Looking is a necessary condition, but looking is essentially a task one undertakes; it is seeing that is an achievement.

(Elliot W. Eisner, 1994, p. 216)

Constructing an Encompassing Interpretation

Chapter Four presented a wealth of data in condensed form to describe the growth of eight preservice teachers as they learned about developmental theory and attempted to apply it in an authentic setting. The participants' applications of their emergent knowledge were examined across eight field experiences, eight different but related contexts, and presented in a chronological format. Participants described their unique realities through journal entries, in written assignments and tests, in whole-group debriefings, and in one-on-one interviews as they left the program.

The narrative recounting of each lesson provided both a macro- and a micro-view: wider in that each description examined important themes across the entire group, narrower in that each lesson was treated as a discrete event. To construct a view that encompassed the learning of all participants over all
lessons, I first considered patterns and meaning within each lesson - the content of Chapter Four. Chapter Five summarizes these descriptions to trace patterns across the lessons.

Eisner (1994) writes that "no one is interested in the facts by themselves but rather in the facts interpreted" (p. 230). In Chapter Four I presented the facts, viewing them primarily in my dual role as participant and instructor. The following, however, is my interpretation as seen through the lens of the researcher. As in all qualitative research, some degree of "reciprocal shaping" (Strauss & Corbin, 1994, p. 280) between myself and the participants ensured that their interpretations influenced my own.

Because knowledge application is a function of understanding, I begin this chapter by considering the lesson implementations. Data is summarized in a series of visual representations "reported synoptically; that is, they are presented so that they can be seen together at one time.... to show patterns" (Erickson, 1986, p. 151) for the benefit of both the reader and myself. Table 5.1 exhibits some elements of DAP that students included in their lessons. (Lesson Two was excluded because it differed in format). Column One on the first page lists student pairs with their pretest scores. The final column on the third page is my own assessment of students’ overall usage of developmentally appropriate practices.

The table is not meant to be all-inclusive; rather it is representative of students’ DAP usage, especially as regards: experiential learning, providing
for social interaction, grouping methods, offering individual help, linking concepts through discussion, and considering cultural differences. These areas were emphasized in class and were within students’ skill levels to accomplish, or at least to attempt. An entry attributed to only one pair indicates a unique feature of their particular lesson. One initial in parentheses shows that only one member of the pair applied DAP principles in a specific way.

Underlined portions in Table 5.1 indicate “less appropriate” practices. The underlining of a specific practice does not mean that it is always less appropriate. For example, Diane and Jeff’s decision not to use concrete objects in Lesson One was noted as less appropriate because concrete objects would have enhanced that initial lesson, as evidenced in the fact that all other pairs did successfully use at least some such materials. In another subject area, the use of concrete objects might be less critical.

Similarly, the inclusion in the Table of any entry does not indicate how successful students were with that particular practice. Although discussion was consistently planned as part of each lesson, often it was less effective than it should have been. These inexperienced educators did not yet have the necessary skills to fully develop their discussion questions. Nevertheless, I was most interested in participants’ attempts to apply DAP principles, and so the entry “talking linked concepts” appears under every lesson in which students tried to help children build their cognitive connections through discussion.
### Table 5.1: Summary of DAP components in lessons.

<table>
<thead>
<tr>
<th>Student Pairs</th>
<th>DAP - Lesson 1</th>
<th>DAP - Lesson 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amy and Megan (A, M)</td>
<td><strong>Cooperative Learning</strong>&lt;br&gt;Use of concrete objects - passed around&lt;br&gt;Modeled activity first&lt;br&gt;Nameing of familiar jobs&lt;br&gt;Respect for all jobs&lt;br&gt;Encouraged conversing&lt;br&gt;Active involvement&lt;br&gt;Talking linked concepts - multiple presentations</td>
<td><strong>Cooperative Learning</strong>&lt;br&gt;with concrete objects&lt;br&gt;Random grouping&lt;br&gt;Modeled activity first&lt;br&gt;Encouraged conversing&lt;br&gt;Active involvement&lt;br&gt;Reviewed prior learning&lt;br&gt;Paraphrased, defined terms to build concepts through discussion</td>
</tr>
<tr>
<td><strong>Pretest Scores:</strong></td>
<td><strong>A = 22; M = 21</strong></td>
<td></td>
</tr>
<tr>
<td>Diane and Jeff (D, J)</td>
<td><strong>Cooperative Learning</strong>&lt;br&gt;No concrete objects&lt;br&gt;Modeled activity first&lt;br&gt;Nameing of familiar jobs&lt;br&gt;Respect for all jobs&lt;br&gt;Encouraged conversing&lt;br&gt;Active involvement&lt;br&gt;Talking linked concepts&lt;br&gt;Helped children with reading difficulties, etc.</td>
<td><strong>Cooperative Learning</strong>&lt;br&gt;Random grouping&lt;br&gt;Modeled activity first&lt;br&gt;Encouraged conversing&lt;br&gt;Active involvement&lt;br&gt;Talking linked concepts&lt;br&gt;Paraphrased comments&lt;br&gt;Active game &amp; real-world connections&lt;br&gt;Gave individual help</td>
</tr>
<tr>
<td><strong>Pretest Scores:</strong></td>
<td><strong>D = 19; J = 18</strong></td>
<td></td>
</tr>
<tr>
<td>Ellen and Linda (E, L)</td>
<td><strong>No Cooperative Activity</strong>&lt;br&gt;Used concrete objects - (L) shared, (E) did not&lt;br&gt;Modeled activity first&lt;br&gt;Children on floor - story&lt;br&gt;Name/draw familiar jobs&lt;br&gt;Respect for all jobs&lt;br&gt;Limited conversation&lt;br&gt;Active involvement&lt;br&gt;Talking linked concepts</td>
<td><strong>Cooperative activity</strong>&lt;br&gt;with concrete objects&lt;br&gt;Random grouping&lt;br&gt;Modeled activities first&lt;br&gt;Encouraged conversing&lt;br&gt;Active involvement&lt;br&gt;Reviewed prior learning&lt;br&gt;Talking linked concepts&lt;br&gt;Familiar topics, jobs&lt;br&gt;Gave individual help</td>
</tr>
<tr>
<td><strong>Pretest Scores:</strong></td>
<td><strong>E = 18; L = 17</strong></td>
<td></td>
</tr>
<tr>
<td>Susan and Holly (S, H)</td>
<td><strong>No Cooperative Activity</strong>&lt;br&gt;Used concrete objects - children held/wore&lt;br&gt;Modeled activity first&lt;br&gt;Name/draw familiar jobs&lt;br&gt;Respect for all jobs&lt;br&gt;Encouraged conversing&lt;br&gt;Active involvement&lt;br&gt;Children seated on floor&lt;br&gt;Talking linked concepts</td>
<td><strong>Cooperative Learning</strong>&lt;br&gt;with concrete objects&lt;br&gt;Random grouping&lt;br&gt;Encouraged conversing&lt;br&gt;Active involvement&lt;br&gt;Reviewed prior learning&lt;br&gt;Real-world connections&lt;br&gt;Class on floor, read book&lt;br&gt;Talking linked concepts&lt;br&gt;Creative art project</td>
</tr>
<tr>
<td><strong>Pretest Scores:</strong></td>
<td><strong>S = 17; H = 16</strong></td>
<td></td>
</tr>
</tbody>
</table>

Underlined portions = "less appropriate" practices.
<table>
<thead>
<tr>
<th>DAP - Lesson 4</th>
<th>DAP - Lesson 5</th>
<th>DAP - Lesson 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A, M) Cooperative work</td>
<td>(A, M) Cooperative work</td>
<td>(A, M) Cooperative work</td>
</tr>
<tr>
<td>Modeled activity first</td>
<td>No modeling of activity</td>
<td>Story provided context</td>
</tr>
<tr>
<td>Encouraged conversing</td>
<td>Use of concrete materials</td>
<td>Used random as well as academic grouping.</td>
</tr>
<tr>
<td>Active involvement</td>
<td>Hands-on simulation</td>
<td>Encouraged conversing</td>
</tr>
<tr>
<td>Story provided context</td>
<td>Film offered vicarious experience to children</td>
<td>Active involvement</td>
</tr>
<tr>
<td>Talking linked concepts</td>
<td>Encouraged conversing</td>
<td>Reviewed prior lessons</td>
</tr>
<tr>
<td>Gave individual help</td>
<td>Created real examples</td>
<td>Gave individual help</td>
</tr>
<tr>
<td>Reviewed prior lessons</td>
<td>Talking linked concepts</td>
<td>Talking linked concepts</td>
</tr>
<tr>
<td>Familiar topics, jobs</td>
<td>Related ideas to school</td>
<td>Offered choices</td>
</tr>
<tr>
<td>Real-world connections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(D, J) Cooperative work</td>
<td>(D, J) Cooperative work</td>
<td>(D, J) Cooperative work</td>
</tr>
<tr>
<td>Modeled activity</td>
<td>Modeled activity first</td>
<td>Story provided context</td>
</tr>
<tr>
<td>Encouraged conversing</td>
<td>Use of concrete materials</td>
<td>Random grouping</td>
</tr>
<tr>
<td>Active involvement</td>
<td>Hands-on simulation</td>
<td>Modeled activity first</td>
</tr>
<tr>
<td>Talking linked concepts</td>
<td>Products traced through listing familiar jobs</td>
<td>Encouraged conversing</td>
</tr>
<tr>
<td>Art extended ideas &amp; related to real world</td>
<td>Encouraged conversing</td>
<td>Active involvement</td>
</tr>
<tr>
<td>(J) quickened pace</td>
<td>Reviewed prior lessons</td>
<td>Reviewed prior lessons</td>
</tr>
<tr>
<td>Gave individual help</td>
<td>Talking linked concepts</td>
<td>Gave individual help</td>
</tr>
<tr>
<td>Familiar topics, jobs</td>
<td>Related ideas to school</td>
<td>Talking linked concepts</td>
</tr>
<tr>
<td>Real-world connections</td>
<td></td>
<td>Offered choices</td>
</tr>
<tr>
<td>Used all five senses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(E, L) Cooperative work</td>
<td>(E, L) Cooperative work</td>
<td>(E) No cooperative work</td>
</tr>
<tr>
<td>Modeled activity</td>
<td>Modeled activity first</td>
<td>Very limited modeling</td>
</tr>
<tr>
<td>Encouraged conversing</td>
<td>Use of concrete materials</td>
<td>Story/film offered context</td>
</tr>
<tr>
<td>Active involvement</td>
<td>Hands-on simulation</td>
<td>Encouraged conversing</td>
</tr>
<tr>
<td>Story gave context</td>
<td>(E) discouraged conversing</td>
<td>Active involvement</td>
</tr>
<tr>
<td>Talking linked concepts</td>
<td>(E) crowded pupils together</td>
<td>Reviewed prior lessons</td>
</tr>
<tr>
<td>(L) gave individual help</td>
<td>Reviewed prior lessons</td>
<td>Delayed individual help</td>
</tr>
<tr>
<td>(E) discouraged conversing</td>
<td>Talking linked concepts</td>
<td>Talking linked concepts</td>
</tr>
<tr>
<td>Real-world connections</td>
<td>Very well organized</td>
<td>Offered choices</td>
</tr>
<tr>
<td>Used all five senses</td>
<td>Related ideas to school</td>
<td></td>
</tr>
<tr>
<td>(S, H) Cooperative work</td>
<td>(S, H) Cooperative work</td>
<td>(S, H) Some coop. work</td>
</tr>
<tr>
<td>Modeled activity first</td>
<td>Modeled activity first</td>
<td>Modeled activity first</td>
</tr>
<tr>
<td>Story provided context</td>
<td>Use of concrete materials</td>
<td>Random grouping</td>
</tr>
<tr>
<td>Encouraged conversing</td>
<td>Hands-on simulation</td>
<td>Story provided context</td>
</tr>
<tr>
<td>Active involvement</td>
<td>Related to real world</td>
<td>Encouraged conversing</td>
</tr>
<tr>
<td>Gave individual help</td>
<td>Encouraged conversing</td>
<td>Active involvement</td>
</tr>
<tr>
<td>Emphasized choice</td>
<td>Created real examples</td>
<td>Reviewed prior lessons</td>
</tr>
<tr>
<td>Taught with puppets</td>
<td>Talking linked concepts</td>
<td>Gave individual help</td>
</tr>
<tr>
<td>Talking linked concepts, both sides of issue</td>
<td>Outdoor physical activity</td>
<td>Talking linked concepts</td>
</tr>
<tr>
<td></td>
<td>(S) gave feedback - game</td>
<td>Offered choices</td>
</tr>
</tbody>
</table>

Underlined portions = "less appropriate" practices.

(continued next page)
Table 5.1 (continued)

<table>
<thead>
<tr>
<th>DAP-Lesson 7</th>
<th>DAP - Lesson 8</th>
<th>Overall View</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A, M) Cooperative work</td>
<td>(A, M) Cooperative work</td>
<td>(A, M) Both brought initial knowledge of DAP. Early lessons comparatively good but improved over time. (A) concerned over noise, management issues - in time became more flexible. Focused on learning, meeting lesson objectives. DAP.</td>
</tr>
<tr>
<td>Modeled activity first</td>
<td>Random grouping</td>
<td></td>
</tr>
<tr>
<td>Used concrete materials</td>
<td>Used concrete materials</td>
<td></td>
</tr>
<tr>
<td>Active involvement</td>
<td>Active involvement</td>
<td></td>
</tr>
<tr>
<td>Encouraged conversation</td>
<td>Encouraged conversation</td>
<td></td>
</tr>
<tr>
<td>Real-world connections</td>
<td>Real-world connections</td>
<td></td>
</tr>
<tr>
<td>Gave individual help</td>
<td>Gave individual help</td>
<td></td>
</tr>
<tr>
<td>Reviewed prior lessons</td>
<td>Reviewed prior lessons</td>
<td></td>
</tr>
<tr>
<td>Talking linked concepts</td>
<td>Talking linked concepts</td>
<td></td>
</tr>
<tr>
<td>Use of all five senses</td>
<td>Appropriate challenge</td>
<td></td>
</tr>
<tr>
<td>(A, M) Cooperative work</td>
<td>(D, J) Cooperative work</td>
<td>(D, J) Negotiated an outstanding partnership. (J) was more child-centered; (D) more concerned about management. Consciously tried to vary the lessons, provide for individual levels, address culture; focused on learning, objectives. DAP.</td>
</tr>
<tr>
<td>Random grouping</td>
<td>Random grouping</td>
<td></td>
</tr>
<tr>
<td>Used concrete materials</td>
<td>Used concrete materials</td>
<td></td>
</tr>
<tr>
<td>Hands-on simulation</td>
<td>Active involvement</td>
<td></td>
</tr>
<tr>
<td>Real-world connections</td>
<td>Encouraged conversation</td>
<td></td>
</tr>
<tr>
<td>Encouraged conversation</td>
<td>Gave individual help</td>
<td></td>
</tr>
<tr>
<td>Gave individual help</td>
<td>Reviewed prior lessons</td>
<td></td>
</tr>
<tr>
<td>Reviewed prior lessons</td>
<td>Talking linked concepts</td>
<td></td>
</tr>
<tr>
<td>Talking linked concepts</td>
<td>Extended discussion with guessing game</td>
<td></td>
</tr>
</tbody>
</table>
| Discussion poorly structured, class uninvolved | Ellen withdrew from the course and from the program after Lesson 7. | (E, L) Dichotomy of styles: (E) structured, (L) child-centered. Planning consistently hard, team teaching well-done but stressful. Applied DAP in different ways; tried to meet objectives but struggled with their "opposing views."

| (D, J) Cooperative work | (S, H) Cooperative work | (S, H) Both creative planners; both child-centered. (S) "natural" teacher, spontaneous, tried to include (H); (H) shy, focused on own role but good instincts. Both applied DAP consistently, gave attention to meeting objectives. |
| Used concrete materials | Random grouping | |
| Hands-on simulation | Used concrete materials | |
| Real-world connections | Active involvement | |
| Encouraged conversation | Encouraged conversation | |
| Gave individual help | Physical movement | |
| Reviewed prior lessons | Real-world connections | |
| Talking linked concepts | Reviewed prior lessons | |
| Use of all five senses | Talking linked concepts | |
| Used many good examples | |
| Underlined portions = "less appropriate" practices. | |

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A number of patterns may be discerned from the data in Table 5.1. First of all, not many “less appropriate” pedagogical practices were noted in the table. Yet for every pair, there was at least one less-appropriate example noted. Except for Ellen (with Linda or alone), these were isolated cases. Even Ellen’s lessons, which were marked repeatedly by less appropriate teaching, also embodied many other appropriate practices (e.g. curriculum integration, excellent modeling of the activities, and strong contextual support through film and literature).

The table makes it evident that students were applying DAP principles from the very beginning of the course. Though the first implementations occurred after only four periods of in-class instruction, students were already employing practices that were in line with DAP. Certain of these methods had been emphasized in class: the modeling of activities, the necessity for social interaction and physical activity to increase learning, and the need for proceeding from familiar concepts (e.g. family members’ jobs) to less familiar ones. Yet other practices they used (such as respecting children’s work by announcing a time limit) were not mentioned in our early classes. Apart from the effects of the class or the pretest, it seems logical that at least some of these routines may have resulted from previous experiences, or from common sense or good “instincts” on the part of the students.

It is also apparent that DAP principles cover a wide range of behaviors. Amy and Megan provided context by reading a book aloud in Lesson Four;
Susan and Holly took children outside for some welcome physical exercise during Lesson Five; Diane and Jeff planned and implemented a simulation for Lesson Seven. All of these are applications of DAP principles. In contrast, Ellen's Lesson Seven implementation was marked by episodes of unusually inappropriate teaching (no cooperative activity or review, the limiting of children's conversation, force-fitting unconnected lesson elements in the discussion, and assigning children a mostly passive role). Yet in that same lesson, Ellen used concrete materials, provided context through literature and a film clip, and gave individual help - all applications of DAP principles.

According to Smith (1997), "personal and implicit theories about children and instruction form the fundamental context for teacher decision making" (p. 221), but for novice teachers, "beliefs may be in a state of flux" (p. 223). Thus, participants who were still working out their beliefs about classroom noise levels, for example, might be quite willing to utilize flexible grouping in their lessons.

Table 5.1 made apparent to me a very interesting fact - that I had unintentionally paired students in the order of their DAP pretest scores. Pairs were formed according to the participants' requests for specific grade-level assignments, and this was done before the pretest. However, although Amy and Megan consistently implemented excellent lessons that were quite developmentally appropriate, in practice they were not necessarily more child-centered than the others. As a matter of fact, Linda, Jeff, and Susan all
seemed especially attuned to seeing the child’s perspective, perhaps even more so than Amy and Megan. Nevertheless, on the first day of class, Amy and Megan appeared to possess more theoretical knowledge of DAP principles than the others did. Theoretically speaking, then, some pairs had a knowledge advantage over others, but from a practical standpoint, there was no apparent difference.

It is also interesting to note the use of Cooperative Learning activities. Although I had included several such activities as part of the preparation for Lesson One because it is an especially appropriate venue for careers-related lessons, only those pairs visiting the intermediate classrooms made use of cooperative activities in their initial visit to the elementary school. Those in the primary-grade classrooms combined whole-group and individual work in their first lessons. Three months later, cooperative work was included in the Lesson Three plans for all four classrooms, and most of the remaining lessons featured some cooperative work. Susan later told me that she just “wasn’t ready yet” to try cooperative learning as part of that first lesson.

The table also shows that after one pair had “pioneered” an activity, the others were more likely to attempt it as well. The following are a few examples:

1) Susan and Holly were the first to try an original art project (other than drawing pictures) as part of Lesson Three. Jeff and Diane did something similar as a primary activity for Lesson Four.
2) Amy and Megan offered children vicarious experience in Lesson Five by using a film clip. Ellen did the same in Lesson Six, while Diane and Jeff began Lesson Seven with a movie excerpt.

3) Holly read aloud during Lesson Three. Both Megan and Ellen read aloud to their respective classes in Lesson Four. For Lesson Six, all four classrooms heard a story, but each was different, reflecting participants' unique approaches.

It was natural for students to model their lessons after those which had already been tried successfully. As new teachers, they were still learning about "what works" in the classroom and were reluctant to take risks.

Conversely, students did not emulate activities that seemed problematic. A good example was the "Telephone Game" that Jeff and Diane used in Lesson Three. It required children to stand in a long line, waiting to hear the message whispered from end to end, and there was ample opportunity for a classroom disturbance. Though participants kept fairly good order, there was some loss of control. This bothered Diane, and her comments may have discouraged others from trying anything similar.

Likewise, Megan and Amy had a difficult time with Lesson Three. This was partially because they opened with their primary activity to get children's attention but then had nothing to motivate participation in their discussion. The children simply lost interest. After hearing about Megan and Amy's problems, no other group tried that same strategy.
We discussed many facets of DAP, but some practices were stressed in class and became consistent features of students' lessons. Nearly every lesson involved: (1) experiential activities, some more active than others; (2) many opportunities for children to converse; and (3) whole-group discussions to help children make connections. However, as regards these same three features: (1) Ellen and Amy expressed concerns about the “mess” involved in the assembly line, the most active of all their classroom-based lessons; (2) Diane and Ellen often worried about “noise” irrespective of its impact on learning (but less so as the year ended); and (3) discussions varied from cursory to thought-provoking. The inclusion of DAP components did not ensure that child-centered attitudes were in place during a specific lesson.

In general, students regularly applied DAP principles - but there seemed to be concern about the risk involved. Children’s needs had to be balanced against the demand for classroom control. This is consistent with Osborne’s (1997) view that “in choosing to teach in ways that engage the children imaginatively ..., one invites behavioural (sic) ‘problems’ ”(p. 184). For some participants, successful classroom control seemed at times to take precedence over learning. As one example, Diane was very concerned about the assembly line activity for Lesson Five. Afterwards, she wrote, “If we could have chosen to do a different lesson, I would have chosen that - either a less messy assembly line or something else.” In such cases, peer support was invaluable. Linda’s child-centered approach balanced her partner’s more rigid pedagogy.
It should not be surprising that after Linda's departure, Ellen's lessons became increasingly less appropriate.

One DAP principle that I emphasized strongly was the need for experiential learning. Tables 5.2 - 5.5 analyze the experiences presented in the students' lessons. The Learning Experiences Ladder (Roberts et al., 1996) served to assign lessons to one of five increasingly abstract categories: direct, simulated, vicarious, visual, or verbal (See Appendix B). Primary activities (major components) for each lesson were listed under the categories they most closely matched. Discussion was included as an important regular feature of the lessons. Elements such as viewing charts pictures were listed if they offered necessary support to the lesson. Modeling of an activity was listed only if it was lengthy and became a vicarious activity in itself. While all five of the categories support DAP principles, "direct, simulated, and vicarious experiences are more like real life" (Roberts et al., 1996, p. 167). The most effective activities, especially as regards careers education, fall into these three categories. The tables show that all lessons featured such "real-life" connections.

Lesson Two was omitted from all tables except for Amy and Megan's because they were the only pair to plan and implement an activity as part of the site visit. This "direct experience" with work helped provide the context for the remaining six lessons, and all participants referred to the site visit to help children make connections.
<table>
<thead>
<tr>
<th><strong>EXPER TYPE</strong></th>
<th><strong>Direct</strong></th>
<th><strong>Simulated</strong></th>
<th><strong>Vicarious</strong></th>
<th><strong>Visual</strong></th>
<th><strong>Verbal</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson One</td>
<td></td>
<td></td>
<td><strong>Guessing Game - Mystery Bag</strong></td>
<td>View Pictures of Workers</td>
<td>Discussion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Modeling of Game</strong></td>
<td>View Chart</td>
<td>Read Lists</td>
</tr>
<tr>
<td>Lesson Two</td>
<td>*Real-World Work at the Site Visit</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Lesson Three</td>
<td>*&quot;Build What I Say&quot;</td>
<td><strong>Modeling of Game</strong></td>
<td></td>
<td>Discussion</td>
<td>Read Lists</td>
</tr>
<tr>
<td>Lesson Four</td>
<td>*Three-Step Interview</td>
<td><strong>Modeling of Game</strong></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>*Jobs Word Web</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson Five</td>
<td>*Assembly Line</td>
<td><strong>Video Clip</strong></td>
<td>View Lists</td>
<td>Discussion</td>
<td></td>
</tr>
<tr>
<td>Lesson Six</td>
<td>*Creating a Cloak</td>
<td><strong>Hear Story</strong></td>
<td></td>
<td>*Write Letters and Share Them</td>
<td>Discussion</td>
</tr>
<tr>
<td>Lesson Seven</td>
<td>*Examine/ Taste Apples Fix Snacks</td>
<td><strong>Culture Collage</strong></td>
<td></td>
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<td>Discussion</td>
</tr>
<tr>
<td>Lesson Eight</td>
<td></td>
<td><strong>Rotating Review</strong></td>
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<td>Discussion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Categories Game</td>
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</tr>
</tbody>
</table>

Underlined = Activity I Had Presented in Class; * = Major Activity
Management/Instructional Techniques (teacher activity) in Italic

Table 5.2: Amy and Megan's use of experiential learning methods, based on the Learning Experiences Ladder (Roberts et al., 1996).

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<table>
<thead>
<tr>
<th>LESSON</th>
<th>DIRECT</th>
<th>SIMULATED</th>
<th>VICARIOUS</th>
<th>VISUAL</th>
<th>VERBAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONE</td>
<td></td>
<td></td>
<td>*Roundtable</td>
<td>Read Chart</td>
<td>Discussion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Modeling of Game</td>
<td></td>
<td></td>
<td>Read Lists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Guessing - Clues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>THREE</td>
<td>*Children Develop Grade Cards</td>
<td>*Telephone Game</td>
<td>*Skit</td>
<td>Read/Share Lists</td>
<td>Discussion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Modeling of Grade Cards</td>
</tr>
<tr>
<td>FOUR</td>
<td>*Art - Make &amp; Dress Snow People</td>
<td>*Chart from Worksheet</td>
<td></td>
<td>View Chart</td>
<td>Worksheet</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIVE</td>
<td>*Assembly Line</td>
<td>Modeling of Activity</td>
<td>*Roundtable</td>
<td>Read/Share Group Work</td>
<td>Discussion</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIX</td>
<td>*Make Small Houses</td>
<td></td>
<td></td>
<td></td>
<td>Discussion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEVEN</td>
<td>*Simulated Vision-Impairment</td>
<td>Video Clip</td>
<td></td>
<td></td>
<td>Discussion</td>
</tr>
<tr>
<td></td>
<td>*Simulated Blind Walk</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIGHT</td>
<td></td>
<td></td>
<td>*Rotating Review</td>
<td></td>
<td>Discussion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*Guessing Letters Game</td>
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<td></td>
</tr>
</tbody>
</table>

Underlined = Activity I Had Presented in Class; * = Major Activity Management/Instructional Techniques (teacher activity) in Italics

Table 5.3: Diane and Jeff's use of experiential learning methods, based on the Learning Experiences Ladder (Roberts et al., 1996).
<table>
<thead>
<tr>
<th>Lesson Type</th>
<th>Direct</th>
<th>Simulated</th>
<th>Vicarious</th>
<th>Visual</th>
<th>Verbal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson One</td>
<td></td>
<td>*Guessing Game - Mystery Bag</td>
<td>View Chart and Pictures of Workers</td>
<td>Discussion</td>
<td>Read Lists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hear Story</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Drawing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson Three</td>
<td>*&quot;Build What I Say&quot;</td>
<td>*Drawing</td>
<td>*Discussion</td>
<td>Read Chart</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Banana Skit</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Modeling of Game</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson Four</td>
<td>*Examine/ Taste Apples</td>
<td>*Drawing</td>
<td>*Discussion</td>
<td>Read Chart</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Interviews</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hear Story</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>*Chart from Worksheet</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Apple Designs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson Five</td>
<td>*Assembly Line</td>
<td>*Drawing</td>
<td>*Discussion</td>
<td>Read Chart</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Modeling of Activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson Six</td>
<td>*Make Small Houses &amp; Community</td>
<td>*Drawing</td>
<td>*Discussion</td>
<td>Read Chart</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hear Story/ See Video</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson Seven</td>
<td>*Explore Color-Mixing Materials</td>
<td>*Drawing</td>
<td>*Discussion</td>
<td>Read Chart</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Video Clip</td>
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<tr>
<td></td>
<td>Hear Stories</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Lesson Eight</td>
<td>---</td>
<td>---</td>
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<td>---</td>
</tr>
</tbody>
</table>

Underlined = Activity I Had Presented in Class; * = Major Activity
Management/Instructional Techniques (teacher activity) in *Italicics*

**NOTE:** Ellen worked alone for Lessons Six and Seven. Linda did Lesson Eight, but no data was collected because she was no longer a participant.

Table 5.4: Ellen and Linda's use of experiential learning methods, based on the Learning Experiences Ladder (Roberts et al., 1996).
<table>
<thead>
<tr>
<th>Lesson One</th>
<th>*Extended Mystery Bag with Concrete Objects</th>
<th>Guessing Game - Mystery Bag</th>
<th>View Pictures of Workers &amp; Their Tools</th>
<th>Discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson Three</td>
<td>*Group Role Plays</td>
<td>*Drawing</td>
<td>Hear Story</td>
<td>Discussion</td>
</tr>
<tr>
<td>Lesson Four</td>
<td>*Chart from Worksheet</td>
<td>View Chart</td>
<td>Work</td>
<td>Worksheet</td>
</tr>
<tr>
<td>Lesson Five</td>
<td>*Assembly Line</td>
<td>*Art - Clocks</td>
<td>Modeling of Activity</td>
<td>Discussion</td>
</tr>
<tr>
<td>Lesson Six</td>
<td>*Make Small Houses &amp; Community</td>
<td>Hear Story</td>
<td>*Drawings</td>
<td>Discussion</td>
</tr>
<tr>
<td>Lesson Seven</td>
<td>*Simulated Hearing Impairment &amp; Disability</td>
<td>*Discussion Web</td>
<td>*Goods/Svcs Categorizing</td>
<td>Discussion</td>
</tr>
<tr>
<td>Lesson Eight</td>
<td>*Categorize School Jobs</td>
<td>*True/false Game</td>
<td>&quot;Signing&quot;</td>
<td>Discussion</td>
</tr>
</tbody>
</table>

**Table 5.5: Susan and Holly's use of experiential learning methods, based on the Learning Experiences Ladder (Roberts et al., 1996).**
The information presented in Tables 5.2 - 5.5 shows that:

(1) only the site visit provided children with the direct experience of actual work.

(2) all pairs planned lessons built around meaningful concrete experiences.

(3) some lessons were more experiential than others.

(4) the students included a great many simulated and vicarious activities, but every lesson involved visual and/or verbal experiences as well.

(5) over 60% of the lesson implementations were built around primary activities that I had introduced in class.

(6) lessons did not become increasingly experiential as time went on.

(Students’ pre- and post-lesson reflections showed that the level of experience offered in a lesson was related to the ideas presented in class and what the theme would support. Some lesson topics were just more abstract than others.)

(7) DAP pretest scores did not predict the experiential level of lessons planned by students. It should be noted that Susan and Holly implemented more simulated experiences than any of the other pairs. Their pretest scores indicated that they possessed less theoretical knowledge than the others, but on a practical level, they excelled.
Together with the extended information from Table 5.1, Tables 5.2 - 5.5 show that students applied their knowledge of developmental theory in many ways. As noted previously, some of this knowledge may have been instinctive or learned outside of EDU T&L 694.10. To have a reference point as to what participants actually learned (and then applied) as a result of the “KAPOW course,” I considered the DAP pretest once again. Of the 24 statements, four were missed most frequently: number 5 (facilitating small-group work or individual activity of children); number 9 (teaching social skills); number 11 (giving children time to converse during school), and number 23 (using flexible grouping for instruction). Appendix A lists the statements in the DAP pretest.

Tables 5.6 - 5.9 on the following pages list the students who sorted each of these four statements incorrectly on the pretest. I searched the data for evidence that students had learned something about the principles in question. The tables present representative examples of applications (taken from lesson observation transcripts), reflections (taken from journal entries or the debriefing transcripts), and other indications (taken from midterm exams or other student assignments). Use of quotation marks indicates that the words are a direct quotation. In a few cases, space constraints forced me to paraphrase a lengthy answer from students’ written work. However, the meaning was retained.
<table>
<thead>
<tr>
<th>Missed By</th>
<th>Applied in Lesson</th>
<th>Reflection</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Megan</strong></td>
<td>“Megan and Amy both circulated the room to give assistance.” (Observ. 8, 5/29/98).</td>
<td>“There was one group I had to work with a little bit ... {to help decide} who was going to do the actual writing.” (Debrief 6, 4/24/98).</td>
<td>Children are in a learning situation; the teacher should observe &amp; assess their learning. Midterm (10/31/97).</td>
</tr>
<tr>
<td><strong>Jeff</strong></td>
<td>“Jeff monitored the room and helped individual students ... while Diane [did] the chart.” (Observ. 4, 2/13/98).</td>
<td>“We then proceeded to help the kids write positive work habits about their particular job.” (Journal 3, 1/30/98).</td>
<td>“Help children individually as much as possible [but do not] let the rest of the class suffer because of your one-on-one instruction” Written assign. (5/22/98).</td>
</tr>
<tr>
<td><strong>Linda</strong></td>
<td>“While children talked together. Ellen [passed out] paper. Meanwhile. Linda was passing out apple wedges.” (Observ. 4, 2/13/98).</td>
<td>“It seemed as if most of the children needed one-on-two attention to begin.” (Journal 3, 1/30/98).</td>
<td>Teacher should be judging children’s progress or having conferences with children - Midterm (10/31/97).</td>
</tr>
<tr>
<td><strong>Susan</strong></td>
<td>“Susan and her moose puppet circulated the room, giving help in a funny voice.” (Observ. 6, 4/17/98).</td>
<td>“We will have an adult at each group to explain ... and tell the children how to do the skit.” (Journal 3, 1/30/98).</td>
<td>“Many kids need the individual help with the skills.” Midterm (5/1/98).</td>
</tr>
<tr>
<td><strong>Holly</strong></td>
<td>“During the ... art project. Susan and Holly did a good job monitoring their progress.” (Observ. 3, 1/23/98).</td>
<td>“I had to cut out crosses for about four or five kids, but it didn’t cause a big problem.” (Journal 6, 4/24/98).</td>
<td>Teachers should circulate to “control” the class so children don’t “start running around the room and yelling.” Midterm (10/31/97).</td>
</tr>
</tbody>
</table>

Table 5.6: Examples showing student learning of DAP (Statement 5 - Facilitating small-group/individual activity).
<table>
<thead>
<tr>
<th>Missed By</th>
<th>Applied in Lesson</th>
<th>Reflection</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeff</td>
<td>&quot;[Jeff and Diane] talked about some of the consequences of not listening.&quot; (Observ. 3, 1/23/98).</td>
<td>&quot;We explained that ... if you see someone who is in need, you should help them.&quot; (Debrief 7, 5/15/98).</td>
<td>&quot;Being quiet when it is time ... is the largest social skill that we have had to emphasize.&quot; Midterm (5/1/98).</td>
</tr>
<tr>
<td>Diane</td>
<td>&quot;[Diane] went over and asked the group to let everyone help with the work.&quot; (Observ. 6, 4/17/98).</td>
<td>&quot;There are a few kids that do have special needs, but I think they could help each other.&quot; (Debrief 3, 1/30/98).</td>
<td>&quot;Teachers must remember to tell [children] why we don't 'cut in line' or 'yell at some-one.'&quot; Midterm (5/1/98).</td>
</tr>
<tr>
<td>Linda</td>
<td>&quot;Linda patiently helped children, teaching good manners by example.&quot; (Observ. 3, 1/23/98).</td>
<td>&quot;[We] focused a lot on the fact that they had to work together whether they liked their job or not.&quot; (Debrief 5, 3/13/98).</td>
<td>&quot;Addressing [these matters] as they come up is very appropriate.&quot; Final Questionnaire (6/2/98).</td>
</tr>
<tr>
<td>Holly</td>
<td>&quot;Holly said, smiling. 'They're sharing paper [with one another].'&quot; (Observ. 6, 4/17/98).</td>
<td>&quot;To be clean, that was one thing [the class] remembered from last time.&quot; (Debrief 4, 2/20/98).</td>
<td>&quot;We have to teach them to raise their hands before they speak.&quot; Midterm (5/1/98).</td>
</tr>
</tbody>
</table>

Table 5.7: Examples showing student learning of DAP (Statement 9 - Teaching social skills).
<table>
<thead>
<tr>
<th>Missed By</th>
<th>Applied in Lesson</th>
<th>Reflection</th>
<th>Other</th>
</tr>
</thead>
</table>
| Amy      | “Amy flicked the lights to signal the end of the activity [because children were conversing].”  
(Observer 4, 2/13/98). | “Of course they talked and I didn’t really mind. But I feel like we have very little control.”  
(Journal 3, 1/30/98). | “Social interaction is age/individually appropriate because [children] contribute on their own levels.”  
Midterm (5/1/98). |
| Megan    | “Megan told them ... she would flash the lights to let them know time was up.”  
(Observable 8, 5/29/98). | “The only problem was in the transition ... but flicking the lights ... works.”  
(Debrief 6, 4/24/98). | “I see social interaction in whole class and small-group learning.”  
Midterm (5/1/98). |
| Diane    | “[Diane] seemed unconcerned about the noise level.”  
(Observable 7, 5/8/98). | “The kids were very loud which caused the game to go very slowly.”  
(Journal 3, 1/30/98). | “Keep kids focused. They can be loud. I’ve learned and still learn.”  
Assignment (5/22/98). |
| Jeff     | “Kids really seemed engaged in {activity} - lots of conversation and interaction.”  
(Observable 1, 10/24/97) | “I didn’t think they were all that loud ... cause they had to talk [to do the activity].”  
(Debrief 3, 1/23/98). | “Children learn through social interaction all of the time.”  
Midterm (5/1/98). |
| Ellen    | “[Ellen] did not seem too bothered by the noise.”  
(Observable 7, 5/18/98). | “Lordy, lordy were they ever louder [than last time].”  
(Journal 4, 2/20/98). | “Resorting to quiet time should have happened.”  
Midterm (5/1/98). |
| Linda    | “Linda seemed upset... - didn’t know why Ellen wouldn’t let them talk.”  
(Observable 5, 3/6/98). | “I don’t mind if they talk. Like when they’re doing things.”  
(Debrief 3, 1/30/98). | Talking lets children “sharpen their communication skills.”  
Final Questionnaire (6/2/98). |
| Susan    | “Children talked together about their work. Sharing ideas.”  
(Observable 6, 4/17/98). | “[The children] asked each other for help.”  
(Journal 7, 5/8/98). | “A child may be able to explain it better to [another] child.”  
Midterm (5/1/98). |
| Holly    | “Holly seemed comfortable with the noise level.”  
(Observable 6, 4/17/98). | “[Children] who are doing better can help the ones that are not doing as well.”  
(Final conference, 6/2/98). | “There were many activities that allowed [children] to interact.”  
Midterm (5/1/98). |

Table 5.8: Examples showing student learning of DAP  
(Statement 11 - Giving children time to converse during school).
<table>
<thead>
<tr>
<th>Missed By</th>
<th>Applied in Lesson</th>
<th>Reflection</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amy</td>
<td>&quot;Amy divided the class into 2 groups at random and asked the children to sit on the floor.&quot; (Observ. 8, 5/29/98).</td>
<td>&quot;We used playing cards [for random grouping of the children].&quot; (Debrief 3, 1/30/98).</td>
<td>&quot;If we taught our lessons in a whole group, there would not be as many chances for every child to be active.&quot; Midterm (5/1/98).</td>
</tr>
<tr>
<td>Diane</td>
<td>&quot;Diane and Mrs. C put the children into groups according to where they were seated.&quot; (Observ. 6, 4/17/98).</td>
<td>&quot;We always just go with whoever is the closest by seating.&quot; (Debrief 6, 4/23/98).</td>
<td>&quot;[KAPOW] should be fun for all the kids and they should all be mixed.&quot; Assignment (5/1/98).</td>
</tr>
<tr>
<td>Ellen</td>
<td>&quot;Ellen told children to find [someone] with the opposite color star to be their partner.&quot; (Observ. 4, 2/13/98).</td>
<td>&quot;The apple name tags ... really helped with breaking down into groups.&quot; (Journal 4, 2/30/98).</td>
<td>&quot;[Children choose] with whom they will do ... their complete assignments.&quot; Article Review (4/24/98).</td>
</tr>
<tr>
<td>Linda</td>
<td>&quot;Linda said ... they were to find the person with the exact same sticker [to be their partner].&quot; (Observ. 3, 1/23/98).</td>
<td>&quot;For the last activity we broke the kids up into four groups by counting off.&quot; (Journal 3, 1/30/98).</td>
<td>&quot;Putting students with different abilities together can be very beneficial to the students.&quot; Final Questionnaire (6/2/98).</td>
</tr>
<tr>
<td>Susan</td>
<td>&quot;Susan assembled the children into groups of five by counting them off.&quot; (Observ. 6, 4/17/98).</td>
<td>&quot;We are going to divide the class in half in no particular order.&quot; (Journal 8, 5/29/98).</td>
<td>&quot;I feel if you have the groups split, you should have some kids mixed.&quot; Assignment (5/22/98).</td>
</tr>
<tr>
<td>Holly</td>
<td>&quot;Holly and Susan divided children into two large groups according to where they were sitting.&quot; (Observ. 7, 5/8/98).</td>
<td>&quot;[We grouped the children], calling them up by colors.&quot; (Debrief 4, 2/13/98).</td>
<td>&quot;Children often learn through social interaction during group activities.&quot; Midterm (5/1/98).</td>
</tr>
</tbody>
</table>

Table 5.9: Examples showing student learning of DAP (Statement 23 - Using flexible grouping).
Tables 5.6 - 5.9 show that students both thought about and applied these important DAP principles. References to each area by observers offered documentation of the participants’ *practical* knowledge applications. Students also reflected on these principles in their journals and in the debriefing sessions, though often on a *practical* level only. In their other written work, students expressed both *theoretical* understanding and *practical* applications.

Data samples displayed in Tables 5.6 - 5.9 represent the typical range of each student’s behavior, whether supportive or non-supportive of DAP principles. Samples show that, in some cases, knowledge was acquired and applied sporadically, sometimes in line with DAP, sometimes reflecting older ingrained attitudes. Thus, Table 5.6 shows that Megan, Jeff, and Susan understood the need to facilitate children’s work, and they often applied that knowledge. In Linda’s case, the theoretical knowledge was in place, but in practice, she devoted much of her “spare” time to teacher tasks (e.g. passing out apples before facilitating discussion). Though Holly consistently aided children, her understanding of the principle seemed lacking.

The tables show mostly positive references for both *Statements 5* and *23*. In general, participants were very receptive to various kinds of flexible grouping (statement number 23), and in practice, they used many creative methods to group the children for their lessons. In addition, most of the students were quick to give children individual help and attention as they worked within their groups (statement five).
Students thought about and applied the DAP principle expressed in **Statement 9** (the need for teaching social skills) quite often. They were encouraged to include social skills in their lessons if possible. Students had little time to teach social skills directly, and when I asked about it, they rarely said that they had done so. Yet observation transcripts and journal entries were filled with examples of teaching social skills, either by example or as part of classroom management. Some lessons (e.g. *Interdependence*, Lesson Five) were ideally suited to social interactions. However, there were *practical* references to teaching social skills associated with nearly every lesson.

Interestingly, on the Spring quarter midterm (which included a question on teaching social skills), students expressed ways in which they had applied this DAP principle. Helping children take turns, for example, or asking them to raise their hands before speaking, were things that students had often done as part of their lessons. Richardson (1994) calls writing "a way of ‘knowing’ - a method of discovery and analysis" (p. 516). Writing their midterm responses had helped students to focus on their learning and how they had applied it.

Of the four targeted statements, it was **Statement 11** (giving children opportunities to converse during class time) which seemed the most difficult for students to understand and consistently apply in the classroom. This was the only statement missed by all eight participants. In some cases, however, students became more comfortable with this principle as the year advanced and their classroom management skills improved.
Tables 5.6 - 5.9 list only the students who actually missed each targeted statement on the pretest (those who lacked theoretical knowledge). However, theory is not always reflected in practice, so some students who incorrectly sorted a given statement on the pretest consistently applied DAP principles in the classroom. For example, Linda missed all four target statements, but she showed only occasional lapses in the successful application of DAP principles. Conversely, those who sorted the targeted statements correctly did not always apply these principles when teaching. Though Ellen did **not** miss number five, she regularly attended to organization before interacting with small groups.

Tables 5.6 - 5.9 provide some insight on participants' learning of developmental theory and the application that may or may not have resulted. However, students' learning - the sum of their knowledge and beliefs about developmental teaching methods - was further revealed in their reflections. I have summarized what I considered to be the most important aspects of their written reflections (journal entries) in Table 5.10, allowing for comparison across students or of a single individual's reflections across the lessons.

Each summary shows **before**-lesson and **after**-lesson reflections. In the first column, I briefly describe participants and list their pretest scores. Students' **theoretical references** to applying DAP (which includes meeting objectives) are underlined. Though many references to applying DAP and/or fulfilling objectives were on a **practical** level, it seems reasonable that students would comment explicitly on those areas of greatest concern to them.
<table>
<thead>
<tr>
<th>STUDENT</th>
<th>LESSON 1</th>
<th>LESSON 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amy (A) - 22</td>
<td>(A) Before - not confident; wanted to do good lesson; partnering issues - who will talk, pacing, etc. After - liked pupils' responses &amp; creativity; worried about not knowing their names; team teaching okay; no mention of DAP, meeting objectives.</td>
<td>(A) Before - excited, expecting to be short on time; thought most important thing - pupils learn about work. After - day went well; thought debriefing after each work-station helpful; day was a success; no mention of DAP/objectives.</td>
</tr>
<tr>
<td>Megan (M) - 21</td>
<td>(M) Before - nervous &amp; eager to teach; confident of preparation: believed all 3 DAP principles covered. After - thought children were attentive, active participants: said lesson was age/individually/culturally appropriate &amp; met objectives.</td>
<td>(M) Before - nervous; worried that materials did not arrive early; foresaw no problems with children. After - thought day went very smoothly &amp; children had fun; surprised by their comments; no mention of DAP or meeting objectives.</td>
</tr>
<tr>
<td>Diane (D) - 19</td>
<td>(D) Before - felt confident; thought their lesson plan was developmentally appropriate. After - liked results: felt Jeff dominated, that she needed to &quot;jump in&quot; more; hoped to learn from it: thought lesson developmentally appropriate.</td>
<td>(D) Before - nervous; concerned over children's behavior and impressions of the campus; hoped they would learn something. After - said the day was full of fun and learning; no mention of applying DAP or meeting objectives.</td>
</tr>
<tr>
<td>Jeff (J) - 18</td>
<td>(J) Before - confident; hoped lesson would go well: concerned about age appropriateness of their plan. After - said was right on children's level; analyzed problem with the activity; concerned about use of time; liked the children's responses.</td>
<td>(J) Before - hoped children would learn about work: concerned about his own role; feeling unprepared. After - thought day went well; children learned about psychologist's job: surprised at their abilities; no mention of DAP/obj.</td>
</tr>
</tbody>
</table>

Underlined Portions = Theoretical References to DAP and/or Objectives  
Number after student name (first column) = DAP pretest score

(Continued next page)

Table 5.10: Summary of student reflections.
Table 5.10 (continued)

<table>
<thead>
<tr>
<th>STUDENT</th>
<th>LESSON 1</th>
<th>LESSON 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ellen (E) - Pretest 18</td>
<td>(E) Before - very concerned about partner planning and teaching of their lesson. After - Enjoyed the lesson. went well: disturbed that the children connected KAPOW lessons with treats; disliked observation by research assistant; felt they met the objectives well.</td>
<td>(E) Before - excited; liked her assignment (lunch debriefing); looked forward to trying out class management methods at lunch. After - concerned about noise level; shocked some children &quot;stole&quot; the others' candy; no mention of DAP and/or objectives.</td>
</tr>
<tr>
<td>Linda (L) - Pretest 17</td>
<td>(L) Before - nervous; concerned about class mgmt &amp; keeping children's interest; wondered how many had parents unemployed; concerned for children's comfort. After - analyzed problems so might learn; concerned over classroom mgmt. No DAP/objectives.</td>
<td>(L) Before - felt unprepared; unsure of her role; thought would do more for this lesson. After - went well, very smoothly; children behaved well and enjoyed activities; felt the day was a success; no mention of DAP or meeting objectives.</td>
</tr>
<tr>
<td>Susan (S) - Pretest 17</td>
<td>(S) Before - excited; hoped for success but unsure of the children; said plans were developmentally appropriate. After - had fun; thought the lesson went well and that the children enjoyed it; believed their art activity allowed for individual accountability.</td>
<td>(S) Before - felt prepared; thought all they had planned was DAP; not sure she contributed enough, but felt all would go well. After - a great day; children were excited by it; thought everything the children did during the day was DAP.</td>
</tr>
<tr>
<td>Holly (H) - Pretest 16</td>
<td>(H) Before - worried; concerned about use of time; thinking about answering children's personal questions if necessary. After - had fun, but felt scared; thought children very well-behaved; was concerned over own role; no mention of DAP and/or objectives.</td>
<td>(H) Before - nervous; feeling unprepared; felt concerned over speaking before the group. After - lesson went well; children behaved well; was pleased that she relaxed as day went on; thought pupils enjoyed it. No mention of DAP and/or objectives.</td>
</tr>
</tbody>
</table>

Underlined Portions = Theoretical References to DAP and/or Objectives

Number after student name (first column) = DAP pretest score

(Continued next page)
Table 5.10 (continued)

<table>
<thead>
<tr>
<th>LESSON 3</th>
<th>LESSON 4</th>
<th>LESSON 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(A) Before</strong> - unhappy with subject: objectives hard to meet: concern over lecture format. After - lesson did not go well; pupils seemed unresponsive; had tried many ways to teach the concepts: was bothered that didn't know many of the children's names yet.</td>
<td><strong>(A) Before</strong> - looking forward; felt positive; was concerned about partner planning. After - lesson went well; felt bad that teacher scolded class; did not fill the hour; reminded self to plan more for early finishers: no mention of DAP and/or objectives.</td>
<td><strong>Before</strong> - feeling tired; concerned over mechanics of the lesson: thought she needed to be more flexible. After - felt the day went well; thought children had learned; had to adapt parts of lesson, but worked all right; no mention of DAP or objectives.</td>
</tr>
<tr>
<td><strong>(M) Before</strong> - not confident: thought lesson was &quot;sound.&quot; plan was DAP. After - disappointed in lesson results: thought having a partner was helpful: thought the activities were DAP but not sure if they had met all their objectives.</td>
<td><strong>(M) Before</strong> - felt good about plans; felt prepared; thought they would meet objectives: was analyzing cooperative learning. After - felt should have planned more; lesson went well: pleased with their product; thought had met objectives.</td>
<td><strong>(M) Before</strong> - Analyzed all parts of the lesson planned as to how their objectives would be met. After - described their lesson: thought the class had fun, were orderly, worked well together; understood the concepts: pleased with outcomes.</td>
</tr>
<tr>
<td><strong>(D) Before</strong> - confident; planning was difficult; time was too short. After - their lesson went well; concerned over classroom noise; but liked how the principal dealt with it; no mention of applying DAP or meeting the lesson objectives.</td>
<td><strong>(D) Before</strong> - planning less-academic lesson than usual: hoped would be fun for class. for her and Jeff. After - felt went well; analyzed minor difficulties in class management: was pleased with product; no mention of applying DAP or meeting objectives.</td>
<td><strong>(D) Before</strong> - Analyzed the lesson in terms of the difficulties she expected: disorganization in the classroom &amp; unruly class. After - chaotic; had no preparation time; class was noisy, but learned: no mention of applying DAP or meeting objectives.</td>
</tr>
<tr>
<td><strong>(J) Before</strong> - planning was hard: felt concerned over whether children would understand concepts: nervous but confident and looking forward to teaching. After - doing the lesson was fun; thought the children had learned the concepts.</td>
<td><strong>(J) Before</strong> - planning was hard without (D); wanted to do a less-academic lesson: felt would go well. draw on pupils' creativity: After - went well; not sure it was their best: was concerned about noise level: felt they had met all of their objectives.</td>
<td><strong>(J) Before</strong> - looking forward: concerned whether class would be serious: hoped class would get the concept; organizational concerns. After - felt disorganized; not enough preparation: class had fun, learned; no mention of DAP and/or objectives.</td>
</tr>
</tbody>
</table>

Underlined Portions = Theoretical References to DAP and/or Objectives

(Continued next page)
Table 5.10 (continued)

<table>
<thead>
<tr>
<th>LESSON 3</th>
<th>LESSON 4</th>
<th>LESSON 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(E) Before</strong> - anxious. frustrated about partner planning; stressed over the planning and teaching the lesson. <strong>After</strong> - happy the lesson went well; annoyed that the children expected to get treats; thought their lesson would meet the KAPOW objectives.</td>
<td><strong>(E) Before</strong> - Liked apple theme they had planned; thought Job Preferences worksheet was central to lesson; excited. <strong>After</strong> - Relieved: thought children were noisy and greedy; noted need to be flexible; no mention of DAP or meeting objectives.</td>
<td><strong>(E) Before</strong> - this lesson was easiest to plan; liked assembly line idea and product planned. <strong>After</strong> - pleased with the lesson. children: liked results: analyzed lesson for organizational issues: no mention of DAP and/or objectives.</td>
</tr>
<tr>
<td><strong>(L) Before</strong> - feeling nervous; thought the main concern was to fulfill the objectives; was hard to plan but thought lesson was strong. <strong>After</strong> - felt unhappy, that she had lost control of the classroom: thought lesson was good overall, however.</td>
<td><strong>(L) Before</strong> - prepared: felt activity would be exciting; planned quickly because of E's illness but thought all would go well. <strong>After</strong> - had fun: lesson went great; felt her M.Ed. work increased her confidence: learned from this lesson: no mention of DAP/objectsives.</td>
<td><strong>(L) Before</strong> - glad Ellen was well enough to teach: concerned over organizational aspects of lesson. <strong>After</strong> - had fun: minor management problems; said her teaching style didn't match Ellen's: no mention of DAP and/or meeting objectives.</td>
</tr>
<tr>
<td><strong>(S) Before</strong> - less confident than usual: felt they had too little planning time: thought lesson would fit with DAP After - thought the lesson went well; the children learned concepts quickly: thought their art activity was age appropriate.</td>
<td><strong>(S) Before</strong> - described plans in detail: planned for a review at the end. <strong>After</strong> - lesson went well: liked product: some of the children did not listen during the discussion: was short on time - no review: no mention of DAP and/or objectives.</td>
<td><strong>(S) Before</strong> - feeling unprepared: concerned with control during activity: plan would be age, individually appropriate. <strong>After</strong> - went fast. well: class would remember: reviewed: assembly line age/ind'lv appropriate.</td>
</tr>
<tr>
<td><strong>(H) Before</strong> - nervous but feeling prepared for lesson: much concerned about having to talk in front of the whole group. <strong>After</strong> - lesson went well: felt relieved; concerned over her own progress: no mention of applying DAP and/or meeting objectives.</td>
<td><strong>(H) Before</strong> - nervous: felt unprepared: excited about part she planned: hoped to improve her performance. <strong>After</strong> - pleased with the lesson. own performance: concerned over lack of time for review: no mention of DAP and/or meeting objectives.</td>
<td><strong>(H) Before</strong> - concerned over work with partner: looking forward: hoped for review: expected to be comfortable. <strong>After</strong> - disappointed - didn't talk much: lesson went well: organization bad: lesson new experience for her: no mention of DAP/obj.</td>
</tr>
</tbody>
</table>

Underlined Portions = Theoretical References to DAP and/or Objectives

(Continued next page)
<table>
<thead>
<tr>
<th>LESSON 6</th>
<th>LESSON 7</th>
<th>LESSON 8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(A) Before</strong> - Analyzed DAP of lesson; thought would meet the objectives through discussion - analyzed if it fit DAP. <strong>After</strong> - Felt really happy; thought lesson fit DAP and they only missed one objective; went well &amp; exceeded time limit!</td>
<td><strong>(A) Before</strong> - Confident. thought would meet obj. and plan is DAP; worry over using food (management issues). <strong>After</strong> - Analyzed lesson as to management issues, also best ways to teach it; thought met objectives and children learned.</td>
<td><strong>(A) Before</strong> - Would like to do course again. better. thought review game fun; described maturity of her planning. <strong>After</strong> - very pleased: their best lesson: liked chance to see what needed reteaching; class had fun: lesson was DAP; she guided, not lectured.</td>
</tr>
<tr>
<td><strong>(M) Before</strong> - Described plan for lesson in some detail, including topics for questioning. <strong>After</strong> - Thought was best lesson; class did well. seemed to understand: liked grouping strategy; no mention of applying DAP or meeting objectives.</td>
<td><strong>(M) Before</strong> - Analyzed how they would satisfy all objectives; described their planning in detail. <strong>After</strong> - Analyzed lesson as to mgmt and teaching issues; thought children had good ideas and enjoyed the snack; all had fun; happy with lesson.</td>
<td><strong>(M) Before</strong> - analyzed how objectives would be met; described planning and materials. <strong>After</strong> - described lesson in detail; class had fun. were active &amp; worked cooperatively; no management problems; game allowed assessment: very pleased with lesson.</td>
</tr>
<tr>
<td><strong>(D) Before</strong> - Discussed what objectives were and how they hoped to fulfill them: concerned about what the children would learn. <strong>After</strong> - lesson went well; said they had accomplished the objectives (but gave no detail): thought class learned a lot.</td>
<td><strong>(D) Before</strong> - Analyzed their lesson plan as to how it would the fulfill objectives and what the children could learn. <strong>After</strong> - Described their partnership; analyzed her teaching, the children's learning &amp; behavior, and learning how to teach.</td>
<td><strong>(D) Before</strong> - described their plan; analyzed the lesson for DAP elements: &quot;bittersweet&quot; end-of-year thoughts. <strong>After</strong> - went &quot;incredibly&quot; well; class had fun. did well with game. remembered a lot: described events of lesson and details of review.</td>
</tr>
<tr>
<td><strong>(J) Before</strong> - Felt good about the subject; trying to make the decision-making interesting by introducing &quot;money.&quot; <strong>After</strong> - went very well; analyzed the changes he would make if did lesson again; no mention of applying DAP or meeting objectives.</td>
<td><strong>(J) Before</strong> - Described plan. what he hoped the children would learn. <strong>After</strong> - Went really well: thought they had met all objectives; Mrs. C had said their lesson was appropriate; described children's behavior and learning.</td>
<td><strong>(J) Before</strong> - described planning. topic hard to explain: hoping class will do well on review game: year was great. <strong>After</strong> - lesson went great: class had a good time and did well on review: analyzed elements of game for DAP principles.</td>
</tr>
</tbody>
</table>

Underlined Portions = Theoretical References to DAP and/or Objectives
Table 5.10 (continued)

<table>
<thead>
<tr>
<th>LESSON 6</th>
<th>LESSON 7</th>
<th>LESSON 8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(E) Before</strong> - described her detailed planning: nervous, excited; liked planning with S &amp; H. <strong>After</strong> - detailed description: went well; class not concerned that L not there; worried about keeping mats. safe; felt able to teach alone &amp; that she had met all obj.</td>
<td><strong>(E) Before</strong> - Thinking about objectives: wanted to address some sensitive issues; concerned about clean-up and children’s desire to keep materials. <strong>After</strong> - lesson “perfect”; thought was DAP; details of teaching, learning: very pleased with all.</td>
<td>Ellen dropped the course just before Lesson Eight.</td>
</tr>
<tr>
<td>Linda dropped the course just before Lesson Six.</td>
<td>Linda dropped the course just before Lesson Six.</td>
<td>Linda dropped the course just before Lesson Six.</td>
</tr>
<tr>
<td><strong>(S) Before</strong> - Thought class would understand lesson: analyzed how the lesson fit DAP. <strong>After</strong> - went well; said lesson was ind’l accountable and age appropriate; felt had met objectives, but after analysis, not all of them: made many decisions.</td>
<td><strong>(S) Before</strong> - Detailed analysis - how objectives would be met: felt plan was DAP, and told why. <strong>After</strong> - Went well; class picked up on concepts; described their review session, her “signing” for children: covered all obj. and lesson was DAP.</td>
<td><strong>(S) Before</strong> - described plan in detail: thought class would like activity; explained why lesson was age &amp; ind’l. appropriate. <strong>After</strong> - went well; class was excited and did well on review: explained how the lesson had been both age &amp; ind’l. appropriate.</td>
</tr>
<tr>
<td><strong>(H) Before</strong> - Felt unprepared, unsure who would do what; looking forward to lesson, houses. <strong>After</strong> - lesson went well; children had fun; analyzed lesson for DAP application and meeting the objectives - thought they had fulfilled some of them.</td>
<td><strong>(H) Before</strong> - Nervous; worried over introducing lesson: told how they would meet objectives. <strong>After</strong> - went well; told in detail how the lesson was DAP; happy with her own teaching of this lesson, thought she was making progress.</td>
<td><strong>(H) Before</strong> - hoped to overcome worries about lesson: described their plan. <strong>After</strong> - went very well: “jumped in” more - pleased about that: had some mgmt. problems but happy with her teaching; good analysis of DAP elements in lesson.</td>
</tr>
<tr>
<td>Underlined Portions = <strong>Theoretical References to DAP and/or Objectives</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Table 5.10 also reveals some patterns, this time about students' thoughts toward the lesson planning and implementation. For some of the participants, reflection often included a consideration of whether they had met their objectives and/or an assessment of the developmental appropriateness of their pedagogy. Megan and Susan frequently included such references in their journal entries, though usually without much detailed analysis. Other students - especially Holly and Ellen - were so focused on their own feelings that they rarely analyzed their lessons in this way. Amy, Linda, Jeff, and Diane used their journals to reflect on the events of the lesson. Although they rarely referred to DAP theoretically, their writing included many practical mentions of developmentally appropriate teaching, as when Diane wrote that she and Jeff would be discussing a janitor's job "because [the children] see a janitor firsthand every day."

To some extent, this changed during the final quarter. At that time, I was growing concerned that even those students who were writing about applying DAP and fulfilling their objectives were not explaining their assertions. I told them that I wanted them to know why their teaching was developmentally appropriate so that they could duplicate those qualities in future lessons, and I strongly emphasized the need for participants to look more deeply into their practice. I called this "thinking like a teacher." The chart shows that, after I expressed my expectations, most of the students did respond by at least attempting to judge whether their lessons applied DAP
principles and/or whether the objectives were met. Holly, for example, who had never mentioned objectives in her journals, wrote excellent analyses after Lessons Six, Seven, and Eight. Starting with Lesson Six, Amy’s journals also presented outstanding breakdowns of the ways in which the lessons she had implemented with Megan were developmentally appropriate or met objectives.

Table 5.10 also shows the contrast between partners’ views toward teaching the lessons. “Worried, nervous, concerned, unprepared” - these were the words that framed Holly’s reflections before almost every lesson. Meanwhile, Susan was usually very relaxed, thinking about DAP and the lesson plan she and her partner had made. Before Lesson Six, I believed that much of the child-centered quality in Susan and Holly’s lessons originated with Susan. Holly’s preoccupation with her own role had obscured her knowledge about child development and her excellent analytical skills, reminding me that “the development of metalearning may depend on ... the degree to which the course enables students to understand and articulate their own and others’ images and assumptions about what good teaching means” (Hawkey, 1995, p. 176).

Before Lesson Six, no other pair exhibited so great a contrast as Susan and Holly did. However, Table 5.10 shows that, while both Ellen’s and Linda’s reflections were concerned with feelings, they had markedly different outlooks. For Linda, reflection showed a progression from little confidence to self-professed assurance, an advancement that paralleled her continued work
in the M.Ed. program. She analyzed each lesson to learn from it, finally (after Lesson Five) expressing a concern about the disparity between her teaching style and Ellen’s. In contrast, Ellen was confident from the beginning, frustrated not with herself, but with Linda or the children. How preservice teachers’ influence and are affected by others is important to their “continuity of perspective” (Smith, 1997, p. 239). Ellen’s frustration, then, might have been symptomatic of disequilibrium, which can facilitate learning (Fosnot, 1996a). Given time, her outlook may have become more child-centered.

Table 5.10 shows that Amy and Megan were well-matched. Both were analytical, though in different ways, with Megan more likely to mention DAP and/or objectives and Amy to thoroughly analyze what went right or wrong. Both were also concerned about children’s enjoyment and learning. Similarly, Diane and Jeff were an excellent team. Jeff was more likely to analyze the lesson than his partner, citing DAP and/or objectives at times. Diane’s journals addressed personal concerns (often noise level) and sometimes attempted a surface analysis. Both of these teams balanced child-centered attitudes with an awareness of teacher responsibilities, though Amy and Megan possessed the more advanced pedagogical skills. The latter pair also appeared to have a greater awareness of their own knowledge, a sign of skill within a knowledge domain (Leinhardt, 1992). To varying degrees, all students used reflection to make decisions based on their past actions (Han, 1995). In Chapter Four, themes were identified for each lesson, summarized now in Table 5.11.
<table>
<thead>
<tr>
<th>Statement of Themes (In summary form)</th>
<th>LESSONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Feelings about doing the lesson - e.g. nervous</td>
<td>X  X  X</td>
</tr>
<tr>
<td>2. Concern over their own roles</td>
<td>X</td>
</tr>
<tr>
<td>3. Classroom management issues - e.g. use of time, noise level, etc.</td>
<td>X  X  X</td>
</tr>
<tr>
<td>4. Concerns over children's behavior</td>
<td>X</td>
</tr>
<tr>
<td>5. Discussion about DAP: judgments of whether lesson was developmentally appropriate (usually on a practical level)</td>
<td>X  X  X</td>
</tr>
<tr>
<td>6. Judgments as to whether lesson objectives were met</td>
<td>X  X  X</td>
</tr>
<tr>
<td>7. Concerns about planning</td>
<td>X</td>
</tr>
<tr>
<td>8. Teaching &amp; learning issues</td>
<td>X</td>
</tr>
<tr>
<td>9. Evaluations/hopes about children's learning</td>
<td>X  X  X</td>
</tr>
<tr>
<td>10. Partner issues</td>
<td>X</td>
</tr>
<tr>
<td>11. Individual professional growth/how to improve for next time</td>
<td>X</td>
</tr>
<tr>
<td>12. &quot;How it went&quot; - whether the lesson went well or poorly</td>
<td>X  X  X</td>
</tr>
<tr>
<td>13. Description of lesson</td>
<td>X  X  X</td>
</tr>
</tbody>
</table>

(Order indicates relationship to other themes, not importance.)

Table 5.11: Themes in student reflections, across lessons.

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The themes found in students' reflections indicate what was really important to them. Analysis of Table 5.11 shows certain thematic patterning. Reflections on Lessons 1-3, for example, were marked by repeated, widespread comments about being nervous or worried. By the middle of Winter quarter (Lesson Four), such remarks became the exception for the most part. Certain students did continue to write about their feelings about teaching (mostly Holly and Ellen), but the references no longer expressed a theme that was important to the group as a whole.

There was concern over personal roles before the implementation of Lesson Two, when participants had less control over the events of the day. For all other lessons, students were comfortable with roles they themselves had planned. (Only Holly continued to express doubt about what she was to do in a given lesson, and that decreased somewhat during the final quarter.) However, concerns over partner issues could be considered an extension of anxiety over personal roles. Partner issues were strongest during the second quarter when students suddenly had to plan and implement a lesson every three weeks. After students learned to trust one another, complaints became rare.

Certain themes were present in students' reflections after every lesson: description of the lesson, analysis of how it went, comments about DAP (often on a practical level), references to children's learning, and classroom management issues. I believed the first two themes were natural outgrowths of our classroom community. Students were eager to describe their lessons
and to commiserate with one another over whether the implementation had gone well, seeming to value these "post-teaching discussions with colleagues" (Metcalf & Kahlich, 1998, p. 80). According to Hawkey (1995), the primary role of peers is to offer support, and this held true in our university classroom.

The remaining three categories offered insight into students' most critical concerns across the eight lessons. That they mentioned DAP quite frequently was encouraging. Most examples were actually part of the lesson descriptions, as students outlined the events of their teaching experiences (e.g. "I listened to all the comments [children] were saying" - Ellen, Lesson Three debriefing). Initially, there were few theoretical references to DAP (e.g. "I believe our lesson fits the guidelines for DAP" - Megan, Lesson Four journal), but that increased during the third quarter, probably as a result of my exhortations to analyze lessons for DAP and/or meeting objectives.

In light of students' concerns over keeping order during their lessons, it was not surprising that classroom management was a constant theme throughout the thirty weeks of this program. Early in our second quarter, students began to focus intently on group management, as shown in this journal entry written by Amy: "Of course they talked and I didn't really mind, but it does make me feel like we have very little control over the group."

Though students never again showed the strong concerns evidenced after that third lesson, they continued to analyze their lessons in terms of noise level and organization of time and materials. There was, however, a different tone to
their comments about classroom management as time went on. By the end of the third term, remarks about classroom management were often positive ones.

The earlier comments showed apprehension and often were almost fearful in tone (e.g. "I lost control of the kids, of the lesson, of my ability to communicate" - Linda, Lesson Three journal). In contrast, later references to classroom management tended to be more analytical and related to children's learning rather than to their behavior. An example is provided by Jeff's Lesson Six journal: "We gave them a half hour [to finish their houses]. That was too short." When, during the debriefing, Susan described the fifteen-minute time limit she and Holly had given their class for a similar project, Jeff asked, "How did the 15 minutes work? Were they able to complete it?" In our third quarter, classroom management was becoming a tool to enhance children's learning.

Similarly, students' concern about children's learning remained strong throughout. Early in the program, students wrote responses that evaluated what children knew or might learn. As an example, Susan wrote in response to the first lesson that "the kids had a pretty good concept of what math or numbers a person used in each job." By the third quarter, reflections often related some part of the lesson to what children did or did not learn. Diane's journal after Lesson Six provided an illustration when she wrote that the decision-making process was "very hard to explain, thus making it more difficult ... for the kids to understand." Both students showed child-centered
attitudes, but the latter example is more thoughtful and more analytical as regards teaching. Susan was making a simple observation. Diane was taking responsibility for helping children make connections.

One might consider these themes as related to the participants' developmental levels as educators. McDermott et al. (1995) synthesized several models of professional teacher development to arrive at three general patterns. They maintained that in the earliest stage preservice teachers "self-consciously think about themselves as teachers" (p. 184). Participants' early concerns over personal roles and what each partner would do made sense in light of this developmental stage.

"In the second stage, novice teachers' thoughts move ... to concerns about managing pupils and learning classroom procedures" (McDermott et al., 1995, p. 184). My participants moved quickly into this second stage and were still in that developmental stage at the end of the program. In a discussion of our course content (after Lesson Six), Megan asked for more classroom management techniques, even though she and Amy had little apparent difficulty in that area. Classroom management remained a top priority, as it does for most beginning teachers (Osborne, 1997).

However, participants' evolving attitudes towards children's learning showed that they were also moving toward the third developmental stage, in which "novices attend to children's actual learning" (McDermott et al., 1995, p. 184). As they became more comfortable with the role of teacher, and as
their classroom management problems grew less critical, students found themselves able (at least some of the time) to focus on how their pedagogy had impacted the children's learning. This was reflected in the consistent interest in teaching and learning - teaching methods that will best promote learning - during our final quarter (Lessons Six, Seven, Eight). Participants' progress in this area is made evident by a comparison of their post-lesson evaluations of Lesson Four (February 13, 1998) and additional, much more analytical responses to that same lesson written ten weeks later (May 1, 1998).

Amy in February: “Megan summed everything up at the end really well. I felt good about it.”

Amy in May: “In order to help me understand more about what the children learned, I would increase the discussion; however, our lesson before this was the worst of the year because the children would not discuss. We were attempting to avoid discussion, but I think that it is the best form of evaluation in these short lessons.”

Jeff in February: “I think that we accomplished our objectives but I feel bad that the classroom was somewhat noisy.”

Jeff in May: “If I were to do it again, I might have each of the kids explain to me what they thought the questionnaire meant. Each child would have a personal interview with me, explaining themselves and how they think they learned from the objectives. Obviously this could not happen in our KAPOW lessons but it could in a real classroom.”
Holly in February: “Again we didn’t have time to review. This was mostly because we had spent too much time calling kids up to put their stickers on the chart.”

Holly in May: “This was one of the lessons that we ran out of time to review.... We were able to evaluate some of the students by their art and what they told us. I understood that they had learned the concepts by what some of them told me.... This was probably not sufficient because I was unable to evaluate the whole class this way. If we had had time to review, we could have evaluated the whole class.”

One might also consider the evolving themes from a constructivist perspective. As novice learners in what was, to them, a new field, students had to construct their understandings about DAP. At first, they would have experienced a profound sense of disequilibrium, as reflected in their nervousness and concerns about roles. Had they not been taught, for instance, that talking in class was the teacher’s prerogative? How, then, could they be expected to be patient with children’s talking and even welcome a certain noise level?

Students grew increasingly knowledgeable about DAP, learning through reading relevant literature, engaging in productive talk, writing reflective journal entries, and discovering new insights by analyzing their own learning experiences in our university classroom. Disequilibrium faded as they accommodated their knowledge schemes about the role of “teacher.” For most
students, it was beginning to make sense that children would learn best through interacting with others in real-world contexts. Participants were able to express these views and, sometimes, to put them into practice with only a little discomfort. They were also able to analyze their pedagogy and its relationship to children's learning, even seeing classroom management less as a means of control, and more as an aid for learning.

Over the course of the three quarters, participants demonstrated, through both application and reflection, that they had reconstructed their ideas about certain DAP principles. The tables and accompanying analyses in this chapter have shown that students did progress (some more than others) in their understanding of developmentally appropriate practices and in the ability to apply them. But "learning to teach is a lifelong construction process" (Kroll & LaBoskey, 1996, p. 71). As Diane told me toward the end of the third quarter, she was "still getting all the pieces together in [her] head." For my inquiry participants, and for me, this was only the beginning of knowledge construction about teaching.
CHAPTER 6

FRAMING CONSTRUCTIONS AND REACHING CONCLUSIONS

The final aim is to distill a consensus construction that is more informed and sophisticated than any of the predecessor constructions (including, of course, the etic construction of the investigator).

(Egon G. Guba and Yvonne S. Lincoln, 1994, p. 111)

Introduction

I have considered the ways in which preservice teachers learned about developmental theory and applied it to support a School-To-Work program at the elementary-school level. The conditions were unique, a teacher-education program with an authentic context: Participants implemented the requirements of a real program in real classrooms. They constructed their views while "invent[ing] curriculum" (Fosnot, 1996b, p. 215) and then implementing it, thus linking theory with practice.

My research proceeded from the multiple roles I assumed in this inquiry. As their instructor, I was assessing students’ learning and building my teaching on the levels they had achieved. As a researcher, I was myself a
student, gaining understanding of my own beliefs even as I learned more about those of my participants. I collected a great deal of data, and there I found patterns and themes which I then interpreted. In this final chapter, I draw conclusions based on analysis of the data, and I respond to my research questions.

Conclusions - Preservice Teachers' Learning and Application of Developmentally Appropriate Practices

Understanding DAP Principles

My primary question was: How do preservice teachers understand and apply developmental theory, especially through experiential learning means, to enhance children’s learning in careers-education lessons at the elementary school level? I will first address students' understanding of theory, the ways in which they created meaning about developmentally appropriate practices for themselves and others.

Chapter 3 noted the diversity among participants, eight novice teachers whose backgrounds diverged in at least as many ways as they intersected. Each brought to our program a viewpoint colored by unique antecedents and experiences. Each held singular views about teaching and learning - and about the roles of those who share in that complementary process. Learning about their knowledge constructions was a complex process.
"Developmentally appropriate means approaching [learners] as individuals, not as a cohort group" (Kostelnik et al., 1993, p. 33). This quote referred to children, but it was true for my students as well. Investigating the conceptual reorganizations of my participants required that I consider each of them individually, not only as a member of the group. They began the program with varying amounts of innate or acquired knowledge about DAP (as indicated on the pretest). Many examples from journal entries and debriefing sessions underscored the individuality of the learning process, for adult preservice teachers as well as for the children they taught. Therefore, my first conclusion was that adult learners who are preparing to be teachers construct knowledge in personal ways and at individual rates, and that background factors specific to each person will affect this knowledge construction.

As a corollary to this, my participants' learning was not prescribed or linear, occurring at equally spaced intervals or in precisely graduated amounts. Rather, their learning came in "chunks" of different sizes. For some, these moments of insight were widely spaced, while for others they came cascading, one upon the heels of the last. Those whose knowledge of developmental theory seemed advanced in one area might lag behind the group in its practical application. Each learner was unique.

Analyses of students' reflections provided concrete examples of this, as when one participant partner was accomplished at classroom organization while the other was much more skilled in child-centered instructional methods.
Such examples led me to my second conclusion, that learning evolves in ways that are non-linear, and that preservice teachers will not be equally advanced in all areas of learning at any one time. This is consistent with the constructivist position that "learning is development" (Fosnot, 1996a, p. 29), implying the need for self-direction and the inevitability of multiple developmental levels across domains.

Stating that knowledge construction has for each individual a unique pace, path, and sequence is not to say that it occurs in isolation, even when the learners are adults. Within the tenets of constructivism, it makes sense that students of any age will also learn from one another. The constructivist paradigm presupposes a personal creation of meaning. Furthermore, the use of the term "social constructivism" implies that the knowledge thus derived can also be shared with others. Indeed, the individual's learning may be enhanced through social interactions.

I saw numerous instances in which one student's concept formations were influenced by those of the people around him/her, though partners often seemed especially to influence one another's learning. Examples have been cited in which participants' journal entries showed how their post-lesson conversations with their partners gave them new insights. Based on such reflections, as well as the interactions I observed in our classroom and in the field experiences, I have drawn a third conclusion, that preservice teachers have much to learn through social interaction with one another, and that such
*interactions may be essential in the formation of emerging knowledge constructions.*

I also found that students seemed to learn more effectively through experiential learning than through lectures. In Chapter One, I stated that I believed this to be true. However, at the inception of this inquiry, I did not know how readily I would observe this in action. The dynamic nature of qualitative research design allowed me to structure my teaching to challenge and/or enhance participants’ growing knowledge of DAP, attempting to match their needs with relevant instruction and provide concrete opportunities for the discovery (or rediscovery) of important principles. What I observed in our dual learning environments of university and elementary-school classrooms was underscored by student reflections, both written and oral. Taken together, the data led me to my fourth conclusion: *Preservice teachers will construct meaning about how to teach from the kinds of learning activities they themselves experience in the milieu of the university classroom.*

"Learner experiences are enriched through a second stage of experience," writes Wassermann (1992). This "process of reflective observation" can extend experiential learning, allowing learners to "build concepts and reach for theoretical understandings that lead, in turn, to students' ability to make more thoughtful decisions and solve more difficult problems" (p. 136). Throughout my inquiry, I observed strong connections between the reflective process and participants' learning. Initial journal
entries or comments in debriefing sessions expressed feelings and reactions to what transpired in the lesson implementations. Over time, new entries indicated that the reflective process had extended students' field experiences to help them learn more about their strengths and weaknesses. From analysis of participants' oral and written reflections, I have drawn a fifth conclusion, that for novice educators, reflection is a critical part of the learning process.

These five conclusions indicate that novice teachers understand developmental theory in personal and individual ways. However, (1) learning through experience, (2) learning in the company of their peers, and then (3) reflecting on that process, all serve to enhance students' building of concepts. Essentially, then, preservice teachers learn about developmental theory by participating in a program in which that same theory is applied to their own learning. The conclusion is this: Teacher education programs based on applied constructivism are more likely to produce teachers who understand and apply constructivist pedagogy.

Applying DAP Principles

To answer the second part of my primary question (how preservice teachers apply the theory they have learned), I reviewed their lesson implementations. Table 5.1 offered a summation of students' knowledge applications, as recorded by observers, across all eight lesson. However, pre- and post-lesson reflections revealed that one member of a team might be
responsible for specific knowledge application in a given lesson (e.g. Diane initially gave children more individual help than her partner did). An analysis of students' lessons, based both on observations and participants' reflections, has led me to make these conclusions about preservice teachers' general application of developmental principles:

1) *Just as each individual learns differently, so will every novice teacher apply his/her knowledge uniquely.*

2) *Because application is a function of knowledge, the previous experiences that foster conceptual linkage will also advance both the application of knowledge and its further acquisition. Thus, field work provides a laboratory for pedagogical experimentation, as well as a platform for additional learning.*

3) *In much the same way that social interaction facilitates the acquisition of knowledge, preservice teachers may "scaffold" one another's application of that knowledge.*

While application of all DAP principles was important, the use of experiential learning methods was of special interest to this inquiry. Tables 5.2 - 5.5 rated developmentally appropriate components of participants' lessons as to where they would appear on the Learning Experiences Ladder (Roberts et al., 1996). Analysis of lesson implementations through the use of Tables 5.2 - 5.5 made it clear to me that students were indeed making extensive use of experiential learning in their classroom implementations.
However, in some cases, participants' journal entries showed initial disagreement between partners or reluctance to do the hands-on activities because of possible classroom management problems.

Based on my analyses of both the lesson implementations and students' journal reflections, I have reached some additional conclusions about the application of developmental principles. The following statements are especially true of preservice teachers' application of developmental principles in the form of experiential learning because of the potential classroom disorder which may accompany such active learning:

1) *Preservice teachers apply their knowledge of developmental principles in ways that let them feel confident and comfortable.*

2) *The support of peers, faculty, and/or cooperating teachers increases self-confidence and comfort levels for preservice teachers.*

3) *Preservice teachers fear losing control of the classroom. Failing the encouragement of a strongly supportive program, this fear may override what seems to be the most effective teaching method.*

4) *When given the choice (i.e. under no pressure from peers, faculty, or the need to achieve a grade), preservice teachers who lack confidence in their own abilities are less likely to risk losing control by implementing activities which are perceived to be "messy" or "noisy," regardless of the value of the activity for children's learning.*
Subsidiary Questions

As one of my subsidiary questions, I considered what knowledge of DAP students brought with them to the class. At first, I answered this question specifically through administration and scoring of the DAP Pretest (See Appendix A). However, after three academic quarters of researching and learning with these eight individuals (two quarters for two participants), I regarded the pretest scores somewhat differently. I reviewed the transcripts from the initial lesson observations and the accompanying debriefing session, together with students' first journal entries. This led me to believe that students' scores on the DAP Pretest did not tell the whole story. If DAP were viewed only theoretically, students could be said to know certain tenets or not know them, based on their scores. However, considering DAP as an instructional method presented a different picture. Some students who scored lower on the pretest showed themselves to be extremely child-centered in practice.

As my inquiry progressed, I found both theoretical and practical aspects of DAP to be important. The pretest helped me to structure my emergent curriculum, but students' journals provided a better window on how - and whether - they were putting their knowledge into practice. I have concluded that measuring preservice teachers' knowledge of DAP must include an assessment of attitudes as they are practiced, as well as an evaluation of the preservice teachers' theoretical knowledge levels.
I also wanted to find out how these novice teachers changed their use of active, experiential learning methods across the academic year. Once again, I looked to Tables 5.2 - 5.5 for my answer. It was necessary, however, to also consider students' attitudes as expressed in their reflective journals and, to a lesser extent, in the debriefing sessions. A review of participants' reflections on their learning of developmental theory and its application in the KAPOW lessons revealed a range of responses. As stated previously, knowledge application appears to be much like understanding in that it is personally oriented, individually paced, and dependent on background factors. Just as no two participants created identical knowledge constructions about DAP, neither did they apply what they had learned in exactly the same ways.

If the students' teaching styles were viewed on a continuum, they would range from Ellen's teacher-centered approach at one extremity to Susan or Jeff's open-ended style at the other. The pedagogical styles of such beginning teachers are built on attitudes and beliefs that were already in place at the beginning of the inquiry. Ellen was teacher-centered in September and remained so in June. Susan and Jeff started out as child-centered educators, and that did not change over the three quarters. While the data showed that students did increase their knowledge of DAP as time went on, those who were already child-centered applied DAP principles more readily than those who tended toward a more teacher-directed pedagogy. I concluded that students' application of developmental principles over time was strongly
related to their prior attitudes and beliefs. Those who already felt comfortable with a child-centered pedagogy expanded their repertoire of appropriate practices to a greater extent than did participants whose initial mindset was more attuned to a traditional classroom setting.

I also deliberated about what factors might have contributed to participants' knowledge constructions about developmentally appropriate practices (and, by extension, students' application of DAP). Constructivist principles dictate that instruction does not cause learning to occur. Rather, every individual must build his/her own concepts by linking new information to prior experiences (Fosnot, 1996a). It follows that for each student, different factors may have offered the primary support for learning or that various elements may have interacted in different ways to enhance learning for any individual. Students' written and oral reflections (especially in their final journal responses and exit interviews) showed that they were aware of a number of ways in which they had increased their knowledge of DAP.

I also noted occasions when one student reminded his/her partner that an activity might not be age appropriate for their classroom, or that emergent readers would struggle with tasks requiring too high a level of literacy. Focused on their planning or teaching, students were sometimes unaware of these opportunities to learn from one another. Based on my observations and analyses of participants’ reflective responses in their journals, the debriefing sessions, and their exit interviews, I have concluded that:
1) *Preservice teachers learn about developmentally appropriate practices through in-class instruction and readings, interactions with others, and prior experience. However, having opportunities to apply new knowledge in authentic situations is critical.*

2) *Teacher educators cannot assume that novice teachers will apply developmental theory in their field experiences. Continued discussion of ways in which such principles might be employed provides an important link between theory and practice.*

3) *Preservice teachers may need assistance with framing content in developmental theory to avoid planning lessons around activities.*

4) *Thorough post-field debriefing conversations with faculty and/or peers about appropriate and less appropriate practices allows student teachers to develop meta-knowledge of their pedagogy through oral reflection.*

5) *Written analysis of lessons as to their age, individual, and cultural appropriateness is useful for education students. Further, such writing allows these students to “own” professional vocabulary and hastens the progression from self-conscious usage of jargon to unconscious understanding of theory.*

6) *DAP principles can serve to relate multiple teaching experiences, allowing preservice teachers to build on their previous knowledge. Treating lessons as discrete events defeats this purpose.*
Finally, it was interesting to consider how DAP principles are related to careers-education lessons at the elementary school level. Arriving at a conclusion meant analyzing the lessons, both as conceived by the KAPOW Program and as implemented on our campus. The School-to-Work movement was intended to prepare young people for the world of work they will face as adults. To children who have no first-hand experience with the workplace, a job remains an abstract concept with no relation to school-based learning. It is the hands-on direct experience found at the bottom of the Learning Experiences Ladder (Roberts et al., 1996) that helps link children’s current learning to their future careers.

As previously defined, School-To-Work programs must include both school-based and work-based activities. The latter would occur in some kind of workplace situation. In KAPOW, this element is provided by the site visit, the second lesson. According to constructivist principles, learning flows from experience. Thus it makes good sense to conduct a field trip after an introductory lesson but before the bulk of the program is presented (Kostelnik et al., 1993; Orion, 1993; Van Scoy, 1995).

The rest of the program is built around seven in-class lessons, each addressing a subject that is important in school as well as the workplace. For example, children learned about Positive Work Habits that could bring success in school, and they thought about how these same habits are helpful on the job. Such connections aid in concept formation and are consistent with the
notion that instruction helps children connect new information to previous experiences (Wishon, Crabtree, & Jones, 1998).

The KAPOW Program lessons were planned, of necessity, for "typical" children at the second- through sixth-grade levels, but the youngsters in our partner school may not have fit that preconceived mold. Participants worked hard to make their lessons more appropriate, and they did a good job. However, that sometimes meant changing vocabulary ("good" work habits rather than "positive" ones) or eliminating steps (discussing some of the "five steps of decision making"). Participants also had to consider the likelihood that some emergent readers would be present and structure their lessons accordingly. In both our primary classrooms, the needs of children who were still in transition from the preoperational to the concrete operational stage (Wortham, 1998) was an important consideration.

There are many elements in the KAPOW lessons that would generally be considered appropriate for elementary school children. For example, many lessons suggest a small-group format, assuring children the opportunity to discuss their ideas with their peers. Some activities allow for physical movement, especially in the lower grades, and many of them include suggestions for integrating other curricular elements into the lesson. They also provide for a variety of experiences, usually built around activity, though often including a significant lecture component. So, in most cases, the KAPOW lessons can be made appropriate for the children involved.

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Interestingly enough, the KAPOW Program issued a new series of lesson plan guides during this past academic year (O’Meara, 1997). Though I received them too late (May, 1998) to influence our 1997/1998 program, I did review them for developmental appropriateness. I was sorry to see that the site visit had been moved to the fifth lesson, thus losing much of its impact in helping children build concepts about work.

On the plus side, the new guides are built around three levels (Level One for Grades 1-2, Level Two for Grades 3-4, Level Three for Grades 5-6) as opposed to the old grade-level format. This is consistent with the idea that children do not develop in cookie-cutter fashion, all at the same rate or in the same order (Bredekamp & Copple, 1997). In addition, each lesson now has cross-curricular connections as well as a bibliography of related children’s books, features which my students and I had already included. All are consistent with DAP principles.

Perhaps most importantly, the new activities are less abstract and more engaging than those in the original lesson plan guides. They could be very developmentally appropriate if implemented properly - that is, the class should have opportunities to converse and move around and make choices, and the needs of specific children (e.g. emergent readers/writers) must be considered. The use of concrete materials to build concepts would be important, and in the case of the lower primary grades, even critical. My conclusion, then, is that careers-education lessons can indeed be made developmentally appropriate if
they are taught through activities that appeal to the age level of the children; if they consider the social, cognitive, and emotional needs of individual children; and if care is taken to respect each child’s culture. Hands-on, minds-on activities and real-world connections would be extremely beneficial in enhancing children’s concept formations.

Implications for Teacher Education

Many young educators-in-training do lack confidence in their own abilities and depend on others to validate their work. This also means that they will prize that which is valued by those who hold power over them - university faculty and field supervisors, teachers and administrative staff members in cooperating schools. If teacher education programs emphasize classroom control over instructional method, that will become the primary goal of novice educators. If cooperating teachers and building administrators demand quiet classrooms above all, it will be accomplished at the expense of children’s engagement.

Preservice teachers need to find a balance between maintaining a productive level of classroom control and offering opportunities for children to learn through social interaction. They need to see control as a means to a more important end, children’s learning, rather than as an end in itself. One implication, then, is that teacher education programs must clearly uphold the primacy of learning over order, keeping in mind that a well-organized
environment does sustain learning. As a corollary, because of the influence they can bring to bear on young teachers, cooperating schools and classrooms should be screened. Ideally, only those sites whose educational philosophies support the program goals should be utilized. Discontinuity between theory as stated and as practiced should be treated as a productive learning experience.

A second implication is that concerns over classroom management issues can interfere with the understanding of pedagogical methods. To avoid this, teacher educators might offer suggestions for fostering children's self-discipline by having them create and enforce their own rules. Basic classroom management techniques could be offered early in the program so that novice teachers can learn to trust in their own abilities. Regular opportunities for peer discussion of management problems together with possible solutions would be useful as well.

Teacher education programs must provide many opportunities for students to gain confidence through completing various field experiences. These need not be only classroom placements involving whole-group observation and teaching. Mentoring experiences offering occasions for interaction with children in one-on-one or small-group patterns can be very valuable, especially if extended over time. For novice teachers who lack confidence because they know little about children, a series of mentorships could be very helpful. Many students could also gain from a field experience like KAPOW. When preservice teachers have the authority to plan and
implement real lessons in an authentic context, and especially when they are guided in that endeavor, the teaching situation becomes a true zone of proximal development (Vygotsky, 1976). The supervision of knowledgeable faculty members is invaluable.

Because our newest educators construct their own frameworks of just what it means to be a teacher, it is important that they have opportunities to link their emergent theories with practice. They are not mere observers, nor are they unpaid teachers’ aides. They must gradually assume full participation and control of the classroom. Whenever possible, preservice teachers should intern with the very best teachers, who in turn, should be properly informed about the purposes of the field experience.

If preservice teachers learn through social interaction (Hawkey, 1995), partner teaching could also be an important addition to teacher education programs. Students gain both practical and theoretical knowledge from one another, and they may also grow in self-confidence through the support of a peer. Planning lessons together would offer opportunities for shared learning in an authentic context.

Reflection is a critical feature of effective teacher education. Although many programs do include some type of journal-writing as a requirement, the same attention is not always given to oral reflection. Conversations with knowledgeable faculty and peers offer opportunities for students to shape their ideas in light of what others contribute to the subject. Often, it is in the
sharing of ideas that individuals make conscious connections between prior experiences and new information. This meta-knowledge signifies a higher level of understanding. As part of group oral reflections, faculty should help preservice teachers construct relationships among their lessons so that what occurred in one lesson implementation may inform practice in subsequent attempts.

One unanticipated aspect of this study involved my two research assistants, Jennifer and Laura, who were themselves preservice teachers. Jennifer completed her student teaching during the second quarter of this inquiry and went on to work as a substitute in our local schools during Spring quarter 1998. For Laura, the span of the research paralleled her own M.Ed. preparation for student teaching (as Linda’s classmate).

Jennifer and Laura received no “training” as research assistants beyond some brief discussion about my goals as a researcher and how I wished them to use the recording sheets. Nevertheless, their observations were very thorough, and their written reports were surprisingly insightful. “Having students do ethnographic studies can increase their ability to critically analyze school life” (Gitlin & Teitelbaum, cited in Goodman, 1986). Laura told me that observing the lessons had been very helpful to her. She learned to look at lessons more critically, she said, and to see things that she might have missed previously. The implication is that adding an ethnographic component to initial classroom observations might prove valuable to preservice teachers.
Implications for the Elementary Classroom

“What did you learn about the ways children learn?” I asked students in their final conferences. Their answers to that question frame possible implications for elementary-school classrooms. Chief among their discoveries was the fact that children really do learn best when they are actively involved with hands-on materials. Concrete objects and real-world examples can help young learners connect new information to what they already know, thus facilitating the formation of stronger concepts. When the teacher functions, not as a gate-keeper but as a guide, children are free to make choices and - as Amy remarked - the information is “theirs to learn.”

Students also maintained that children learn in individual ways, that they approach the same material in unique ways. This means that youngsters need some latitude in how they will learn new information. For many of them, the best way to learn is actually from another child in the context of some cooperative activity. Teachers will discover the best means for each child to learn through careful observation and by consulting the “experts” - the children themselves.

These conclusions are not new. Rather, they are consistent with the principles of developmentally appropriate practices. However, they do emphasize one more implication for the elementary school - that the most effective teachers are also researchers in their own classrooms. “Experiments are being conducted each time a teacher plans a lesson, explains an idea, or
encourages a child,” writes Eisner (1988, p. 20). Preservice teachers might productively engage in such classroom research as well, becoming active observers of teaching and learning. Under the supervision of cooperating teachers and university faculty, they might experiment with instructional methods in classroom settings. As a result, novice teachers might enrich the classroom environment, at the same time conceiving meaningful educational philosophies that they had personally constructed and confirmed as valid.

Implications for School-To-Work

This inquiry has found that careers-education lessons can be appropriately implemented with young children. While it is possible for the classroom teacher to implement careers-education lessons, especially as part of theme teaching, true School-To-Work programs include a work-based learning component that cannot be replaced by an ordinary field trip. The implication is that School-To-Work is an appropriate part of the elementary-school curriculum. Even primary-grade children can benefit from programs such as KAPOW.

This does not mean that first-graders would be making decisions about their future occupations. They would, however, be gaining the knowledge, skills, and attitudes that would enable them to make good career choices when they were older. Just as a sixteen-year-old who had never seen an automobile would face some unusual hurdles in learning to drive one, so would the high-
school graduate who knows nothing about jobs be frustrated in making a successful transition from academics to the world of work. Concepts are built over time. Offering appropriate learning experiences about careers in the primary grades means that children’s knowledge frameworks will be more fully developed when they reach young adulthood.

It is important for School-To-Work as a national movement to consider the ways in which work-related material is presented to young people of all ages. Especially at the elementary level, lessons should be examined as to their developmental appropriateness. Implicit in this statement is the need to articulate, for business leaders and classroom teachers alike, the principles of developmental theory which should underlie School-To-Work lessons. Those who represent the interests of corporations in bringing their viewpoints to the schoolroom should receive adequate preparation for their roles if they are to be truly effective. An interesting corollary is the possible value of intermittent conversations among participants, much like the “debriefing sessions” that helped to frame my research.

One principle of developmentally appropriate practices is that the curriculum should be integrated. While it is difficult to smoothly weave the KAPOWER lessons into the fabric of the regular school day, academic material can certainly become part of a focus on careers. An appropriate literature selection does more than set the stage for learning about work by providing vicarious experience. In offering a model of effective communication, it also
encourages literacy learning. Similarly, children should be using the other skills and competencies recommended by the SCANS Report (Secretary’s Commission, 1991) as they learn about real-world occupations. The implication is that a formal program that provides for planned integration with the school curriculum will more successfully synthesize in-school and out-of-school learning. Informal treatment of careers as an occasional lesson would be much less effective.

The use of concrete objects and situations in the elementary grades is also educationally sound and consistent with developmental theory. For this reason, the work-based learning component of School-To-Work programs is critical. Children are much more likely to remember the information gleaned from the authentic setting of a worksite visit than a litany of facts in the most engaging of textbooks. An additional value of direct, simulated, and vicarious experiences is that they level the playing field for the child who has difficulty with traditional schoolwork. The implication is that, if properly implemented, programs like KAPOW can provide a real-world context that is extremely valuable for the learning of all children.

As presented in Chapter Two, teachers do implement thematic lessons to allow children to explore a topic in greater detail and build more highly-developed knowledge frameworks. In addition, themes may be periodically revisited to extend children’s concepts, and thus, the elementary-school curriculum addresses the same topics over multiple years, but in ever greater
detail. Although the value of multiple-year participation was not within the purview of this inquiry, it is not unreasonable to question whether ongoing participation in a program like KAPOW would be beneficial. It is possible that children who took part in the program over multiple years would build more highly-developed knowledge frameworks about the world of work.

School-To-Work programs offer business leaders and educators a chance to work together to create something of value. As those who educate our nation's children for future careers learn more about the dynamic nature of the world of work, business leaders can in turn become more knowledgeable about children's academic preparation. With attention to what is truly best for our young people, the School-To-Work movement could become more than just another educational fad. It could be a doorway to lifelong learning.

**Final Questions, Final Thoughts**

According to Denzin (1994), "fieldworkers can neither make sense of nor understand what has been learned until they sit down and write the interpretive text, telling the story first to themselves" (p. 502) and then to others. In just such a way, the task of setting my thoughts in print has brought me an understanding of what I observed over these past months. Many questions still remain, however.

I am especially interested in the application of developmental theory by preservice teachers, and there are numerous paths for further research that I
could choose. What background factors provide fertile ground for the learning of developmental theory? How can those who educate beginning teachers facilitate the application of such theory? How can novice teachers learn to monitor their own learning and its practical use in the field? I would like to find answers to these questions.

I am also interested in the role of peers in a teacher education program. To what level can students support one another’s learning? What value might reside in the structuring of field placements so that less skilled novices could observe and/or work with their more advanced classmates? Conversely, what impact could the writing of observation reports have on preservice teachers’ awareness of their own and others’ pedagogy? Taking this one step farther, how might inservice teachers also benefit from peer mentoring and review? Each of these areas is worthy of additional study.

I also want to know more about School-To-Work programs, especially as related to KAPOW. To what extent will my participants use their knowledge of careers-education when they manage their own classrooms? How could a network of such knowledgeable teachers enhance School-To-Work efforts within and across school systems? What are the best ways to extend a program like KAPOW to the middle school? These are questions I would like to pursue in the future.

For me, this inquiry has drawn together the disparate threads of personal interest, prior experience, and graduate study. In constructing one
view of how eight preservice teachers understood and applied their knowledge of developmental theory, I myself learned a great deal. The principles of constructivism and the tenets of developmentally appropriate practices were made real to me. I gained valuable insights into the relationships between DAP and teaching, between DAP and learning, between teaching and learning. The difficulty with which this was accomplished brought home the realization that knowledge is not "out there" waiting to be discovered, but it must be painstakingly constructed and reconstructed, and then altered once again.

In this process, I also learned first-hand about the value of personal interaction to facilitate learning. In solitary moments when theory seemed too far removed from practice, I found myself reaching out to others for affirmation that what I thought I had seen in the data was really there. In my students I found co-learners whose constructions forced a second look at my own. Their learning drew a path for my teaching, taking me into regions I had not explored thus far. I found understanding, too, in the explanation of abstract terms I only thought I knew. My own learning, and its application, was strengthened by others' ideas.

Finally, what I learned has reinforced my view of the importance of hands-on, minds-on, real-world knowledge application in preparing young people for their future careers. Wolf (1989) points out that "virtually every student walks out of school into years of long-term projects: raising children, building a house, running a farm, writing a novel, or becoming a better lab
technician" (p. 35). Isolated work in silent classrooms will not prepare youngsters for these projects.

Children need to be active participants in meaningful enterprise that draws on their prior experiences and builds toward further academic encounters. They need to work on open-ended problems with many “right” answers and no easy solutions. They need to talk with their peers, to learn from them, to share in turn their own ideas. A classroom that offers such an environment is consistent with Dewey’s (1938) efforts to build education on experience, and it supports Resnick’s (1987b) call for restructuring education to promote learning of “out-of-school skills” (p. 18) as preparation for future careers. It is consonant, too, with a pedagogy based on developmental theory, sometimes called “developmentally appropriate practices” (NAEYC, 1987).

For preservice teachers, the understanding of developmental theory is critical in building a personal philosophy of education that can effectively guide the learning of others. Equally as important, however, is the formation of a belief system that is supportive of “best practice” rather than personal convenience, as novice educators learn to apply that theory in appropriate ways. Learning will not end when they commence their careers, however. Rather, it will continue in their personal development as educators, in the ongoing redefinition of their own conceptual frameworks, and in their recursive constructions of knowledge about teaching and learning.
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CHILDREN'S LITERATURE CITED


APPENDIX A

SYLLABI, PRE- AND POST-TEST SAMPLES
The World of Work and the Elementary School, Part I
3 Hours - Undergraduate or Graduate Credit
Autumn 1997

Purpose of the Course

This is Part I of a three-part course. It is designed to support, complement, and enhance the Kids and the Power of Work program (KAPOW), in which the campus serves as a partner to ________ Elementary School. Students will act as volunteers, representing the University in their visits to ________ Elementary. Just as the KAPOW program strives to provide a bridge for elementary children to the "world of work," so this course will act as a bridge between early field experience and advanced field work, between university coursework and a teaching career.

Key Objectives - Students Will Be Able To: (*Ongoing Objectives*)

1. * Represent the campus as a dependable, responsible preservice teacher.
2. * Help a class of elementary grade children to understand more about the world of work.
3. * Work productively with a volunteer partner to create a positive learning experience for each other and for students at ________ Elementary School.
4. * Improve and refine presentation skills.
5. * Describe the three principles of Developmentally Appropriate Practice. Apply those principles to planning KAPOW lessons.
6. * Describe the basic principles of Cooperative Learning; identify and describe several Cooperative Learning Structures.
7. * Use a Course of Study to show how KAPOW lessons complement and enhance the elementary school program.
10. * Select appropriate Activities to enhance curricular goals.
11. Describe how children's school work is related to Life-long Skills and Knowledge.
12. Describe the effect of Multicultural Groups in schools and the relationship to Cooperative Learning.
13. Describe how various Resources support the curriculum.
14. Select appropriate Resources to develop activities.
15. Understand and describe the economic principle of Scarcity.
16. Gain information about jobs in general and campus jobs in particular.

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There is no text book for this course. Readings will be selected from a separate reading list. All students will be responsible for one reading. In addition, there will be some readings for which all students are responsible.

Course Requirements

1. Interview and Summary
With your partner, prepare questions and interview a campus staff member. Summarize the interview in a 2-page paper (typed or neatly handwritten). Prepare a list of 8-10 “clues” about the person’s job. (Papers to be done individually).

30 points (Questions = 10; Paper = 15; Clues = 5)

2. _______ Elementary Classroom Experiences
With your partner, prepare each of the lessons to be executed at ________ School. Make sure you have all the necessary materials. Be on time. Follow the lesson plan as outlined. Help each other. When you have finished, discuss the lesson with your partner. What did you feel best about? Is there anything you would like to change? Write about it in your journal.

40 points each (Effort = 10; Preparation = 10; Cooperation = 10; and Implementation = 10). Total of 80 points (1 lesson, 1 site visit)

3. Article Review
Each student will be responsible for reading one article and providing an oral review for the class. This will be very informal. You need to turn in a written summary (about 1 page) telling how this article is relevant to the KAPOW program and/or to your other field experiences.

30 points (Oral review = 20; Summary = 10)

4. Notebook
Start a notebook of materials which help teach children about the World of Work. You will be given materials in class, and you may add others which you find on your own. Include a short paragraph on the “Econ and Me” video tapes.

50 points (Completeness = 20; Organization = 20; Sharing = 10)
5. Reflective Journal
Keep a journal about what you are learning in this course. Write one entry today; one each before and after your first visit to ________; one each before and after the site visit; and one final entry before our last class of the term. You should have a total of 6 entries, each about 1 page long. (May be handwritten)

60 points (each entry = 10 points)

6. Midterm Exam and Final Project - Worth 25 points each.

7. There may be occasional daily assignments which will be ungraded.

8. Final Conferences - Each student will have a final conference at the end of the term before he/she leaves the program. If you will not be returning after this term, we will schedule a conference during finals week.

Total Points = 300

Grading Scale
279 - 300 = A
270 - 278 = A-
261 - 269 = B+
249 - 260 = B
240 - 248 = B-
231 - 239 = C+
219 - 230 = C
210 - 218 = C-
201 - 209 = D+
189 - 200 = D
180 - 188 = D-
0 - 179 = E

Class Schedule:

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<tr>
<th>Class</th>
<th>Topic/Activity</th>
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<tr>
<td>Week 1</td>
<td>1. Introduction and Course Overview</td>
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<td>2. Overview of KAPOW</td>
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<td>3. Introduction to Developmentally Appropriate Practice</td>
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<td>Break</td>
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<td>4. Introduction to Cooperative Learning; Some Activities</td>
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<td></td>
<td>5. Interviews: Partner Interviews/Introductions; Subjects</td>
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<td></td>
<td>6. Partners’ Planning Time - Interview Questions</td>
</tr>
<tr>
<td>Assignment</td>
<td>Interview Questions; Journal #1.</td>
</tr>
</tbody>
</table>
Week 2
1. Field Work on campus - Pairs Interview Employees
   Break
2. Pairs’ Classroom Work
3. Review of Koch Article: School-To-Work
4. Relating Children’s In-school Learning to Real-world Work
   Assignment - Interview Summary Paper

Week 3
1. Review of Interviews (in-class discussion)
2. Curriculum Integration
3. Components of Lesson Plans
   Break
4. Literature Connections
5. Cooperative Learning Activities
   Assignment - Article Reviews

Week 4
1. Reviews of Articles (DAP Connections)
2. Classroom Management - Children’s Behavior
3. Our KAPOW Lesson Plans - Components, Course of Study
4. Review for Midterm Exam
   Break
5. Partners’ Lesson Planning Time
   Assignment - Journal #2 Before, #3 After Lesson.
   Prepare for Field Experience
   For Week 6 - Midterm; Article Review

Week 5
1. Field Experience #1 at ________ Elementary

Week 6
1. Midterm
2. Reflections on Field Experience
3. Lesson Plan Evaluations
   Break
4. Diversity: Cultural and Ethnic Groups
5. Cooperative Learning - Multicultural Aspects
   Assignment - Article Reviews

Week 7
1. Review of Articles (DAP Connections)
2. Choosing Activities for Children - Brophy & Alleman
3. Site Visit Implications
   Break
4. Literature Connections and Cooperative Activity
   Assignment - Article Review
Week 8
1. Review Articles (DAP Connections)
2. Supporting the Curriculum with Resources
3. Preparing for Site Visit

Assignment for Week 10 - Journal #4 Before, #5 After Site Visit; Final Journal (#6); Notebooks; Final Projects; Final Article Reviews

Week 9
1. Site visit of ________ students

No Class - Thanksgiving Holiday

Week 10
1. Reflection on Site Visit
2. Review of Articles (DAP Connections)
3. “Econ and Me” #1 - Response
4. Notebooks
   Break
5. Final Projects - Informal Presentations
Purpose of the Course

This is Part II of a three-part course. It is designed to support, complement, and enhance the Kids and the Power of Work program (KAPOW), in which the campus serves as a partner to _________ Elementary School. Students will act as volunteers, representing the University in their visits to _________ School. Just as the KAPOW program strives to provide a bridge for elementary children to the “world of work,” so this course will act as a bridge between early field experience and advanced field work, between university coursework and a teaching career.

Key Objectives - Students Will Be Able To:

* Designates Ongoing Objectives

1. * Represent the campus as a dependable, responsible preservice teacher.
2. * Help a class of 2nd/3rd or 4th/5th grade children to understand more about the world of work.
3. * Work productively with a volunteer partner to create a positive learning experience for each other and for students at _________ Elementary School.
4. * Improve and refine presentation skills.
5. * Describe the three principles of Developmentally Appropriate Practice. Apply those principles in planning KAPOW lessons.
6. * Describe the basic principles of Cooperative Learning; identify and describe several Cooperative Learning Structures.
7. * Use a Course of Study to show how KAPOW lessons complement and enhance the elementary school program.
10. * Select appropriate Activities to enhance curricular goals.
13. Describe how Children's Literature supports the curriculum.
14. Select appropriate Children's Literature to enhance Activities.
15. Understand and describe the economic principles of Opportunity Cost and Interdependence.
16. Create a Discussion Web or a Content Web.
There is no textbook for this course. Readings will be selected from a separate reading list. All students will be responsible for one reading. In addition, there will be some readings for which all students are responsible.

Course Requirements

1. __________ Elementary Classroom Experiences
   With your partner, prepare each lesson to be executed at __________ School. Make sure you have all your materials. Be on time. Follow the plan. Help each other. Afterwards, discuss it with your partner. Write about it in your journal.

   40 points each (Effort = 10; Preparation = 10; Cooperation = 10; and Implementation = 10). Total of 120 points (3 lessons)

2. Annotated Bibliography
   Create a bibliography of 5 children’s books that support KAPOW at the 2/3 or 4/5 grade level. Each entry should have a short paragraph telling about the book and how it relates to the World of Work.

   30 points (Appropriate = 10; Bibliography = 10; Annotations = 10)

3. Discussion Web
   Write a discussion question from one of your Annotated Bibliography entries. Use it to form the basis of a Discussion Web. Write a short description (typed or neatly handwritten) explaining how your question and Web fit into the KAPOW program.

   20 points (Description = 15; Web = 5)

4. Article Review
   Prepare a ten-minute oral review of your chosen article and a 1-page summary. This will be done the same as last quarter.

   30 points (Oral review = 20; Summary = 10)

5. Notebook
   Continue with the notebook you started last quarter.

   50 points (Completeness = 20; Organization = 20; Sharing = 10)
6. Reflective Journal
Keep a journal about your field experience classroom visits. For each visit, record 2 entries. One written before the visit should tell about your objectives and preparation. Another entry written after the visit should describe what happened and how you felt about it. You will have 6 entries of about one page each.

60 points (each entry = 10 points)

7. Midterm Exam and Final Project - Worth 25 points each

Total Points = 360

Grading Scale

<table>
<thead>
<tr>
<th>Points</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>335 - 360</td>
<td>A</td>
</tr>
<tr>
<td>324 - 334</td>
<td>A-</td>
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<td>313 - 323</td>
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<td>216 - 228</td>
<td>D-</td>
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<td>0 - 215</td>
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</tbody>
</table>

Class Schedule:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic/Activity</th>
</tr>
</thead>
</table>
| 1    | 1. Course Overview  
2. Positive Work Habits - Relating School to Adult Life  
2. Review of Cooperative Learning; Activities |
|      | BREAK |
|      | 3. DAP and Theme Teaching  
4. Redo Bulletin Board  
Assignment - Article Reviews |
| 2    | 1. Review of Articles  
2. Literature Connections |
|      | BREAK |
|      | 3. New Lesson Plans  
4. Course of Study  
5. Partners' Lesson Planning Time  
Assignment - Journal #1 Before, #2 After lesson; Prepare for Field Experience; Read Article |
| 3    | 1. Field Experience #3 at School |
Week 4
1. Reflections - Journal Exchange, Discussion
2. Write Evaluations
3. “Econ and Me” #2 - Response
4. Children Exploring Self-Awareness

BREAK

5. Themes and Webbing
6. Review for Midterm

Assignment - Read Article; Midterm

Week 5
1. Midterm
2. Discussion Webs
3. Art Connections

BREAK

4. Lesson Plans - Course of Study
5. Partners’ Planning Time

Assignment - Journal #3 Before, #4 After Lesson; Prepare for Field Experience; Annotated Bibliography; Article Reviews

Week 6
1. Field Experience #4 at _________ School

Week 7
1. Reflections - Journal Exchange, Discussion
2. Bibliographies - Informal Sharing
3. Interdependence Theme

BREAK

4. “Econ and Me” #3 - Response
5. Review of Barclay and Hartman Articles

Assignment - Discussion Web; Article Reviews

Week 8
1. Review Castle and Cronin Articles
2. Discussion Webs - Informal Sharing
3. Cooperative Learning Activities

BREAK

4. Lesson Plans - Course of Study
5. Partners’ Planning Time

Assignment - Journal #5 Before, #6 After Lesson; Prepare for Field Experience; Article Reviews; Notebooks; Final Projects

Week 9
1. Field Experience #5 at _________ School

Week 10
1. Reflections on Field Experience
2. Review of Articles (DAP Connections)

BREAK

3. Final Projects - Informal Sharing
4. Notebook Review
A3. Syllabus - ED T&P 694.10 Part III

The World of Work and the Elementary School

3 Hours - Undergraduate or Graduate Credit

Spring 1998

Purpose of the Course

This is Part III of a 3-part course. It is designed to support, complement, and enhance the Kids and the Power of Work program (KAPOW), in which the campus serves as a partner to _________ Elementary School. Students will act as volunteers, representing the University in their visits to _________ School. Just as the KAPOW program strives to provide a bridge for elementary children to the “world of work,” so this course will act as a bridge between early field experience and advanced field work, between university coursework and a teaching career.

Key Objectives - Students Will Be Able To:

*Designates Ongoing Objectives

1. * Represent the campus as a dependable, responsible preservice teacher.
2. * Help a class of 2nd/3rd or 4th/5th grade children to understand more about the world of work.
3. * Work productively with a volunteer partner to create a positive learning experience for each other and for students at _________ Elementary School.
4. * Improve and refine presentation skills.
5. * Describe the three principles of Developmentally Appropriate Practice. Apply those principles in planning KAPOW lessons and be able to express how principles were applied.
6. * Describe the basic principles of Cooperative Learning; identify and describe several Cooperative Learning Structures.
7. * Use a Course of Study to show how KAPOW lessons complement and enhance the elementary school program.
8. * Select appropriate Activities to enhance curricular goals.
9. * Describe how Children’s Literature supports the curriculum; select appropriate Children’s Literature to enhance Activities.
10. Describe how Decision Making in the elementary school relates to life-long skills and knowledge.
11. Describe common Cultural and Ethnic Stereotypes; be aware of connections between culture and Learning Styles.
13. Write a Lesson Plan with Objectives, Procedures, and Evaluations.
14. Fulfill KAPOW lesson objectives, and be able to express how those objectives were met.
15. Understand and describe the economic principles of Production and Interdependence.
16. Gain information about jobs in general and OSUM jobs in particular.

Course Requirements

1. _____ Elementary Classroom Experiences
   With your partner, prepare each of the lessons to be executed at ________ Elementary School. Make sure you have all the necessary materials. Be on time. Follow the lesson plan as outlined. Help each other. When you have finished, discuss the lesson with your partner. Write about it in your journal.

   40 points each (Effort = 10; Preparation = 10; Cooperation = 10; and Implementation = 10). Total of 120 points (3 lessons).

2. Reflective Journal
   Keep a journal about your field experience classroom visits. For each visit, record 2 entries. One should be done before the visit. Tell what you hope to accomplish and what you have done to prepare. Another entry written after the visit should describe what happened and how you felt about it. Add a final entry that reflects on how your ideas about teaching and DAP have changed since Part I of this course. You will have 7 entries.

   70 points (each entry = 10 points)

3. Notebook
   Continue with your notebook as you did Parts I and II.

   50 points (completeness = 20; Organization = 20; Sharing = 10)

4. Article Review
   Each student will be responsible for reading one article and providing an oral review. Students will be assigned to one of two groups for this purpose. Make a list of 5-10 important points from the article. This will be reproduced for the other three members of your group.

   20 points (List of Points = 10; Group Participation = 10)
5. Midterm Exam
You will have a take-home exam which will consist of three short essay questions. Write a one-page answer for each one, then add a list of five questions which you feel are important to this course. This is due on Week 5. You will receive the exam questions Week 2 and may work on them at your own pace.

On Week 5, be prepared to briefly discuss one of your five questions and why you feel it is important. You are not expected to be an expert on the subject, but you should be able to relate it to KAPOW specifically and to teaching in general.

40 points (Essays = 30; Questions = 10)

6. Lesson Plan Review Sheet
This is to be completed by partners together. I will give you the sheet on the first day of class.

10 points (for each of you).

7. Final Project (Worth 50 points)
We will have short informal presentations of projects.

There will also be several short readings and/or assignments that are ungraded.

Total Points = 360

Grading Scale

| 335 - 360 = A | 288 - 298 = B- | 241 - 251 = D+ |
| 324 - 334 = A- | 277 - 287 = C+ | 227 - 240 = D |
| 313 - 323 = B+ | 263 - 276 = C | 216 - 228 = D- |
| 299 - 312 = B | 252 - 262 = C- | 0 - 215 = E |
## Class Schedule:

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic/Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Week 1</strong></td>
</tr>
<tr>
<td></td>
<td>1. Course Overview &amp; Projects from Winter Term</td>
</tr>
<tr>
<td></td>
<td>2. Decision Making - For Children and For Adults</td>
</tr>
<tr>
<td></td>
<td><strong>BREAK</strong></td>
</tr>
<tr>
<td></td>
<td>3. Decision Making Activities</td>
</tr>
<tr>
<td></td>
<td>4. Curriculum Connections</td>
</tr>
<tr>
<td></td>
<td><strong>Assignment - Paragraph</strong></td>
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<td></td>
<td><strong>Week 2</strong></td>
</tr>
<tr>
<td></td>
<td>1. &quot;Econ and Me&quot; #4 - Response</td>
</tr>
<tr>
<td></td>
<td>2. Cooperative Learning Activities</td>
</tr>
<tr>
<td></td>
<td>3. Course of Study</td>
</tr>
<tr>
<td></td>
<td><strong>BREAK</strong></td>
</tr>
<tr>
<td></td>
<td>4. Review of Lesson Plans</td>
</tr>
<tr>
<td></td>
<td>5. Partners’ Planning Time</td>
</tr>
<tr>
<td></td>
<td><strong>Assignments - Journal #1 Before, #2 After Lesson</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Prepare for Field Experience; Article Reviews</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Week 3</strong></td>
</tr>
<tr>
<td></td>
<td>1. Field Experience #6 at ________ School</td>
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<td></td>
<td><strong>Week 4</strong></td>
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<tr>
<td></td>
<td>1. Reflections on Field Experience</td>
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<td></td>
<td>2. Overcoming Bias and Stereotyping</td>
</tr>
<tr>
<td></td>
<td><strong>BREAK</strong></td>
</tr>
<tr>
<td></td>
<td>3. Article Reviews</td>
</tr>
<tr>
<td></td>
<td>4. Cooperative Learning</td>
</tr>
<tr>
<td></td>
<td><strong>Assignment - Midterm Exam</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Week 5</strong></td>
</tr>
<tr>
<td></td>
<td>1. Discuss Midterm Questions</td>
</tr>
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<td></td>
<td>2. Learning Centers and Literature Connections</td>
</tr>
<tr>
<td></td>
<td>3. Cooperative Learning Activities</td>
</tr>
<tr>
<td></td>
<td><strong>BREAK</strong></td>
</tr>
<tr>
<td></td>
<td>4. Partners’ Planning Time</td>
</tr>
<tr>
<td></td>
<td><strong>Assignments - Journal #3 Before, #4 After Lesson</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Prepare for Field Experience</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Week 6</strong></td>
</tr>
<tr>
<td></td>
<td>1. Field experience #7 at ________ School</td>
</tr>
</tbody>
</table>
**Week 7**
1. Reflections on Field Experience
2. Occupational Structure (Categorizing Jobs)
   **BREAK**
3. Econ and Me” #5
4. Economics Games
   **Assignments - DAP Value Lines; Lesson Plan Review**

**Week 8**
1. Learning Centers and Theme Teaching
2. Review of the 8 KAPOW Lessons
   **BREAK**
3. Lesson Plans - Course of Study
4. Partners’ Planning Time
   **Assignments - Journal #5 Before, #6 After Lesson; Final Entry; Prepare for Field Experience; Final Projects; Notebooks Due**

**Week 9**
1. Field Experience #8 at ________ School

**Week 10**
1. Reflections on Field Experience
2. Assessment
   **Break**
3. Sharing of Final Projects, Notebooks
4. Final review; suggestions for next year
5. Course Evaluations

We will not meet as a class during finals week, but each person will need to meet with me for a final conference. I will return your course materials at that time.
A4. Statements Used in DAP Pretest

(The four most frequently-missed statements are in bold print.)

1. Keep children separated from their friends to maintain classroom order.

2. Teachers need to have high expectations for all the children.

3. Children with "special needs" (such as learning disabilities) should be taught in a special classroom.

4. Worksheets are a good method of introducing new concepts to young children.

5. When children are doing "projects," the teacher can make use of the time by checking papers or changing the bulletin board.

6. Teachers can use grouping as a deliberate part of their teaching strategies and make it part of their planning.

7. Make sure children do their work alone if you want them to learn something new.

8. Standardized tests are important, so make sure your lesson plans are structured around them.

9. It is the teacher's job to teach social skills, so make some time for it every day.

10. When children aren't interested in school work, promise them some reward to get their attention.

11. Children need to finish their school work early enough so that they can talk to their friends or to the teacher.

12. Most of the questions teachers ask should have a right answer so children can learn more effectively.

13. The school curriculum is designed around important skills like learning to read or do math.

14. The curriculum is integrated, with many subjects considered at once so that skills and knowledge learned in one area can be applied in another.
15. It is the teacher’s job to make decisions about the child’s education. Parents should support what he/she says.

16. Children who fall behind get individual help; they are not retained or put in “transition” classes.

17. Children should be taught with others their own age; there is no need for cross-age teaching.

18. The Principal needs to have management experience, but he/she need not have taught young children personally.

19. Children learn through active involvement in various learning experiences with each other, adults, and various materials.

20. It’s important that children learn to take risks, so provide some situations that will let them do it in a safe way.

21. The teacher makes the daily schedule, and it’s best to keep it exactly the same each day.

22. Each teacher is responsible for his/her own class and deserves to be blamed for sending unprepared children to the next level.

23. Teaching is easiest if children are grouped according to their abilities in reading and sometimes in other subjects, too.

24. Children should learn to respect both differences and similarities among people.
### A5. Where are You? (Adapted from Gronlund, 1995)

**Directions** - Place an X on each line to show where your beliefs currently fall. Put a √ before any statement pairs which reflect a change in your beliefs during this year.

<table>
<thead>
<tr>
<th>Belief 1</th>
<th>Belief 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>The child adapts to school.</td>
<td>The school adapts to the child.</td>
</tr>
<tr>
<td>The child is passive, dependent.</td>
<td>Child is an active learner.</td>
</tr>
<tr>
<td>Teacher uses one instructional mode, usually whole-group.</td>
<td>Teacher balances whole/small group, individual work.</td>
</tr>
<tr>
<td>Children work individually.</td>
<td>Children work cooperatively.</td>
</tr>
<tr>
<td>Teacher &quot;covers&quot; the material.</td>
<td>The child &quot;discovers&quot; knowledge</td>
</tr>
<tr>
<td>Focus is on the 3 R’s.</td>
<td>Focus is on concepts, skills, processes &amp; attitudes.</td>
</tr>
<tr>
<td>Subjects are taught separately.</td>
<td>Curriculum is integrated.</td>
</tr>
<tr>
<td>Teacher uses abstract materials.</td>
<td>Varied concrete materials used.</td>
</tr>
<tr>
<td>Emphasis on verbal information.</td>
<td>Emphasis on thinking/problem solving.</td>
</tr>
<tr>
<td>Teacher wants one right answer.</td>
<td>Alternate solutions are generated</td>
</tr>
<tr>
<td>Play has no part in schoolwork.</td>
<td>Play is integral to learning.</td>
</tr>
<tr>
<td>Culture expressed in holiday traditions, celebrations.</td>
<td>Multicultural content is based on real-life, social experience.</td>
</tr>
<tr>
<td>Teacher is the expert.</td>
<td>All learners may be experts..</td>
</tr>
<tr>
<td>Children grouped by ability/age.</td>
<td>Grouping is by interest, learning needs or motivation.</td>
</tr>
<tr>
<td>Assesses what the child knows.</td>
<td>Assesses how the child learns or what he/she can do.</td>
</tr>
<tr>
<td>Answers are valued.</td>
<td>Questions are valued.</td>
</tr>
<tr>
<td>Paper-&amp;-pencil work used almost exclusively.</td>
<td>Many kinds of representations are regularly used and valued.</td>
</tr>
</tbody>
</table>
EXPLANATION OF CONTENTS

In this appendix are various instructional materials used in the lessons. They were listed in the Preparation Tables for each lesson (Tables 4.1, 4.4, 4.6, 4.8, 4.10, 4.12, 4.14, 4.16). Mini-lessons that were planned ahead of time were summarized on overhead transparencies and/or handouts for the students. These are all included here. Sometimes a mini-lesson emerged from class discussion. If there was no follow-up with transparencies or handouts, no representation of the lesson is found in this section.
Preparing to Teach

1. Have your lesson well-prepared. It gives you confidence.
2. Face the class as much as possible.
3. Move around the room.
4. Provide variety in activities. If an activity isn’t working, switch to something else. Let the children do some of the talking.
5. Answer children’s questions but keep the lesson focused.
   a. Focus on work - How can we connect learning with the world of work?
   b. How can we show our campus as a workplace, not only as a school?
6. Decide ahead of time how you will answer personal questions.
7. Use examples the students can relate to - e.g. television, movies, sports.
8. Be aware of the teacher’s rules and maintain them if at all possible.

9. Handling disruptive students:
   a. Refocus them.
   b. Ignore them.
   c. Remove them (last resort).
10. Remember your language - use a child’s vocabulary.
11. Overplan. Always have a book to read or a game to play - just in case!
12. Smile - Relax - Have fun! The class will, too.

B1. Lesson One: Basic Classroom Management Techniques
<table>
<thead>
<tr>
<th>Children in:</th>
<th>Primary-Grades</th>
<th>Intermediate-Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>Very active: release of energy in nervous habits - nail biting, pencil chewing; need breaks and activity. Fine muscle control still developing - avoid long periods of writing. Many can’t focus on small print, or objects.</td>
<td>Growth spurt: girls often bigger, equal to boys in strength; most can sit still now for longer periods of time. Both boys and girls have very good fine muscle and enjoy arts/crafts, other manipulation activities.</td>
</tr>
<tr>
<td>Social</td>
<td>Many have “best” friend; often like organized games in small groups - concerned about fairness and rules. Still quarrel, usually in words but sometimes physical acts.</td>
<td>Peer group has great power. Begin to understand others’ feelings. More sensitive, able to settle problems by discussion rather than by Physical aggression.</td>
</tr>
<tr>
<td>Emotional</td>
<td>Sensitive to criticism: eager to please - don’t like to fail. In early stages of sensitivity to feelings and use this knowledge to tease others.</td>
<td>Delinquent behavior may result from family, school, or social problems. One in ten is classified with some behavior disorder - e.g. eating disorder, depression.</td>
</tr>
<tr>
<td>Cognitive</td>
<td>Most are eager to learn: like to talk - better at talking than at writing. Still interpret rules very literally - leads to much tattling on each other. Concrete objects beneficial for learning.</td>
<td>Girls still better at reading, math computing, language; boys better at math reasoning, spatial, insight. Cognitive styles become apparent. Less dependent on concrete objects for learning, but still helpful.</td>
</tr>
</tbody>
</table>

(Adapted from Biehler & Snowman. 1993)

B2. Lesson One: Comparing Primary- and Intermediate-Grade Children
Questions About Activities

1. Is it productive or is it really just busy work?
2. Does it support a main idea?
3. Do the children understand what you want them to do?
4. Is it built around typical examples or "exotic content"?
5. Is the difficulty level right for the group?
6. Is it built on skills the children have already acquired?
7. Can you do it?
8. Is this activity necessary or have children already mastered this material?
9. Is it worth the time and effort that is involved?
10. Does it integrate several subject areas?

(Adapted from Brophy and Alleman, 1991)

B3. Lesson Two: Choosing appropriate activities for children.
1. Themes should be tied to real life.

2. Themes should give children opportunities to explore concepts that are related - not just learning isolated bits of information.

3. Themes do present facts, researched by teachers.

4. Content (facts) and processes are integrated.

5. Hands-on activities and active inquiry are critical. Themes that don't involve hands-on activities are not good choices for young children.


7. Content is taught more than once and in more than one way.

8. Themes integrate several areas of the curriculum.

9. If children show high interest in a theme, the teacher should extend the time spent on it.

10. Themes for older children can be more complex.

B4. Lesson Three: Theme teaching.
THE MOST ABSTRACT EXPERIENCES

**Verbal Experiences**

Listening to lecture, written words; using just one sense; abstract symbols. 
*Students are physically inactive.*

**Visual Experiences**

Pictures, diagrams, charts; using one sense; symbolic. 
*Students are physically inactive.*

**Vicarious Experiences**

Laser video-discs, computer programs, videos; uses multiple senses; indirect “doing.” 
*Students may have limited physical activity.*

**Simulated Experiences**

Role playing, experiments, simulations, working models; Many/all senses used; activity integrates curriculum. 
*Students are physically active.*

**Direct Experiences**

This is true inquiry; all senses are used; activity integrates curriculum. 
*Children are doing what is being learned.*

THE MOST CONCRETE EXPERIENCES

(Adapted from Roberts et al., 1996, p. 168)

B5. Lesson Four: The learning experiences ladder.
### Questions in Summary Form

<table>
<thead>
<tr>
<th>Question</th>
<th>Students Who Expressed This</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is the lesson age-appropriate?</td>
<td>L, M, D, S, H, E</td>
</tr>
<tr>
<td>2. Is it culturally appropriate?</td>
<td>S, D, J, E</td>
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<tr>
<td>3. Is it individually appropriate?</td>
<td>J, D, S, E</td>
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<tr>
<td>5. Can I relate it to previous experiences?</td>
<td>H</td>
</tr>
<tr>
<td>7. Is there individual accountability?</td>
<td>S, D, J</td>
</tr>
<tr>
<td>8. Is there positive interdependence?</td>
<td>D</td>
</tr>
<tr>
<td>9. Is there simultaneous interaction?</td>
<td>D</td>
</tr>
<tr>
<td>10. How can I evaluate this?</td>
<td>L, H, E</td>
</tr>
<tr>
<td>11. What materials are needed?</td>
<td>A, M</td>
</tr>
<tr>
<td>12. Is there a time problem?</td>
<td>M</td>
</tr>
<tr>
<td>14. Do I know the content?</td>
<td>A</td>
</tr>
<tr>
<td>15. Will this work?</td>
<td>L</td>
</tr>
<tr>
<td>16. Is this lesson worthwhile?</td>
<td>J</td>
</tr>
<tr>
<td>17. How can I justify it to parents?</td>
<td>E</td>
</tr>
<tr>
<td>18. Does it meet my standards and the district's?</td>
<td>E</td>
</tr>
</tbody>
</table>

Letters stand for Amy; Megan; Diane; Jeff; Ellen; Linda; Susan; Holly.

---

**B6. Lesson Four: Summary of students' initial planning questions.**
Group A - Linda, Jeff, & Susan

1. Does my lesson fulfill the objectives?
2. Is it developmentally appropriate - age/individually/culturally?
3. How can the lesson be evaluated?
4. Do I have enough time?
5. Will this work?

Group B - Megan, Amy, Diane, and Holly

1. Is it developmentally appropriate?
2. Does it follow the lesson plan - objectives/procedures/assessment?
3. What resources are needed (time, materials, knowledge)?
4. Is this something the children will enjoy and learn from?
5. What are alternative activities?

Note - Ellen was absent for this activity.

B7. Lesson Five: Students' revised planning questions.
Consider first the **Central Question:**

*What can children say they learned from your lesson?*

*(Not - What can they say they did?)*

To support this, ask yourself the following questions.

1. What are my objectives, and how will I fulfill each one?

2. Is my lesson developmentally appropriate - age/individual/cultural - and in what specific ways?

3. How will I evaluate what children have learned?

4. How will I relate today's lesson to what children learned previously and to what I plan to teach in the future? (Creating opportunities for concept building)

5. How can I introduce the lesson to get children's attention, and how will I continue to motivate them throughout the lesson?

**Central Question adapted from R. Becher**

*(personal communication 2/17/98)*

B8. Lesson Five: Planning questions provided by instructor.
The Child-Centered Teacher:

Understands that an integrated curriculum supports children’s learning.

Proceeds from the child’s level.

Believes that the learner constructs his/her own concepts about the world.

Helps the child create connections that build concepts.

Prepares learning experiences and materials which allow the child to interact with them.

Allows the child to take initiative for learning - allows choice within clear boundaries.

Provides an orderly routine, yet remains flexible.

Expects children to be active learners, interacting with information and other children.

Puts learning in context for children.

Uses real-life problem solving.

Realizes that children often solve problems first with assistance, then on their own.

Challenges children to work near their capacities.

Provides many opportunities for children to practice what they have learned.

Provides open-ended activities with concrete materials.

Understands children change as they develop.

(Adapted from Wortham, 1998, pp. 184-185)

### Appealing to Many Learning Styles -
How Did We Do in Our Lessons?

<table>
<thead>
<tr>
<th></th>
<th>Visual/spatial</th>
<th>Bodily/kinaesthetic</th>
<th>Verbal/linguistic</th>
<th>Logical/mathematical</th>
<th>Interpersonal</th>
<th>Intrapersonal</th>
<th>Musical/rhythmic</th>
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</tbody>
</table>

(Adapted from *Learning*, 1995, unpaged foldout)

Check each box that is applicable.

**B10. Lesson Seven:** How many of Gardner's multiple intelligences did we address in our KAPOW lessons?
Child-centered teaching means that we must concentrate, not only on our own tasks as teachers, but on what the children are doing while we are teaching. Please list in order the components of your last lesson. (e.g. I/we “asked questions” - the children “responded”) After each one, write the approximate number of minutes you think you spent on this lesson element. Add lines on the back if you need them.

<table>
<thead>
<tr>
<th>What Did You Do?</th>
<th>What Were the Children Doing?</th>
</tr>
</thead>
<tbody>
<tr>
<td>I/we ___________</td>
<td>They ________________________</td>
</tr>
<tr>
<td>I/we ___________</td>
<td>They ________________________</td>
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<tr>
<td>I/we ___________</td>
<td>They ________________________</td>
</tr>
</tbody>
</table>

Now go back through your list. Circle the instances in which your activity was most important and the children were only watching, listening, or responding to your questions. On the children’s side, circle the instances in which their activity was the most important and you were only giving individual help.

Compare the circled items: Was your lesson really child-centered?

B11. Lesson Eight: Judging whether a lesson is really child-centered.
1. **Roundtable - Lesson 1**

Students are in small groups. Each group has a single piece of paper. The teacher asks a question for which many correct answers may be given. Each student then writes an answer and passes the paper to the student at his/her left. The paper continues to go around the table until time is called. To ensure individual accountability, teachers can have students use different colored markers or pens (Kagan, 1994, 10:12).

2. **Rallytable - Lesson 1**

This is done in much the same way as Roundtable, except that students work in pairs. When time is called, two pairs compare their answers and conclude that two pairs gives more answers than one (Kagan, 1994, 10:13).

3. **Three-Step Interview - Lesson 1**

Students are in pairs. One interviews the other about a specific subject. In step two, their roles reverse. After time is called, each individual stands and tells something he/she learned about the other person. This may be done within teams to continue with small cooperative groups, or the sharing may be done with the entire class (Kagan, 1994, 12:2).
4. One-String Rule - Lesson 1

Students can work in small groups or in a whole-group format. Draw a large circle on the chalkboard. List various related words on cards. Stick them either inside the circle or outside it depending on whether each fits a predetermined rule (e.g. Boots and fishhooks may be related, but only "boots" belongs in the circle if the rule is "things used by a fireman."). As an alternative, especially non-readers, make a circle on the floor with string and use concrete objects rather than word cards (Davison, 1977, p. 13).

5. Same/Different - Lesson 2

Students work in pairs with a barrier (usually a file folder) between them. Each has a picture. These are identical except for a number of minor details. Students question one another about their pictures and make note of the differences and similarities they find. When they believe they have discovered all the differences, they raise the barrier to check their work (Kagan, 1994, 13:10).

6. Cooperative Projects - All Lessons

Students work in small groups on specific projects - e.g. making a word web. Various colors of pens may be used to ensure individual accountability and participation. This may also be called "group investigations" (Nattiv, Winitzky, and Drickey, 1991).
7. **Draw What I Say - Lesson 3**

Students work in pairs with a barrier (usually a file folder) between. One has a picture of an object or animal, and the other has a pencil and paper. The first student describes the picture orally, while the other attempts to duplicate it. When they have finished, they remove the barrier to see how well they have done (Kagan, 1994, 13:9).

8. **Build What I Say - Lesson 3**

This is an adaptation of Draw What I Say. Students work in pairs with a barrier between them. Each has an identical set of building blocks. One student creates a design or structure with his/her blocks, then describes it orally as the other student attempts to duplicate it. When students have finished, they remove the barrier to see how well they have done (Kagan, 1994, 13:9).

9. **Corners - Lesson 4**

The teacher selects a topic which has several facets (e.g. seasons of the year). Students go to the area of the room (often a corner) designated for that specific facet of the topic. There they discuss their reasons for choosing that facet, often with a partner. They may do related activities there as well (Kagan, 1994, 9:8).
10. Human Bar Graph - Lesson 4

The teacher selects a topic which has several categories (e.g. favorite book characters). The name of each category is written high on the chalk board. Students stand single-file, facing front, below their choice. This creates a living bar graph (Kagan, 1994, 9:6).

11. Venn Diagrams - Lesson 5

Students are paired. Each has a paper with two circles which partially overlap. Students are given two categories (e.g. firemen and police officers), which they write above the two circles where they do not overlap. They consider various items or words, placing them in the overlapping portion if they fit both categories and in one circle or the other if they fit only that one (Kagan, 1994, p. 11:10).

12. Blanket Ball - Lesson 5

Students hold two blankets around three sides. At first the open sides are touching. The teacher puts a ball in one blanket, and it is tossed back and forth. Students can move farther apart or use more than one ball as they become more skillful in tossing and catching it without dropping the ball (Kagan, 1994, 23:8).
13. Touching Toes - Lesson 5
Students form groups of 8 -12. They stand in a circle, each with his/her right foot pointed toward the center, touching toes. They encircle one another’s waists, raise their left foot, and try to hold each other up (Kagan, 1994, 23:8).

14. Interdependence String Game - Lesson 5
Students form groups of about 10-12. They stand in a circle. Each receives a sign to hang around his/her neck. Signs have the names of occupations. One player holds a ball of yarn, saying the name of his/her own occupation, then tossing the ball to another child and saying why that other occupation is also important. Since each one who catches the yarn winds it around one hand, a web is created in the center of the circle (Jackson, 1989, p. 51).

Students work in pairs or small groups. The teacher writes topic names, one on the top of each of several chart papers. These are posted around the room or lie on separate tables. Each pair/group stands by one paper. At a signal, they have one minute to write as many facts as they know about that topic. After time is called, teams rotate to the next station, where they have two minutes to read and discuss what is written there, then write new information. For younger children more time can be given. Teams rotate until each as contributed to each chart (Kagan, 1994, 10:15).
16. Find Someone Who Knows... - Review of Lessons 3-5

Each student receives a worksheet with a number of questions or incomplete statements (usually one for each of the students in the room). At a signal, students ask one another for the answers. Students may get only one answer from an individual, who initials the answer he/she gives. For small groups, teachers can double the number of items and allow each individual to provide two answers. The teacher signals when time expires (Kagan, 1994, 9:4).

17. ABC Brainstorming - Lesson 6

Students work in small groups to brainstorm words which fit a particular topic. They list words to match each letter of the alphabet, then try to think of new words suggested by their list. Time is allowed to think of connections between the words. A dictionary is helpful (Treffinger et al., 1988).

18. Blind Hand - Lesson 6

Students work in pairs or small groups, each of which is given a cartoon (preferably wordless) that has been cut along its segments. These are placed face down and students alternate selecting segments until all are taken. Students look at their own pieces. They decide where each might fit in the whole cartoon. They then describe their pieces, one at a time, round-robin style. Students discuss the attributes described and agree on the position of each piece. All pieces are put down at one time. The goal is to reconstruct
the cartoon without looking at any of the pieces first (L. Vent, course lecture, August, 1994).


Students work individually. Each is given a worksheet with personal attributes placed on a continuum. (e.g. Are you an active or a sedentary person?) Students place an X on the line separating the two attributes to indicate personal preference. Transferring all student choices to a larger chart facilitates comparison (Kagan, 1994, 8:12).

20. Value Lines - Lesson 7

Students will be discussing a specific topic which was chosen by the teacher. At his/her signal, they arrange themselves in a line along an imaginary continuum ranging from “strongly disagree” at the left to “strongly agree” at the right. The teacher then groups students with either similar or dissimilar views to discuss the topic (Kagan, 1994, 8:11).


Participants learned informal assessment methods that could be used within the context of cooperative learning activities.
Lesson #1 - Career and Occupational Awareness

Preliminary Lesson Plan - SAMPLE

Objectives - Meet the KAPOW objectives for the lesson:

1. Students will meet the KAPOW volunteer & learn that his/her role will be to help them understand the world of work.
2. Students will be better able to identify and explain various jobs within their community.
3. Students will be able to describe how subjects and skills they are learning now might be used in actual jobs and careers.

Procedures -

1. Introduction - What might you do to get their attention?

2. Main activity/s - What activity will you do with the children to meet the objectives?

3. Evaluation - How will you know if you met the objectives?
C2. Observation Form - Lesson #1 -SAMPLE

Observer __________________________ Date ___________ Time ______ to ____
Students’ Names ________________________________
Grade/s ___________ Mrs. __________________________’s class

Setting/Context:

Career and Occupational Awareness

Stated KAPOW Objectives

1. Students will meet their KAPOW volunteer/s and learn that their roles will be to help them better understand the world of work.
2. Students will be better able to identify and explain various jobs within their community.
3. Students will be able to describe how subjects and skills they are learning now might be used in actual jobs and careers.

Procedure for Implementing the Lesson (Include comments, direct quotations):

491
Observation Form, Lesson #1 (continued)

Was the lesson developmentally appropriate? Why/why not?

Were the objectives met? Why/why not?

Observer Suggestions for Improving Procedure (Do not share with student):

492