CONNECTING WITH THE CONTENT:
HOW TEACHER INTEREST AFFECTS STUDENT INTEREST IN A CORE COURSE

DISSERTATION

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By

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ABSTRACT

Student interest in a subject is considered to be a valuable motivational resource, however little is known about how it develops. A multi-phased, mixed methodological research design was incorporated to study the effect of teacher interest on student interest in high school core courses. In Phase 1, high school students (n=112) nominated a teacher who had helped them learn and become interested in one of four core courses (English, mathematics, science, and social studies). Students also evaluated their nominee's interest and effectiveness in the course, as well as their own interest in the selected subject. Statistical analyses found that student perceptions of teacher interest predicted their own levels of subject interest.

In Phase 2, students in the classrooms (n=163) of the three most frequently nominated teachers (all in 12^{th} grade) were administered the student subject interest measure as well as an individual topic interest measure. There were significant differences in student subject interest scores between course levels (standard and Advanced Placement), but not across domains, gender or ethnicity.

Finally in Phase 3, the top three teachers were qualitatively examined using interviews, observations, and document analysis of curricular material. Before the final

wrap-up interview with each teacher, randomly selected students participated in focus groups. They discussed and evaluated their teachers' efforts to support their subject interest. Because the literature is limited on the topic of teacher interest, the qualitative data was used to construct a grounded theory of responsive interest. The qualitative data supported the quantitative findings that student perceptions of teacher interest in the subject contribute to and determine the components of student subject interest. Furthermore, a mandated curricular context restricts traditional methods of integrating student interest into the curriculum. Therefore, teachers must depend on instructional practices and other demonstrations of teacher interest to support student subject interest rather than exercising curricular choices.

Dedicated
to my heavenly Father,
His divine Son Jesus, and His gentle
but relentlessly firm representative here on earth,
the Holy Spirit. Without their guidance and consistently loving
examples of instruction, I would have ceased to believe that learning is meant to
be a combination of sense and nonsense—both deliciously fun and decidedly serious.

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As I look back over the past four years, I am absolutely awestruck by the number of people who have chosen to invest in my life. As I stop to reflect upon them, I am reminded of some words spoken by a prophetic teacher named Graham Cooke. He said we all need three levels of relationships in our lives, and likened the experience to what we see in a cement block wall. Each person needs to receive instruction from people above, be supported by someone on either side, and give counsel to those who are beneath.

I entered my journey here in Columbus, Ohio wearing ruby slippers and carrying a song in my heart, but I also passed through some rather dense forests inhabited by temporarily ferocious lions, tiger, and bears…oh my! I am especially grateful to Drs. Anita Woolfolk Hoy, Patti Lather, and P. Karen Murphy who agreed to be my mentors as I progressed down the yellow brick road, as well as three other professors, Cynthia Dillard, Anna Soter, and Raylene Kos who facilitated my candidacy exam. The instructional wisdom of these accomplished and thoroughly gracious women has encouraged me to continue dancing on until I reach the Emerald City.

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FIELDS OF STUDY

Major Field: Education
Minor Fields: Curriculum and Instruction
Educational Psychology
Creativity

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CHAPTER 1

INTRODUCTION

The truly educated person has only had many doors of interest opened.
(Macaulay, 1984, p. 8)

As an instructor of an undergraduate course in Educational Psychology, I regularly assign students the task of describing their best or worst teachers. Inevitably I hear these future teachers mention that they became interested in a course if the teacher demonstrated interest in the subject. Twenty years ago, teachers were cited as the most important people who influence student interest in a school subject (Sjoberg, 1984), but their role in the process is still not clearly defined or understood. Few studies even mention teachers as a factor in the development of student interest (e.g., Csikszentmihalyi, Rathunde, Whalen, & Wong, 1993) or utilize the term teacher interest within their research design (Drechsel, Prenzel, & Kramer, 2001).

Therefore, I designed this research project to begin identifying the components of teacher interest and to explore how teacher interest affects student interest in a subject.

More specifically, I examined the interaction between teacher interest and student subject interest within core courses (i.e., social studies and English) where student attendance is required, and subject interest is more likely to depend upon the intervention of a teacher. In elective courses (i.e., choir and photography), as students choose to participate in these classes, they are more likely to enter the classrooms with high levels of subject interest. Thus teacher interest may still have a significant effect on student subject interest, but be confounded by other factors.

Many educational psychologists (e.g., Hidi, 1990; Renninger, 1992) attribute their conceptual understanding of interest to John Dewey. His seminal statements (1899, 1913) on the process of becoming interested begin with a portrayal of interest as a person-object relationship. This relationship represents positive value for the person who is pursuing the object. Therefore, students who actively pursue a subject of interest expect to derive benefit from their connections with the subject. Within his theoretical framework (Dewey, 1899), interest is described as either direct (student with subject) or indirect (e.g., student with subject due to mediation by the teacher).

More recently, researchers of student interest have categorized these person-subject connections into two main types, individual and situational. The former is described as a "state of being interested" and "a process of internalization through which a person comes to identify and be identified with the content" (Renninger, 2000, p. 375). Situational interests, on the other hand, are "elicited by certain aspects of the environment" (Ainley, Hidi, & Berndorff, 2002, p. 545). Both types of interest are likely to exist in any classroom where learning occurs and students are acquiring subject matter

knowledge (Alexander & Jetton, 1996). Unfortunately, there is limited research on how these types of interest are formed as well as how they interact within a classroom setting. Therefore, researchers assign student subject interest to both categories, individual interest and situational interest, depending on their unique interpretation of the category (Mitchell, 1993; Renninger, 1992). Because I am focusing on the relationship between teacher subject interest and student subject interest, I hope to avoid unnecessary confusion with these categorical labels by primarily employing Dewey's terminology (i.e., direct or indirect). I will, however, support his terms with the applications, concepts, and vocabulary of researchers from the last two decades.

In order to discover how teachers affect student subject interest, I assumed that teachers could demonstrate their subject interest through their curricular choices and their instructional practices. As such, I found limited information on teacher subject interest in the curriculum literature. In addition, the literature on student interest and curricular issues was also sparse, but I did find citations (e.g., Weber, 1996) where teachers described their personal attempts to design curriculum around student interests. A few existed at the middle and high school level in public school settings, but more frequently these examples were located in alternative settings (e.g., private schools) where teachers appeared to have more freedom to explore a curriculum and interest connection.

From that curricular review of subject interest, I turned to the literature relating teachers' instructional practices to subject interest. Again, the literature yielded little information on teacher subject interest. However, I did find examples of instructional

practices relating to student subject interest. In the United States, I found a few studies that examined classroom environments for clues linking teaching practices with student interest in the subject (e.g., Mitchell, 1993). Using these curricular and instructional findings as a model, I constructed a priori observation logs for noting teacher behaviors and actions in a high school setting.

After my first session of observing in these environments, I quickly realized that these teachers' practices did not align with the theory. For example, I was unable to record any instances where student interests were integrated into the teachers' curricular choices, although this option appeared on my neatly organized observation checklist. As such, I quickly replaced the a priori codes from the literature on student interest and curriculum with open-ended records of dialogues between the teacher and the students that required interpretation (Strauss & Corbin, 1994). I also noted the teachers' actions during each classroom period. In essence, I began assembling data that could be analyzed with grounded theory methodological strategies (Charmaz, 2000). Eventually I accepted the fact that in order to tell this story accurately, I needed to generate a theory of interest that reflected a different reality from the one represented in the literature. Unlike the instructor described by Weber (1996), the teachers in this study were attempting to educate their students within the curricular mandates of a pressurized inner city school district.

As a system, this district's own report card of performance has been given low ratings by state evaluators ("Phi Delta," 2002) and therefore, each principal was faced with the challenging task of improving overall student academic achievement. In order to

facilitate the requisite transformation, the district has constructed a mandatory curriculum package, which administrators strongly advise every teacher to implement (S. Cantlebury, personal communication, November 3, 2002). Thus my emerging theory of how teachers affect student interest in a subject was constructed within a context, which acknowledged the value of student interest (S. Brennan, personal communication, January 24, 2003), but of necessity was committed to improving test scores even if students were not motivated or interested in learning the required content material.

In the present study, although it is acknowledged that some students entered these classrooms with strong preexisting direct interests in the assigned subject matter, it is also assumed that other students will depend upon teacher mediation to formulate indirect interests in the content. As such, it is hypothesized that teachers affect student subject interest through: (a) curricular choices, (b) instructional strategies, and (c) levels of teacher interest in the subject and the student.

Rationale for the Investigation

Motivation, defined as the "study of why people think and behave as they do" (Graham & Weiner, 1996, p. 63), is a multidimensional construct, and within the motivational literature exist other complex variables, such as "interest" (Murphy & Alexander, 2000). When people are interested, they actively engage in forming attachments with some object or activity (Dewey, 1899). Thus in a classroom, interested students become attached and attentive to the subject being taught. According to Izard (1977), a person may initially choose to become emotionally connected with a subject in

order to learn new information more efficiently and rapidly, indicating some level of task involvement. However, as these attachments are given opportunities to grow and expand, they may begin to represent a deeper level of involvement with the object that relates to the ego. As such, these deep interest encounters energize the students' personal needs or desires (Alexander, Murphy, Woods, Duhon, & Parker, 1997).

Not surprisingly, educational psychologists have invested considerable time and effort into examining interest's ability to facilitate the formation of learning attachments within a classroom context. By studying the influence of interest on learners' attempts to acquire knowledge and understanding in academic settings, they have noted differences in academic performance among students who are interested. A meta-analysis of interest/achievement studies from 1965 to 1990 (Schiefele, Krapp, & Winteler, 1992) revealed that student subject interest was positively and significantly correlated with academic achievement, as well as being predictive of achievement. Additionally, researchers have also found interested students exhibit a variety of psychological behaviors associated with three dimensions in the construct of individual differences (cognitive, affective, and conative). Those terms are specifically defined later in this chapter and discussed more thoroughly in the review of literature, but they represent characteristics of the mind, emotions, will, and motivation.

There is considerably less empirical evidence, however, on how interests develop (whether in or outside an academic setting), and how teachers directly affect student interest in their classrooms. If every subject is inherently attractive and capable of generating student interest (Dewey, 1899), teachers of any subject probably mediate

student interest in their content area. Although researchers (e.g., Sjoberg, 1984) have supported the notion that students do exhibit some level of interest in almost any subject, including those that are considered to be core domains (i.e., English, mathematics, science, and social studies), the level of interest varies among subjects (Schiefele et al., 1992). As such, demonstrations of teacher interest in the subject or in the student may be contributing to these diverse levels of student subject interest.

Furthermore, if teachers demonstrate their subject interest through their curricular choices, a test-driven curriculum may adversely affect teacher subject interest and restrict their available curricular options (Kreitzer & Madaus, 1995). In such curricular environments, administrative specialists within the school system judge the appropriateness of subject matter by determining if it is aligned with proficiency standards (Dutro, 2002). Thus many teachers in this district may consider themselves to be performing on a delicate tightrope as they balance a desire to encourage student interests with efforts to implement the mandated curriculum (Schurr, 1996). Given the requirements of teaching to the test, even if teachers are highly interested in their subjects and confident or experienced enough to conceive of connections between the curriculum and student interests, they may have fewer opportunities to acknowledge, generate, or incorporate student interests into their instructional practices (L. Morris, personal communication, November 20, 2002).

Two years ago in a two-month project for a field methods course, I observed a middle school teacher integrating students' individual interests into her curriculum plans. One of the administrators had described her as the "most creative" teacher in the school

(A. Woodford, personal communication, February, 2001). During those observations, I witnessed the teacher successfully maneuvering through the district's curricular requirements as she simultaneously integrated student interest into the assigned subject matter. Her example inspired me to believe the same dynamic interplay between student interest and the course content could exist in other settings. As such, that earlier experience became the impetus for this current investigation into how teachers affect student interest in a core course.

Statement of the Problem

Educational psychologists contend that wherever interest is activated, a force is released for energizing the learner (Alexander et al., 1997). Even a casual classroom observer is likely to witness varying levels of interest in any instructional context. Whereas some students are individually interested in topics like dancing, video games, or music, others are attached to dinosaurs, football, and insects. Some instructors may prefer to circumvent those pre-existing student interests in order to direct student attention toward the course content. Because an interest (i.e., individual) is comprised of levels of knowledge and value (Renninger, 2000), a student can theoretically possess different storehouses of these components on any subject. Furthermore, if student interest can be generated in any content (Tobias, 1994), it is likely that teachers affect students' knowledge and value of the course content.

The depth and breadth of knowledge on the topic of student interest has been investigated with increasing determination during the last decade (Hidi & Harackiewicz, 2000), but there are still gaps in the understanding of how this motivational construct

responds to teacher interest in the subject or in the student. The purpose of this study is to bridge that gap by quantitatively and qualitatively examining the teacher's impact upon student subject interest in the curriculum of a core course. As the teacher's effect on this process is generally unrecognized in the literature, this is primarily an exploratory investigation that commences with a priori assumptions from the literature and concludes with theories grounded in the qualitative findings. Thus the investigation begins with deductive reasoning, but shifts to inductive processes before the research design is completed.

After a preliminary analysis of the data, it became clear that student, teacher, content connections within this research site's curricular context were bounded by district policies. As these curricular parameters were formed by the state's proficiency standards, the curriculum for each course consists of topics and skills that must be acquired by every student in order to pass the requisite proficiency exams. Every principal has been charged with the responsibility of raising student scores until an acceptable level of performance is achieved, and each teacher feels the pressure of producing satisfactory results in his/her classroom and throughout the entire school. Because students must pass all of the subjects or the entire school is labeled as failing to achieve, every teacher in the school contributes to the school's success.

Although curriculum design has historically rotated between a student-centered focus and a subject-centered focus (Tanner & Tanner, 1980), within this mandatory curricular framework, teacher interest in the content is more likely to be channeled into curricular decisions that are subject-centered rather than student-centered. In such

pressurized settings, expressions of teacher interest may exert an even greater impact on student interest in the content, which is related to academic achievement (Schiefele et al., 1992). As such, Figure 1.1 represents the relationships teachers form with content (expressed through instructional practices and curricular choices), which indirectly affect student interest in the content. The illustration also includes the possibility of connections forming between the teacher and student, which are not initially filtered through the content. For example, students who are simultaneously members of the teacher's soccer team and science class might actually establish interest connections with the course content as the result of their relationship with the teacher as a coach.

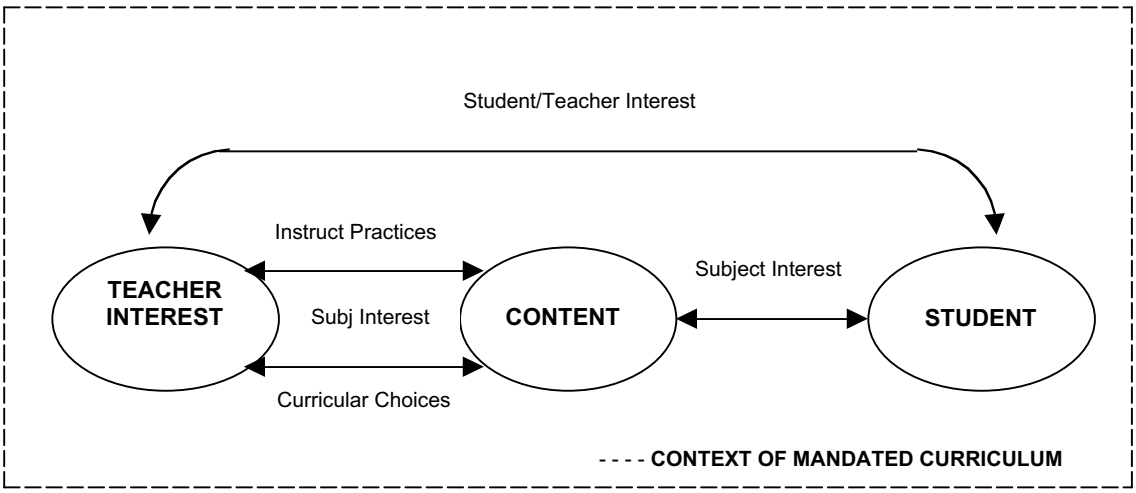

Figure 1.1: Teacher, student, content connections that influence student subject interest.

Research Questions

The primary focus of this study was to explore how teacher interest in the content affects student interest in a content area. Thus the research design included both student and teacher perspectives on the process. The following research questions were constructed to guide this investigation.

1. How do student perceptions of teacher effectiveness and student perceptions of teacher subject interest affect student subject interest in a core course?
2. How does student subject interest differ across gender and ethnicity, domains (English/Social Studies) and course levels (AP/standard)?
3. How does a test-driven curricular focus affect teacher curricular choices?
4. How do teachers encourage student interest in their subject (e.g., curricular choices, instructional practices, and level of teacher interest)?
5. How do students evaluate their teachers' attempts to encourage student subject interest (e.g., curricular choices, instructional practices, and level of teacher interest)?

In order to understand how these research questions relate to the existing framework of knowledge about interest, the theoretical foundations of the construct will be briefly examined here and elaborated further in Chapter 2.

Theoretical Foundations

Although a historical discussion of the theories on interest does not begin with John Dewey, his lectures and writings on the subject are often cited as the cornerstone on which current researchers conduct their own investigations. In his earliest writing on interest (1899), Dewey described the construct as having emotional and intellectual

aspects that relate to each other, as well as to volition. Research tends to support his assertions about interest; therefore his scholarly treatises on the construct are summarized in this section. In his first monograph, Dewey examined interest and effort from a psychological and educative perspective, foreshadowing the dialectical differences that still exist in discussions on interest today. A number of controversial themes emerged (some of them centuries old), which still represent central tenets in any ongoing investigation into the construct of interest.

Essentially Dewey's portrayal is disarmingly simple—a genuinely interesting activity contains both "intellectual content" and "felt value" (p. 15)—but the results of being interested produce complex results within the individual. Thus the pursuit of an interest often necessitates balancing oppositional forces. Every interest attaches itself to an object and becomes the instrument through which an intrinsically emerging energy or desire is manifested. As these interests are expressed, they positively reflect back on the self, increasing one's value or consciousness of worth, while simultaneously furnishing a motive for investing more attention into the next interested effort. As such, the normal growth of interest is "suffused, saturated and transformed" (p. 17) by experiences that increase one's personal significance. Ideally, when more effort is required, a level of desire (affective interest) is aroused that is accompanied by a corresponding increase in cognitive interest.

An interest can also be either direct and immediate or indirect and mediated. If an experience is direct and immediately interesting, it originates from within the child, whereas an indirect interest only becomes interesting by association. For example, an

interest in engineering probably makes mathematical theory more directly and immediately attractive because engineering and mathematics are naturally related.

Regardless of the grade level, Dewey envisioned teachers as helping student interest grow. In the elementary grades, students have direct experiences of interest, which teachers can support with concrete orderly steps. For instance, when children act upon an interest in scribbling, the teacher can inform them of the immediate and positive benefits for these activities (e.g., delight in expressing artistic ability). At the secondary level, however, the teacher can assist students in forming indirect interests. These develop as the student reflect upon and absorb the vicarious experiences of others.

For example, in a science class teachers can use the accomplishments of proficient scientists to facilitate the forming of attachments between their student and the subject matter. To learn about the scientific method, there might be a demonstration of how George Washington Carver conducted experiments on the peanut. In this way, the teacher is drawing on Carver's experiences to engage their students in traveling along the same scientific pathway. But even this latter category is not equivalent to when an educator attempts to artificially enhance a subject by adding interesting details, which Dewey termed an unnatural procedure. Under pressure (e.g., fear of teacher or hope of a future reward), students might respond to these contrived experiences—but when the pressure is removed, they revert back to pursuing their a priori interests.

In a later monograph (1913) that is more frequently cited by interest researchers, Dewey supplements his basic principles with additional opinions on motivation, thinking, and types of educative interest. Dewey's definition of a motive, "the end or aim in respect

to its hold on action, its power to move" (p. 60) stirs endeavors, vitality, and depth of thought, and activates a capacity for dynamic action. However, if a teacher associates learning with the "sheer force of will," there is a need to look "*for* a motive for the study or the lesson." Instead, the more appropriate method is to assume that the study or lesson has "a motive *in* it." (p. 61) When effort is naturally activated, the individual becomes *"more conscious of the end and purpose of his actions,"* and is able *"to turn his energy from blind, or thoughtless, struggle into reflective judgment."* [italics in original] (p. 53)

Educators from the 17th century (e.g., Comenius and Locke) had previously identified this concept of a heart-felt connection developing between a person and an activity or object after observing a child's initial attempts at physical activity. Such early hands-on experiences were described as helping children acquire a love of learning that was coupled with the activation of cognitive processes (Comenius, 1631/1923). Dewey confirmed that this process of becoming interested begins in childhood with play. As children grow older and become engaged in constructive activities that require tools (e.g., clay, paint brushes) and are governed by rules and procedures. Eventually these childish interests and discovery-filled activities mature into theoretical emphases or intellectual interests. Dewey noted that each of these three phases was intertwined with a social aspect, because very young children are unable to distinguish between people and things, as well as less meaningful or more meaningful objects. Therefore, their interests are borrowed from personal and social contacts.

Even older students and adults need to express their interests through work and play. When an interest exemplifies both of these functions, unified energy empowers the

process termed serious play (Rathunde, 1992). However, if interests are channeled into only work or play, interests generate divided energy (Dewey, 1899). As such, either students must be continually excited by artificial stimuli to provoke an atmosphere of play (i.e., fooling), or they are forced to exercise willful effort that is devoid of emotional pleasure. This latter option is aptly termed "drudgery." In both cases where interests are divided, student levels of educative energy are dissipated. On the other hand, when elements of both work and play are present, intellectual and emotional benefits accrue to students who learn how to face and overcome resistance.

Dewey concluded his seminal work (1913) by summarily stating one common principle that applies to the concept of interest—all interests are marked by "an identification in action, and hence in desire, effort, and thought, of self with objects" (p. 90). In summary, these provocative statements on interest provide this research project with a foundation on which to investigate the connection between teacher and student subject interest as it occurs within a naturalistic classroom setting.

An Overview of the Methodology

The research design was a mixed methodological model incorporating both qualitative and quantitative methodologies in three distinct and sequential phases (Tashakkori & Teddlie, 1998). Two series of pilot studies (one quantitative, one qualitative) preceded the three phases; the information gathered during the quantitative pilot study helped determine the form of the measures given to students by specifically collecting data regarding item analysis, item difficulty/discrimination, and content/face validity. The qualitative pilot study was designed to reveal some of the underlying issues

that support or hinder a teacher's efforts to develop student interest in their content. Phases 1 and 2 incorporated quantitative research methods and were followed by a separate qualitative third phase. The research was also conducted in natural classroom settings in order to explore how teachers influenced the development of student subject interest.

Phase 1- Selection of Teachers

In one high school setting, 12th grade students (n=112) were administered a two page self-report measure consisting of a teacher nomination form (Appendix A) and a student subject interest form (Appendix B). The first form asked the students to nominate teachers in any of the four core subjects (i.e., English, mathematics, science, and social studies) who had helped them learn and become interested in those domains. After entering the data, a list of nominated teachers was formulated using simple frequency calculations, and three 12th grade teachers were selected in English and social studies. In this way, the teacher nomination measure functioned as a sampling device for Phases 2 and 3.

Additionally, items from two subscales on the Teacher Nomination form measured student perception of teacher effectiveness and teacher subject interest. A second form, About a Subject, which measured students' levels of interest in the courses taught by the recommended teachers, accompanied the Teacher Nomination measure. These data were collected to cross-validate the students' experience of learning and

becoming interested in those subjects, as well as to determine the type of relationship that existed between student subject interest and student perceptions of teacher effectiveness and teacher subject interest.

Phase 2-Quantitative Investigation of Student Subject Interest

The participants in Phase 2 were students (n=163) currently in the classes of the three nominated teachers who were selected during Phase 1. These students were administered the quantitative self-report measure of students' subject interest from Phase 1 (Appendix B) as well as a second topic interest measure (Appendix C).

Phase 3-Qualitative Investigation of Teacher and Student Subject Interest

Immediately following the administration of Phase 2, the three teachers were formally interviewed to gather data for the qualitative phase (Appendix D). The transcriptions of those audiotaped interviews were member checked by the participants. Then each teacher was observed for four to six times; each visit was approximately the length of one class period. The primary purpose of these observations was to gather descriptive data on how these teachers engaged their students' interests in the classroom content. The observations included recording information in quantitative logs (Appendix E) and written field notes that were both analytical and descriptive. These were augmented with personal reflections. In addition, data analysis of existing curriculum plans and related curricular materials from the teachers yielded additional forms of evidence to supplement the information gathered in the interviews and observations.

After analyzing the data from the interview, the observations, and the data analysis of curriculum plans, a second more informal interview was conducted with each

teacher. In this final interview, the teacher was presented with three or four major findings that emerged from the analysis of data pertaining to his/her classroom (e.g., Appendix F). Their responses to those final interview questions were entered into a laptop computer. The information from this latter interview also functioned as a member check by the teacher on the researcher's findings. In addition, the entire research process included peer-debriefing exchanges with members of a research team composed of other doctoral students and professors in education. Furthermore, their comments were supplemented with input from two former teachers.

Before the final teacher interviews, randomly selected students from each classroom setting participated in focus groups to determine their perspectives on issues relating to the development of student interest (Appendix G). The focus interviews were recorded on audiotapes and later transcribed without noting the students' names. Two of the four groups were co-facilitated by another researcher who has former experience with high school students. This additional researcher provided a validity check on the main researcher's observations and functioned as a peer debriefed.

This overall mixed methodological procedure provided data used to cross-examine the interplay of students' and teachers' subject interests in the curriculum of core subjects. Observations were used to supplement the self-report results obtained in written and verbal form. In this way, the collective picture more adequately represented each set of voices that contributed to the process.

Definition of Terms

The following key terms were defined for the purpose of this study. Additionally, these terms are also contained within the review of literature in Chapter 2.

- **Motivation** vigorously and persistently directs our behaviors (Bergin, Ford, & Hess, 1993). Intrinsic motivation reflects the primary propensity of an organism to engage in activities that interest them, and in so doing to learn, develop, and expand their capacities (Ryan & Deci, 2000), whereas extrinsic motivation comes from outside the individual, prompted by the approval of others or for meeting someone else's goals (Sternberg & Williams, 2002).
- **Interest**, categorized as a motivational/volitional construct, denotes an affectionate connection that has formed between a person and an object or activity (Dewey, 1916). According to many researchers, there are two main types of interest that correspond to the distinction between intrinsic and extrinsic motivation.
    - Individual interests originate within a person and are internalized. Eventually the person comes to identify and be associated with the content. These interests are deeply seated and develop over time (Renninger, 2000).
    - Situational interest originates externally (situational) to the person—and this seems to determine the strength of the interest (Hidi & Harackiewicz, 2000).

- Topic, subject matter, and domain interests are associated with individual interest by some researchers (Murphy & Alexander, 2000). They vary according to the degree of content specificity (i.e., focus on a single topic, a course, or an academic discipline with many topics or subjects).
- Teacher interest represents **"**expressions of engagement, enthusiasm, and commitment" (Drechsel, Prenzel, & Kramer, 2001).

- **Individual differences** is a psychological construct that systematically investigates variations between individuals. Within this construct are three primary categories, which represent facets of interest.
  - Cognition is generally the process of obtaining knowledge and acquiring beliefs.
  - Affection is characterized by emotions, temperaments, and values.
  - Conation incorporates the processes of motivation and volition. (Snow, Corno, & Jackson, 1996)
- **Curriculum** involves decisions about the most worthwhile knowledge for "students to learn, why they should learn it, and how they should learn it" (McGee, 1997, p. 9).
- **Instructional practices** or instructional methods are used by teachers to engage students and enhance learning (Arends, 1997).
- **Grounded theory** is a general research methodology **c**onsisting "of systematic inductive guidelines for collecting and analyzing empirical materials to build

middle-range theoretical frameworks that explain collected materials" (Charmaz, 2000, p. 509). Unlike other qualitative research approaches, the emphasis is on theory development (Strauss & Corbin, 1994).

Limitations

In Phase 1, some of the students nominated teachers from a variety of grade levels. Other students recommended teachers of classes they are currently attending. Although time may be a confounding variable, it is also likely that these nominations from former and present students provided a balanced assessment of the nominated teachers.

In the school where this research was conducted, 60% of the students chose to attend the school through the district's lottery system. Thus subject interest levels in any subject might have been inflated compared to a school where students exercise no choice about their attendance. The principal also told me that the majority of seniors were quite fond of their teachers, regardless of the subject. If unusual depths of relationship existed between the students and teachers, this factor may have contributed to students' nominations, representing a confounding variable that skewed the results. Furthermore, the potential for bias also existed as the Phase 1 measures were administered in some of the 12th grade classrooms that participated in Phases 2 and 3. However, this risk was considered to be acceptable in order to give students complete freedom to nominate any teacher.

Because the study was conducted in a high school setting, it may be inappropriate to compare the levels of subject interest with any other grade level, simply because these

students have been exposed to more content in an academic area. Although this may contribute to higher subject interest scores, the differences attributable to grade level have not been significant in the literature (Schiefele et al., 1992). Furthermore, this project was conducted in one Midwest school district; therefore, the generalizability of the results is limited to students in that age range and region. In other regions or school settings, results may vary depending upon a number of factors that determine the development of student interest (e.g., curricular design flexibility, class size, levels of academic performance.)

Finally, the administrative support of the selected teachers has not been considered a factor in the teachers' own levels of interest. From exchanges I witnessed between the principal and the teachers in this study, they seemed to be valued as professional colleagues. Nonetheless, there is no way of determining how these "environmental" factors contributed to the teachers' current levels of subject interest.

Organization of the Dissertation

In Chapter One, the general outline of the study is presented. It includes the context, rationale, research questions, definition of key terms, a methodological overview, and limitations. Chapter Two contains a synthesis of the relevant literature that applies to the development of student subject interest within a classroom, especially as it has related to curricular choices, instructional practices and levels of teacher interest. Chapter Three includes the research methodology, with a detailed description of each process involved (e.g., the selection of participants and measures utilized), as well as supportive theoretical underpinnings for methodological procedures. It is followed by the sequential presentation of findings from all three phases in Chapter Four. Finally in

Chapter Five, a summary of the findings precedes a discussion of the results, overall research limitations, and implications for theory and for practice as well as relevance for future investigations.

CHAPTER 2

REVIEW OF LITERATURE

We will not be able to know any subject with much depth until we love that subject. (Joyner, 2002)

Generally, the literature on the construct of interest represents a panoramic view of many ideological perspectives. For example, in education, researchers documenting the existence of cognitive and social interests in children (Travers, 1978) concede that the development of apparently "natural" interests are shaped and configured by the child's society. Whether the child's immediate social circle is restricted only to the immediate family members or a larger sphere of contact, external forces mold the process of interest development. Similarly, there have been many diverse social and cultural influences upon the formation of interest's theoretical structure. It is beyond the scope of this research project to examine the philosophical motives behind these approaches. Instead, the focus of this review is on teacher interest and how it affects student interest in a core subject.

An interested student is an empowered learner (Mitchell, 1993), and whoever holds a position of power has the potential to exert pressure for change. Therefore, a discussion about interest cannot be value free—each contributor has a vested interest in

the conversation. As an educator and researcher, I am not focusing on why students should or should not be interested or even judging the appropriate value or content of their interests. Instead, I am concentrating on how subject interests develop so all students can have equal access to the process of becoming academically interested.

Students can readily identify when they are not interested in a subject (Vispoel & Austin, 1995), and report that teachers are the most important factor in producing their interest in schoolwork (Sjoberg, 1984). Yet there is limited knowledge on what teachers do to facilitate the growth of student interest in their subjects. Therefore, Chapter 2 commences with a brief history of the construct of interest, and then considers the types of student interest found in classroom settings. Next, the distinctive facets of interest are examined in order to understand how they interrelate within the construct of individual differences. The research questions enumerated in Chapter 1 are based on the assumption that a teacher could directly impact the formation of student subject interest. Thus, the review also includes relevant literature on the three variables assumed to be the primary ways in which teachers impact the development of student interest: (a) curriculum choices, (b) instructional practices, and (c) level of teacher subject interest. Chapter 2 concludes with an overview highlighting significant gaps in the existing literature that are addressed by this research project.

A Brief Historical Overview of Interest

Throughout the centuries, the term "interest" has been treated as a universally understood concept that was unnecessary to define. Politicians and economists in the 16th century, who had alternately espoused either reason or passion to motivate the masses,

eventually turned to interest as an acceptable alternative for inspiring reform, because it exemplified both reason and passion (Hirschman, 1977). Thus interest has been recognized as a socially motivating and empowering force for hundreds of years.

In the 17th century, the educator and statesman, Comenius, implicitly discussed the potential for interests to motivate learning. He suggested parents should assist children in whatever attracted their attention (1633/1956). Rather than attributing these behaviors to an aspect of the object, he believed the natural responses were indicators of inherent heart motives. If these expressions were encouraged at home, Comenius observed that a child's attitude toward formal learning was profoundly and positively influenced by these early experiences. Children so prepared appeared to enter school with enthusiasm, anticipating that formal classrooms would simply provide more of these delightful, inquisitive, joyful and curious challenges. In addition, Comenius theorized these early interested experiences created a momentum, which carried students through their studies at the university level and supported the learning process throughout life (1630/1923).

As if to confirm Comenius' observations about interest, educators and psychologists have continued to investigate the subject during the ensuing decades. In the early 19th century, the German philosopher and early forerunner of psychology, Herbart, acknowledged the relationship between interest and learning (1806/1965). Schiefele (1991) summarized Herbart's view of interest as allowing "for correct and complete recognition of an object, lead[ing] to meaningful learning, promot[ing] long-term storage of knowledge, and provid[ing] motivation for further learning." (p. 300)

In the United States, the Herbart Society published an address entitled *Interest as Related to Will* by John Dewey (1899). As the first of many articles and books Dewey would author about the subject, he emphasized that an interest was active, objective, and subjective. From its Latin root words, inter-esse, Dewey surmised an interested person was to be "engaged, engrossed, or entirely taken up with some activity because of its recognized worth." (1899, p. 13) At the time, his colleagues criticized the paper as being a blanket endorsement of all self-realizing activities, good or bad—and charged him with being too ambiguous. In spite of the controversy, Dewey's theories about interest have endured as theoretical building blocks upon which many empirical investigations continue to be conducted.

Continuing into the 20th century, William James noted that interest had received more pedagogical attention than any other topic (1930/1958). With the rise of behaviorism in the 1950's, however, the study of interest became dormant, in spite of a few educators' attempts to explore the connection of interest to child and adult development (Travers, 1978). During the same time period, Rogers' facilitation of student-centered instruction kept the door open for students of all ages to experience being interested learners (1969/1983). In the 1980's, however, this small stream of interest research began broadening and deepening (e.g., Hidi & Baird, 1988; Renninger & Sigel, 1987; Shirey & Reynolds, 1988) until interest entered a new phase of popularity. Using some of Dewey's original language and concepts, these investigators empirically re-examined the various types of student interests.

Types of Interest

With almost unanimous agreement, contemporary researchers of interest attribute their theoretical underpinnings to Dewey (1913). Therefore, a thorough grounding in Dewey's analysis of interest is appropriate before proceeding into the more recent empirical literature. Within this exploration of Dewey's framework, I hope to clarify the vocabulary of interest as applied by other researchers. Thus I will be highlighting and contrasting *current* interpretations of Dewey's theory and terms with his *original* intent. These distinctions are especially important for understanding the focus of this study, as I consider some of his concepts and definitions of interest to be essential in my emerging theory of teacher interest.

Essentially, Dewey (1899) saw an interest as the instrument through which the distance between a person and any object was annihilated, facilitating an "organic union" between the two (p. 13). The process of acquiring the attachment had three distinct components: a person actively pursued an object for its emotional value. As interest was tethered to emotion and intellect (through its identity with attention), a complete psychology of interest had to include those two components as well as volition. Throughout this study, I refer to these three components (i.e., affect/emotions, cognition/ intellect, conation/volition and motivation) as the facets of interest.

Against this backdrop of understanding, I want to analyze the currently used definitions of interest. To an unfortunate extent, some current educational psychologists have separated the components of interest (person, object, value) into three types of interest instead of viewing the process as one cohesive whole composed of all three

components. Renninger (1992) has described the three types as individual (originating in the person), situational (originating in the object), and psychological (interaction between person and object). Moreover, interest researchers (e.g., Hidi & Baird, 1988; Schraw, Bruning, & Svoboda, 1995) have embraced these separations and constructed research designs upon only one of the types, further separating the knowledge of interest into appendages not originally conceived of by Dewey. At this point, ensuing generations of researchers (e.g., Chen, Darst, & Pangrazi, 2001; Mitchell, 1993) have continued building upon these separate foundations until two pillars of empirical literature exist that are easily identified as individual and situational. However, complications arise when concepts such as subject or topic interest cannot be easily categorized as only individual or situational.

The more intriguing outcome to these decades of division is that researchers (Hidi & Harackiewicz, 2000) are currently speculating on how situational interest might lead to individual interest. It seems they are unable to empirically construct a developmental bridge across the gap between the two structures. In order to investigate the development of student subject interest, I found it necessary to return to Dewey's cohesive interpretation of the process. Standing within that original context, I envisioned students as moving toward an attachment with a subject matter through continuous and progressive stages of growth. As such, it became necessary to incorporate additional terms and concepts used by Dewey to describe the process.

Other researchers who discovered that interest was related to the development of talent in adolescents (Rathunde & Csikszentmihalyi, 1993) have also embraced original

Deweyian language and concepts in their discussions. Thus there is empirical precedence for steering away from the dialectical differences, which currently exist in the individual versus situational literature. Nonetheless, those findings represent additional information on interest and are included in this review. Before proceeding to those findings, however, it is particularly relevant for this study to note other elements in Dewey's portrait of interest.

First, an interest could be either direct and immediate or indirect and mediated. A direct interest originates from within the child, whereas an indirect interest becomes interesting by association. It is essential to note these differences are not attributable to positive or negative aspects. Both are positively described, but distinguished by the need for a mediator (i.e., a teacher) who would inform students of the natively interesting characteristics of any object (i.e., academic subject or topic). Dewey's interpretations of these differences were decidedly not equivalent to the practice of adding "interesting" details to an otherwise uninteresting subject. His disdain for such actions was prompted by the belief that all subjects have inherently interesting qualities, but he readily acknowledged that discovering those inherent qualities demands dedicated effort from the instructor.

When the instructor utilizes artificial stimuli to enhance the value of the object, two crucial components of interest are missing—the student's active pursuit and value. Within a teacher-manipulated framework, students are actually passively involved and require more stimulating and unnatural enticements to stay "engaged." Furthermore, when the "fun" disappears, students face the prospect of maintaining interest through

difficult labor devoid of any emotional pleasure or value. Dewey termed this condition a divided interest as work and play are not integrated together. In contrast, in an undivided interest, students experience unified energy with its accompanying intellectual, emotional, and volitional benefits.

Within his notion of undivided interests, Dewey (1913) identified two additional terms—catch and hold. It is important to revisit the original context in which they were mentioned in order to both "catch and hold" their meaning.

> Interest, in the emotional sense of the word, is the evidence of the way in which the self is engaged, occupied, taken up with, concerned in, absorbed by, carried away by, this objective subject-matter. At bottom all misconceptions of interest, whether in practice or in theory, come from ignoring or excluding its *moving, developing* nature; they bring an activity to a standstill, cut up its progressive growth into a series of static cross-sections. When this happens, nothing remains but to identify interest with the momentary excitation an object arouses. Such a relation of object and self is not only *not* educative, but it is worse than nothing. It dissipates energy, and forms a habit of dependence upon such meaningless excitations, a habit most adverse to sustained thought and endeavor. Wherever such practices are resorted to in the name of interest, they very properly bring it into disrepute. It is not enough to *catch* attention; it must be *held.* [italics original] (p. 90-91)

Thus it seems appropriate to reserve any holding terminology for associations with interest that involve a person-object relationship, which is active and contains value. Simply arousing energy in a student is not an interest. Instead, students empowered with energy move toward a connection with the subject.

Within this context of understanding, although I am investigating how student interest develops in a subject, it seems inappropriate to term any level of subject interest as a situational interest, although this does occur in the literature (Mitchell, 1993). Because there is no standard of measurement that defines when students cross a

developmental boundary line from situational into individual, I will refer to subject interests throughout the remainder of this research project as if they are in only one category (i.e., subject interest). Within that category, it is acknowledged that interests differ developmentally in strength and maturity (e.g., low, medium, and high). Even so, other researchers have continued to categorize subject interest into two different forms, situational and individual. Therefore, the relevant literature that applies to these two types is presented here.

Situational Interest

In contrast to investigations of individual interest (Renninger & Wozniak, 1985) Hidi and Baird (1988) began studying the effect of interesting and exciting materials on the processing of text-based information. As such, *situational* interests depend upon specific characteristics of the event, object, or situation (Hidi, 1990). After several years of conducting similar research, Hidi (2001) concluded that whereas individual interest focuses on individual differences, the interestingness of a situation represents an effect of interest across individuals. Thus the interesting features of a text that appear to be universally stimulating (e.g., danger) might be added to a text and attract the interest of multiple readers. After noting that these characteristics could also apply to other stimuli, she determined that the term situational interest should apply to all environmentally-triggered interests (Hidi & Harackiewicz, 2000).

Dewey (1913) strongly cautioned against the practice of adding scintillating details to enhance the interest of the object, stating there was a sizeable difference between finding what interested a person and making something interesting. His concern

was that interest-based decisions formulated apart from a child's needs or desires would produce artificial forms of instruction and external exercises that were essentially irrelevant to students' lives. Dewey (1916) claimed teachers who exaggerated and isolated the desire for objective results from an individual's active development and emotions were securing attention and effort with pleasurable bribes, and this form of "soft" pedagogy tragically assumed a skill or subject matter was natively uninteresting. He lamented that students exposed to such methods would be unable to construct any connections with the subject by their own power.

As if to support Dewey's contentions, multiple research studies on college students have discovered that adding seductive details (i.e., sensational facts related to topics like murder or sex that seem to universally grab a person's attention) to a text actually interfered with their processing of the information. Although students recalled the seductive details better (Wade, Schraw, Buxton, & Hayes, 1993), their presence directed students' attention away from the more important generalizations necessary to increase domain knowledge (Garner, Alexander, Gillingham, Kulikowich, & Brown, 1991). Likewise, Schiefele (1991) suggested that using situational interests produced only temporary states accompanied by less intense affections, which left no permanent impression on cognitive or emotional development.

Despite these negative reports, college students (considered to be mature readers) who failed to find a causal relationship among interesting sentences and attention or recall, were still able to more efficiently and effectively apply strategic cognitive resources when interesting material was present (Shirey & Reynolds, 1988). Not

surprisingly, many of the situational research has been related to the processing of text (e.g., Hidi, 2001; Schraw et al., 1995), and as such, are not particularly relevant to the focus of this study. However, when situationally appealing formats and characters were imbedded into televised educational programs, children's interest were associated with the subjects of instruction (Yotive & Fisch, 1998). Similarly, children who were stimulated by interesting video episodes engaged in more extended exploration, interacted with supplemental material, and recalled more educationally relevant material (Fay, 1998). Thus it appears that situational interest is often related to the learning of details associated with specific situations. As such, some researchers have recommended using situational interests as triggers to introduce students to a topic in which they have no initial interest (Hidi, 2001).

Individual Interest

Although educators like Comenius had observed and expressed concern over children being able to naturally express their interests, Dewey wrote prolifically about the empowerment available to those who actively pursued their interests (1916). In essence, these deep encounters between a person and an object seemed to indicate that interested people could not only lose themselves in the activity or object, but also simultaneously find themselves through the process (Dewey, 1913). Educational psychologists have now termed these very personal interests to be individual interests (Renninger, 1992), for the interaction with the object represents an intrinsic expression of the individual self or

identity. Researchers have also discovered when people were deeply touched by or engaged with an object, they become attentive and alert (Renninger, 1992), and evidence levels of absorption, called "flow" (Schiefele & Csikszentmihalyi, 1994).

Although researchers (e.g., Alexander, Kulikowich, & Schulze, 1994; Mitchell, 1993) generally agree that personal or individual interests represent long-term deep seated involvement with an activity or subject that accompanies a person as they enter any environment or context, there is less uniformity in whether to categorize these interests as traits or states. Those ensuing discussions have been especially relevant to understanding how students develop subject interests. For instance, if a student has evidenced an interest in creative writing, is the interest evidence of an inherent trait or the result of academic encounters with the content of an introductory English class?

The distinction has not always been clear. Some researchers typified a situational interest as including both the ability to hold onto an interest for an extended period of time (beyond the introductory English class) as well as merely temporarily catching it during the required introductory class (Hidi & Baird, 1986). Other specialists in interest research have designated topics, subjects, and domains as being types of individual interests (Schiefele, 1996). Murphy and Alexander's review of the motivational terminology (2000) summarized an individual interest as "characterized by the desire to develop competence and display a personal investment in the targeted field" (p. 28).

As proponents of situational interest's academic benefits, researchers have suggested that the stimulation of situational interest could trigger a level of student motivation that transcended "time-consuming, painful or boring circumstances." (Hidi &

Harackiewicz, 2000, p. 319). Their conclusions were based upon the supposition that there is a developmental connection between these two major forms of interest. According to this theory, situational interest initiated what individual interest might later maintain and enlarge.

At the present time, however, any developmental connection has yet to be empirically supported, primarily because studies have rarely combined both forms in the same research context. After repeated investigations of text-based and domain interest in college students, Murphy & Alexander (2000) concluded that although the two types were theoretically distinct, they were not dichotomous. They could work together when the academic task was both pleasurable and deeply satisfying. On the other hand, they could also "operate in conflict" (p. 40) when the need for arousal was stronger than a level of task involvement. Regardless of the classification, when people have been motivated by the purpose and momentum of interest, their responses frequently contained intellectual, emotional and volitional components.

Multi-faceted Interest

Within the field of educational psychology, the construct of interest is firmly placed within a larger body of knowledge termed individual differences, which is focused on the study of personality and intelligence variations between individuals. Three theoretical categories exist in the broad field of individual differences—cognition, affection, and conation (Snow et al., 1996). Cognition is primarily concerned with the acquisition of knowledge; affection includes emotional and temperamental constructs; and conation is composed of motivation and volition. Although interest is generally

defined as a motivational construct under conation, educational researchers and philosophers alike note its strong affiliations with the other two categories, cognition and affection.

Interest and Cognition

What is accomplished cognitively when people are interested? Research has indicated that the processing of interesting information is accompanied by physiological responses. In studies done with infants, interesting stimuli were positively correlated with facial indications, visual fixation time, and heart deceleration (Langsdorf, Izard, Rayias, & Hembree, 1983). Researchers of college students also found that interesting, attention-getting, and unusual stimuli elicited dilation of the pupils and again, deceleration of the heart rate (Libby, Lacey, & Lacey, 1973). These results have shown that interested efforts are simultaneously both focused and relaxing.

Furthermore, some educators have observed that interest facilitates both assimilation and accommodation for every process of equilibration is based on an interest (Travers, 1978). Especially relevant to interest's relationship with cognition has been the research noting its associations with phases in the information-processing model. As such, interest and attention have been connected with displays of recognition, the ability to remember and recall more facts (Renninger & Wozniak, 1985; Shirey & Reynolds, 1988), and deeper levels of processing or understanding (Schiefele, 1998).

In general, Dewey (1916) described intelligence as being disengaged when an activity lacked the purpose associated with interest. In contrast, when interests were activated, people seemed more likely to connect with knowledge in a way that was

impossible for those who pursued the accumulation of knowledge as an end in itself. In support of these statements by educators, some researchers have conceptualized prior knowledge as being a major component of individual interest (Renninger, 1992). After reviewing text-based literature on the relationship between interest, prior knowledge, and learning, Tobias (1994) concluded that the evidence suggested a strong linear relationship between interest and prior knowledge. However, prior knowledge only accounted for 20% of the variance, leaving 80% of the variance between interest and learning still unaccounted for. In a seminal review of the relationship between interest and achievement, Schiefele, Krapp, and Winteler (1992) found that coefficients of correlation between individual interest and academic achievement in specific subjects (predominantly within a high school setting) ranged from a low of .17 in literature to .35 for science.

More specifically, the relationship between interest and knowledge has differed depending on the relationship between the type of knowledge and type of interest. In text-related research, Alexander and associates (1993, 1994, 1995) have defined the distinctions between types of subject matter knowledge. They suggested that *topic knowledge* was a familiarity with content related to a text passage or segment of instruction, whereas *domain knowledge* was familiarity with general information in an area. Paralleling that distinction, Tobias (1994) further refined individual interests into two categories—*specific interests,* "a preference for particular activities, text segments, or bodies of content," and *domain interests,* "a preference for activities dealing with the same subject not circumscribed by a particular passage." (p. 47)

Alexander and associates (1995) suggested students in the initial stages of acquiring domain knowledge possessed little topic knowledge and probably exhibited a situational interest. As knowledge of the domain increased, topic knowledge as well as topic interest were expected to increase and join with the initial situational interest to exert a moderate effect on learning. At an expert level, both domain and topic knowledge were assumed to have become extensive. At that level, it was expected that the increase of topic interest would be more important than the initial situational interest.

Within their multi-stage Model of Domain Learning, Alexander and her colleagues discovered that college students who were more knowledgeable gave higher interest ratings and were able to distinguish between important and interesting text (Alexander et al., 1994). However, neither knowledge nor interests alone were able to ensure optimum levels of achievement; instead that level of performance resulted only from an integration of knowledge, interest *and* strategic ability (Alexander & Murphy, 1998).

In other studies with college students, high levels of interest and knowledge were associated with improved writing skills (e.g., developed themes, relevant information, accessed ideas, organized thoughts) in narrative reports (Albin, Benton, & Khramtsova, 1996), but undergraduates with low topic knowledge were unable to generate the same quality in their written responses, even when they were interested (Benton, Corkill, Sharp, Downey & Khramtsova, 1995). One additional study among high school students revealed that participants with high interest levels prior to reading a linear text, correctly selected more main ideas and used metacognitive strategies (McWhaw & Abrami, 2001).

The formation of domain interest also provided a powerful role in developing higher levels of literacy among dyslexics.

> Spurred by a craving for new information about a personally selected topic of interest, they read avidly in one domain and thus became familiar with domain-specific vocabulary, concepts, themes, questions, and typical text structures...which promoted their development of fluency and increasingly sophisticated reading skills. (Fink, 1998, p. 404)

Younger students in grades 4-6 needed both high levels of knowledge and high levels of interest to display competency in reading comprehension and mathematical word problem solving (Renninger, 1992). For these individual interests to emerge, students apparently needed enough knowledge to formulate curiosity questions, which were rooted in both what was known and yet to be understood. Interested students who could generate these questions evidenced enhanced attention and had more opportunities to grapple with discrepancy and incongruity (Renninger, 2000).

In concluding this section on the associations between interest and cognition, a caution should be stated. Although it is possible for cognition to support learning apart from positive emotion, purely rational models of cognition are unable to accurately portray how we choose or develop a fondness for certain types of information, because effortful learning sustained by affections is more than mere mental exertion (Gregory, 1917/1963). Although the affective aspects of interest may not be acknowledged or emphasized by some cognitive researchers, they remain an important element in this discussion.

Interest and Affection

Unfortunately, the volume of affect-related literature on individual interest has not equaled its cognitive emphasis, possibly reflecting the current academic focus on students' passing of standardized proficiency tests. Apparently, when educational efforts are targeted toward improving achievement performance, affective emotions associated with interest, such as enjoyment (Hidi & Harackiewicz, 2000), pleasure (Todt & Schreiber, 1998), and excitement (Izard, 1977) have been relegated to back-row seats in the theatre of research outcomes. For the purposes of this review, emotive responses have been characterized as relating to personality factors, temperamental traits, attitudes, values, and characteristic moods (Snow et al., 1996).

Despite Izard's (1977) contention that interest was "the most frequently experienced positive emotion," and Tobias (1995) stating all people could potentially experience these deep levels of fondness or attractions toward an object, few investigations have focused on its emotional or value-related components. A few exceptions do exist, however. For example, perceived importance or utility was stronger than self-concept or liking among college students as a predictor of choices in activities, (Eccles, Barber, Updegraff, & O'Brien, 1998).

Some researchers have equated interest with liking (Todt & Schreiber, 1998), but Iran-Nejad's (1987) findings indicated that interest and liking were not equivalent terms. The discrepancy may be attributable to differences between situational and individual interest as Todt and Schreiber's (1998) research was associated with deeper heart-felt demonstrations of affection than Nejad's (1987) situational interest study. In preschool

children, cognitive as well as affective efforts were employed when engaging in tasks (Renninger & Sigel, 1987). It also appeared that the value attributed to their individual interests accounted for a wider range of play activities and different types of actions, including the resolution of conflicts with others who shared the same object of interest.

Although interest has been conceptualized as crossing over the three categories of affection, cognition, and conation (Snow et al., 1996), researchers have been unable to consistently locate interest's point of origination as being triggered in any single category. Dewey (1899) understood individual interest to be an affective response, which always accompanied cognitive activation, and both were preliminary to exerting effort. Izard, however, saw the emotion of interest as being activated by perceptual-cognitive processes as well as person-environment interactions—or a combination of both. On the other hand, interest has also been described as the connector between cognition and affection (Tobias, 1995) or the intersection of cognitive and affective functioning (Renninger, 2000).

Regardless of the perspective, positive emotions have been typified as integral to the experience of interest (Lewalter & Krapp, 2001), even though few studies have focused on affect. When compared to the studies of cognitive interest, it is obvious that the emotional aspects of interest are underrepresented in the literature, which is unfortunate. If Dewey (1913) and Izard (1977) have accurately assessed the partnering of affect and cognition in activities of interest, it may be that affect has been present in all the cognitive studies as a mediating factor, even if it remained an undetected variable in the research design.

Interest and Conation

Interest has most frequently been considered a motivational construct under the category of conation, defined as "the tendency to take and maintain purposive action or direction toward goals." (Snow et al., p. 264) Even Izard (1977) termed interest "the only motivation that can sustain day-to-day work in a healthy fashion" (p. 212), and Tobias (1995) suggested that individual interest by its very definition related to intrinsic motivation, a force emanating from within a person that is free from external inducements (Deci & Ryan, 1985). Dewey (1913) also associated interest with effort, a volitional construct.

Motivation. Primarily, the motivational literature on interest has investigated its relationship with achievement orientations and self-directed orientations. Within the first category, interest has formed an integrated relationship with goals (i.e., the reasons why students engage in learning tasks). After numerous research projects with college students, Pintrich and Schrauben (1992) concluded that goal orientation was more influential than interest on students' use of learning strategies, because goals directed behavior while interest merely determined the depth of intensity associated with the behavior. Schiefele (1996), on the other hand, reported that the reverse was true because levels of interest influenced strategy use regardless of their goal orientation. His conception of interest as a motivational construct was characterized by two characteristics: value-related valences and emotion-related valences. As such, value in this context has referred to an assumption of personal significance (Schiefele, 1991, 1996).

As an orientation of self, Hannover (1998) found that self-concept was symbiotically related to interest, because "people develop certain interests in order to define who they are and to communicate their identity to others." (p. 108) Therefore, as interests grew more idiosyncratic, self-definitions became more differentiated. Furthermore, interest supported the development of self-concept in three ways: helping students define who they were, aiding the attainment of self-related goals, and by regulating self-esteem. In an intervention study where students received special mathematics lessons and then were asked to calculate gender related mathematical tasks, sex differences in self-perceived competence disappeared in the experimental group. As such, these connections were especially crucial during puberty when the person was undergoing an extensive re-defining of self. Additionally, the memory structures associated with expressed domains of interest seemed strongly linked with self-concept.

Yotive and Fisch (1998) hypothesized that children who were able to personally identify with characters in a video, might also respond to the characters' apparent engagement with various domains by becoming more interested in the same subject matter. In a study among talented high school students who were monitored through an experience sampling method, the presence of interest in their daily activities predicted potency, self-esteem, and perceptions of skill (Schiefele & Csikszentmihalyi, 1994).

Volition. With regard to interest's connection with volition, earlier suggestions by Sjoberg (1984) that interest played a powerful role in guiding the selection and persistency of action in high school students were recently re-examined by other researchers. Their results suggested that increased levels of interest affected whether

students perceived a reason to persist in an activity (Sansone & Smith, 2000). In a study of talented high school students, the authors treated readiness to invest intensive effort in one's work and the level of persistence or endurance displayed when working on school tasks as being indicators of achievement motivation (Schiefele & Csikszentmihalyi, 1994). They found this achievement motivation variable to be less highly correlated with quality of class experience than the relationship between favorite subject indicators (termed interest) and quality of class experience.

Additionally, college students who reported they were interested in an assignment were also likely to consider the task as important (Alexander & Jetton, 1996), or valuable (Pintrich, Ryan, & Patrick, 1998)—and those designations reflected the level of effort that pupils directed toward learning the task. These volitional trends among older students were also observed in younger children whose interest apparently helped them exhibit more tenacity in developing skills, and to persist in reorganizing activities (Renninger & Wozniak, 1985).

Thus it is evident from the literature that an individual interest facilitates the processing and acquiring of information (cognition), supports other motivational variables as well as volition, and is associated with positive emotional experiences (affection). Although the strength and quality of an interest depend upon the procurement of correspondingly broader and deeper levels of knowledge (e.g., topic, subject, domain), when levels of knowledge change, interest levels become more complex. Thus if students

are provided with experiences that stimulate, provide direction, and supply satisfaction to the learning process (Rathunde & Csikszentmihalyi, 1993), their interests will be more than moments of temporary arousal or enjoyment (Rathunde, 1992).

Interest and Gender

Although the research on interest has been conducted in many nations (e.g., Israel, Germany, Sweden, Australia, and the United States), to date no results have indicated that the experience of interest is restricted to certain cultures, but the forms and objects of interest may vary within ethnic samples. The literature has indicated, however, that there are different gender preferences, especially in school subjects. Furthermore, researchers have even observed these gender differences in preschoolers. For instance, although three-year-old children had stereotypical interests, by age four these interests began to shift or merge with gender-typical play objects (Renninger, 2000). To maintain interest in gender-atypical subjects required an intense investment by the children and supportive feedback from others, which included affording the children extended opportunities for engagement with the objects or activities.

Gender imbalance was a factor in high school and college course selection (Schiefele, Winteler, & Krapp, 1992). For instance, girls have displayed a greater interest in human biology and social/moral issues, while boys preferred scientific research and environmental preservation (Gardner & Tamir, 1989). In a longitudinal study of college students (Manis, Thomas, Sloat, & Davis, 1989), more women reported negative high school experiences with science classes, but men indicated that personal enjoyment and interest were the most important determinant of their enrollment in science classes.

Fivush (1998) concluded that gender was not simply the result of biological or cultural impositions placed upon the child. Instead it was a system of values the child constructed in everyday interactions. These gender preferences have also affected teacher's instructional practices (Hoffman & Haussler, 1998). Therefore, gender has directly and inferentially influenced the development of student interest.

Summary of Interest's Facets

The previous findings support the contention that interest energizes and empowers the needs and desires of the student (Alexander et al., 1997). By its very root words (inter-among, between; esse-the verb infinitive, to be), interests "are among." They function as connectors, forming conceptual relationships within the construct of individual differences (Figure 2.1). For example, Renninger (2000) defines interests as being composed of knowledge and value; Schiefele (1996) describes interests as having value and emotion-related valences; and Rathunde (1998) suggests interests contain emotional and effort-related components. As such, individually interested students might gain knowledge, utilize cognitive strategies, be highly motivated, enjoy learning, focus their attention or efforts toward academic goals, and activate intrinsic talents and personality traits. In the same way, interested instructors could exhibit extensive levels of content knowledge, laugh and smile while teaching, and stress the importance of their subject for their students' future occupational goals.

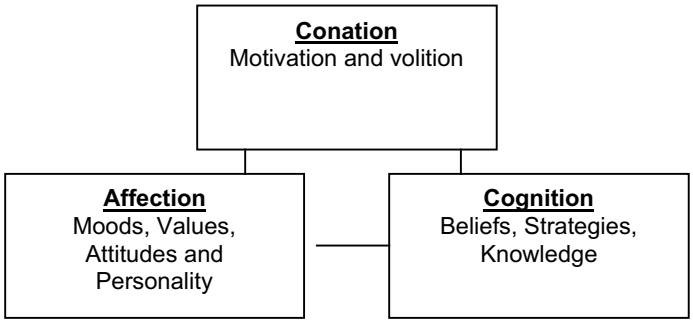

Figure 2.1: Interest connections within the construct of individual differences

When viewed as a comprehensive body of information, the interest literature contains three major components: knowledge, value (i.e., importance) and positive emotion (associated with elements of play), as well as sustained effort or work. In some respects, the substantive lack of information on the affective dimension may be undermining a more effective understanding of the interplay between these categories. Furthermore, because many researchers have emphasized only certain portions of interest's complex relationships, a more comprehensive investigation of interest is warranted.

As the bulk of the research about interest was related to learning in classroom settings, the remainder of this literature review is devoted to an exploration of how teachers might influence the growth and expansion of student interest in the content area. A relationship of interest describes an attachment between a person and an object, but

there are varying levels of intensity. In a classroom, a very interested student is already closely connected with the course subject or content area; a student with little or no subject interest may only be beginning to form an attachment with the subject matter. Therefore, it is important to examine how the teacher interacts with the content to facilitate these relationships of interest being formed between the students and the subject. It is assumed that the teacher is able to affect the subject's attractiveness in three primary ways: levels of teacher interest, curricular choices, and instructional practices.

Teacher Interest

In classic (Highet, 1950) and contemporary (Woolfolk, 2004) texts on teaching practices, effective instructors are described as demonstrating an enthusiasm for and knowledge of the course content. Similarly, educational psychologists also define people who both value and know a subject as being interested in that subject (Renninger, 1992). Therefore, teachers who are effective might also be categorized as having an interest in their subject. Although this association may appear logically sound, there is little evidence to support this conclusion in the empirical literature on interest, primarily because the overwhelming majority of the participants in interest-related research are students rather than teachers.

Indeed, there are limited research reports that even include the term teacher interest as a variable in the research design. Consequently, if the development of a student's interest in an academic subject is even remotely related to the teacher's own level of interest, there is an urgent need for more information on the teachers' role in that

process. One of the most significant variables affecting student interest could be the "sympathetic interest inspired by the teacher's delight in the theme" or subject (Gregory, 1917/1963, p. 35).

When a teacher models close attention and genuine interest in the lesson, students can be inspired to duplicate the same experience. As such, teacher interest has been defined in one study as expressions of engagement, enthusiasm, and commitment in the classroom (Drechsel et al., 2001). In their study with apprentices in a German vocational setting, these researchers found that student levels of motivation were more related to the teacher's interest in the content than to the relevance of the contents or the quality of instruction (Prenzel, Kramer, & Drechsel, 1998).

Two other references to the term teacher interest have appeared in previously cited studies relating interest to instructional practices. Teachers who modeled respect for and interest in a subject presented the content as inherently interesting, as if they assumed their students would similarly build a personal interest in math (Turner, et al., 1998). They specifically exhibited their value and enjoyment of the subject, using such phrases as "love that" or "really wanted to" (p. 743).

Furthermore, within the context of their study on talented teenagers (Csikszentmihalyi et al., 1993), the authors noted that the most influential teachers were interesting as well as able to inspire student interest in their concerns. They inspired students with their subject interest. These teachers were also cited as being kind and genuinely helpful to their students. In sum, they never stopped "nurturing their own interest" or took the conveying of their interests "for granted" (p. 191). Furthermore,

"whether as volunteer conservationists, musicians, or local artists, the teachers in our studies were often involved in activities related to their domain outside of class time, as a matter of choice." (p, 191)

If interest has been defined as a "person-object-conception" (Krapp, 1999), and student subject interest consists of cognitive, affective, and conative relationships, then it may be inferentially assumed that teacher interest should also reflect those same multidimensional facets. As such, cognitive demonstrations of teacher interest, for example, could produce a corresponding parallel cognitive response in student interest. Graber's results (1998) showed that the subject competence of German teachers (e.g., giving good examples to make learning easier) contributed to students' interest in chemistry more than teachers' social competency (e.g., help outside of class).

Additionally, Australian research with 7th to 11th grade students revealed a relationship between depth of interest curiosity questions and teachers who were helpful, fair, and showed personal (individual) interest (Ainley, 1998). Although not directly stated, the latter reference to the personal interest of a teacher may be related to interest in the students and/or interest in the content. In another study, however, teacher interest in the student was directly implicated. Fraser and Gestwicki (1998) found that teachers needed to express genuine interest in what the child was saying in order to engage students in meaningful dialogs.

These findings, although limited, have suggested that teacher interest positively impacts variables associated with student subject interest. Furthermore, in this study it has been theorized that teachers could express their interests in the content through their

curricular choices and instructional practices. Because of the limited literature on teacher interest, there is little information on teacher interest in the curriculum or teacher interest in instructional practices. However, there are examples where teacher decisions relating to curriculum and instructional practices have affected levels of student subject interest.

Teacher Curricular Choices and Student Subject Interest

Although the popular definition of curriculum may be "a document outlining what is to be taught" (McCutcheon, 1988, p. 33), it may be more appropriate to view curriculum as "a structured series of intended learning outcomes" (Johnson, 1967, p. 131). As such, the design of these learning outcomes includes not only what will be taught (content), but also how the content will be taught (activities, resources, and instructional strategies). The literature also speaks of the need for integration and balance in constructing a learning experience that interrelates content with students' personal, social, and intellectual goals and needs (Hunkins & Ornstein, 1988). Thus, it would seem natural to expect that interest, which energizes the learner's needs and desires (Murphy & Alexander, 2000), would appear as a factor in the teacher's curricular decision-making process.

However, some contend that teachers currently have little say about what is taught because of national guidelines and district plans, and are limited to selecting "examples and developing appropriate ways of teaching" the formal curriculum (McGee, 1997, p. 13) rather than having opportunities to use student interest to create curriculum (McCutcheon, 1988). In addition, students' choices of subjects are also constrained by the opportunities provided by state and curricular authorities (Ainley, Elsworth, &

Fullarton, 2001). Consequently, the literature relating teachers' decisions on the content relative to student interest has been limited, and as Muir (2000) discovered in a middle school qualitative pilot study, even when teachers readily acknowledged being aware of students' interests, no attempts were made to relate content to its motivational power.

Public school applications. Although the literature has examples that have tacitly supported the notion that curriculum and interest can function together in classroom environments, there have been limited examples demonstrating this union in public school settings. Gallagher (2000) described one experience in which a group of social studies teachers from numerous districts within North Carolina re-designed a high school curriculum. Using the state's standard course content as their foundation, they specifically targeted disadvantaged but gifted students within any social studies classroom. Their project focused on developing curriculum around controversial topics that were deemed interesting to students. As such, students were the primary stakeholders in the unit, and teachers functioned as their coaches.

The units required 10-hours of instructional time and were pilot tested in a variety of settings with students of diverse experiences and abilities. Project specialists also provided support and feedback to the pilot instructors. Qualitative data were collected to assess student performance (e.g., observations, content analysis, and reflective reports); findings revealed that all students learned (some more than others), and students exhibited higher levels of engagement. In addition, teachers who were initially nervous

about taking the requisite time from their already crowded schedules, became inspired to teach additional units. However, no other specific details (e.g., type of instructional support) were included in the report.

In a different study, a high school team of teachers collaborated to establish creative communities with interactive teaching and learning across content areas (Weber, 1996). Team members had been provoked by students' negative responses to questions about which of their unique gifts and abilities were used in school. After soliciting input from students (through discussions and administration of an interest inventory), the required curriculum became a "springboard" for thematic units. In that way, a project-based approach covered mandated curriculum without assigning extra work to the students, incorporating current research, interdisciplinary content, collaboration, technology, and reflective assessments. The author suggested asking three questions that related to an integration of student interest and content:

a. How can we brainstorm with students to discover their prior knowledge, experiences, and interest in the curriculum topics?
b. How can we use interest inventories to learn more about the students' abilities and interests?
c. How can we integrate the curriculum so that students can cover the mandated curriculum but not be limited to nor bound by the required curriculum? (p. 77)

Two additional citations from this study included a curriculum focus on student interest. The first involved middle-school teachers from two disciplines, home economics and science, who designed a unit's curriculum around students' interest in foods (Smith & Hausafus, 1993). Employing the discovery method of instruction, students analyzed the chemical compounds of natural and processed foods they had consumed. Secondly,

an inquiry-based English project (Steffen, 1998) gave high school students with police records a semester-long opportunity to re-shape the curriculum to their own needs. By developing and administering a school-wide research survey on student experiences with violations of the law and writing a series of reflective articles about their own history of arrests, students who had been previously hostile to school activities became academically engaged and more mature writers.

Alternative school applications. Because public school mandates have well-defined curriculum boundaries, perhaps teachers in other settings have been given more liberty to make content decisions based upon student interest. In one private high school, seniors were encouraged to intensely investigate new areas or career/cultural interests (Sachs, 1998). Academic rigors were maintained, but the responsibility for the program shifted to the students. After participating in a variety of activities (e.g., interning at Turner News Network, composing an original symphony, teaching preschool children, and participating in genetic research at a state university), students became more intrinsically motivated, and accomplished a "remarkable amount of growing up" (p. 15).

Putting teachers at the core of the curriculum has been the purposeful directive at a democratically orientated private school in Indiana. Time and support was necessary for teachers "to develop the talent and trust in themselves to generate worthwhile and meaningful curriculum…that is responsive to their students" (Goodman & Kuzmic, 1997, p. 83) and reflective of their own teacher interests. Some schools offered special classes to help empower teachers' vision for developing their own curriculum, because of fears about the state mandated guidelines.

Former public school and university educators, Moore and Moore (2002, 1988) have also advocated that home-schooling parents incorporate student interests into the learning of core subjects. They suggested giving students ample opportunities to explore learning before a formal curriculum was introduced. Rather than emphasizing textbooks or workbooks, they recommended letting students do original reading within their areas of interest. In addition, according to Holinga's qualitative study of home-schooling families (1999), parents' curricular choices shifted from a pre-packaged curriculum to a focus on their children's interests and strengths by the third year of practice, and as a result, students became more independent and developed a love of learning. Interestingly enough, a large quantitative study of these students noted that academic achievement improved after more time at home (Rudner, 1998).

Content in Reggio Emilia schools. Finally, a unique and almost ideal approach to the integration of interest and curriculum has evolved in the Reggio Emilia early childhood education model. Unlike a theme curriculum (subject and activities chosen by the teachers for the students to participate in) or an emerging curriculum (teacher observing the students for their interests, which become the basis for curriculum development), these educators construed the curriculum as both emerging *and* co-constructed (i.e., negotiated) by all members of the classroom's social group (Fraser & Gestwicki, 2000). The process was designed to go beyond a teacher's act of observation to include an uncovering of the children's beliefs about the topics they have mentioned. In describing this approach, educators have termed it neither child-centered nor teacher-directed, but "child originated and teacher framed" (Forman & Fyfe, 1998, p. 240).

The curriculum design process has been thorough and thoughtful, providing the teacher with ample opportunities to judge if the project will meet program goals. Because extensive documentation was required (e.g., written observations, transcriptions of audiotapes, photographs, and videotapes), the teachers' reports contained qualitative data on which to base subsequent curriculum development decisions. After analyzing the discourse, teachers used the information to provoke additional discussions and relate the current topic of information to children's earlier belief statements.

In one example, teachers realized that children were focusing on a bird's ability to fly high—so the curriculum planning included giving the children opportunities to explore height. Within this theoretical structure, one project has occupied weeks or months of instruction. As a result, children not only acquired information but also gained skills in attentiveness, listening, questioning, curiosity, and interest (Gandini, 1997).

The teachers in this system have frequently redefined their roles as instructors, shifting from authoritarian directors to co-collaborators. They now lend their knowledge to the children, but directly help create scaffolds. After experiencing this transformation, one instructor remarked,

> Today, I value my own and colleagues' contributions as much as I value the children's. The result is a dance between teachers and children where the lead changes as the steps become more familiar or more intriguing to one person or the other. It is a dance that no one knows, no one has seen in full (Fraser & Gestwicki, 2000, p. 54).

Thus teachers using this approach formed the content by documenting children's interests, encouraging and building upon those ideas, and welcoming input throughout the process of development.

Summary of teacher curricular choices and student subject interest. Evidence has been growing that "curriculum and teaching are becoming more tightly controlled" (Apple, 1988, p. 22), producing rigid time schedules and prepackaged standardized teaching models with test-based curricula. These implementations have moved teachers from the center of curriculum to a position "on its edge with the children" (Goodman & Kuzmic, 1997). As a result, teachers have hesitated to actively modify the curriculum (Weber, 1996) or integrate student interests into the existing content (L. Morris, personal communication, November 20, 2002). This teacher/curricular stalemate was poignantly demonstrated by the paucity of interest-related curriculum examples in the literature. Such conditions have also accompanied previous discipline-based curricular emphases (Tanner & Tanner, 1980).

As Dewey (1913) accurately foretold, a primary source of misunderstanding about the relationship between interest and the curriculum can be attributed to an ignorance of the fact that interests, by their very nature, must grow and develop over time. If the child (or student) must pass through social and physical phases in order to discover any subject's natural potential for engagement, perhaps those who have been unable to play with the content have only formed working relationships with the subject. Dewey described these one-dimensional relationships with a subject as being divided because the students were unable to form undivided interests (composed of both work and play). Unfortunately, when the child and curriculum were set in opposition to each other, interest became an enemy of the discipline (Dewey, 1902).

The public school teachers whose curricular designs were included in this review became adventurers who envisioned alternative solutions (Steffen, 1998; Weber, 1996). Their students were frequently not mainstream participants (e.g., gifted but disadvantaged, juvenile delinquents, or students in vocational courses), and these isolated incidents represented teacher attempts within a discipline, a school, or a single classroom. In order to refocus the emphasis of the formal content toward student interest, teachers had to approach the process of instruction with nontraditional mindsets, and view themselves as both creators and enactors of the curricular package (McCutcheon, 1988). Unfortunately, the rigid enforcement of formal curricular packages has more often redirected teachers' efforts toward instructional practices where more flexibility was permitted (S. Cantlebury, personal communication, November 13, 2002).

Instructional Practices and Student Subject Interest

In contrast to the limited investigation of the relationship between curricular choices and student subject interest, researchers have more thoroughly examined the instructional practices related to the development of interest. A large portion of this literature in high school settings has originated in Germany, which unlike the American system of education, has traditionally esteemed vocational education and tracking student interest and ability levels during their entire secondary school experience. In contrast, although American students' domain interests have related to their post-graduation vocational interests (Long, Monoi, Knoblauch, & Harper, 2002), the strength of those interests has had little effect on their academic achievement. At the same time, middle school students have overwhelmingly attributed their poor academic performances to a

lack of interest (Vispoel & Austin, 1995). This information highlights the need for more information on how interested person-object connections are affected by teacher's instructional practices.

Although teachers have been acknowledged to influence the development of student subject interest (Sjoberg, 1984), limited studies have focused on the practices that hinder or contribute to the growth of interest. Dewey (1916) wrote persuasively and emphatically about the academic benefits of giving students freedom to express their interests, suggesting that such liberated students would not respond the same way to any single attitude or method of instruction. The implication was that curriculum required the deliberate preparation of the classroom context as well as the content.

Not withstanding, the selection of instructional practices has also depended upon students' academic tracks, the disciplines being taught (Raudenbush, Owan, and Cheong, 1993), and students' socio-economic status (Anyon, 1980). Prenzel (1998) inferred that it was important to consider the relationship of interest and instruction. As such, effective engagements of interest have been facilitated by consistent, systematic, and progressive encounters with the content as part of an overall instructional plan, facilitated by using age-relevant material, preparing provocative questions that were attainable, discovering students' favorite stories or subjects, and eliminating distractions (Gregory, 1917/1963).

Studies in the United States. One study in a high school setting examined the influence of interest within a mathematics classroom. Based on Hidi and Baird's (1988) representation of situational interest as a response to the environment or context, Mitchell (1993) divided situational interest into two functions—catch and hold. With students in

five focus groups, he identified three activities that he termed "catch" facets (i.e., computers, group work, and puzzles) as they stimulated student interest. He also identified two "hold" facets (i.e., meaningfulness and involvement), which allegedly contributed to student empowerment. From these findings, he constructed a quantitative measure with personal interest, situational interest, and the five "facets" that was administered to 350 high school students who were predominantly Caucasian.

His findings indicated that his multifaceted model was supported, and meaningfulness was moderately correlated with situational interest, while involvement was strongly correlated with situational interest. On the other hand, the three catch "facets" were weakly related to situational interest. He concluded that interest provided a powerful approach to improving mathematics performance.

From the perspective of this research project, although interest likely did provide a powerful approach to mathematic performance, his conceptual framework presented several problematic assumptions. First, there is no indication in the literature that computers, group work, or puzzles are related to "catch" functions. Nor does the literature associate meaningfulness or involvement with situational interest (Schiefele & Csikszentmihalyi, 1994). Within Dewey's theoretical framework of interest, which Mitchell interestingly enough cites in his theoretical statements, students are expected to assign more value (i.e., meaning) to a subject (e.g., mathematics), and they exhibit active involvement as they pursue the interest. One additional fact that is particularly relevant to the present research study is Mitchell's mixed methodological procedure, indicating that high school students are an appropriate sample for an interest survey employing

quantitative and qualitative methods. However, it is also important that the conceptual framework in which the study is situated should accurately reflect the intent of the theorists who are represented.

Citing Mitchell's study as part of their theoretical framework, a mathematics study focusing on involvement was conducted among upper-elementary students (Turner et al., 1998). Again, their conceptual theory was associated with situational interest, defined as "participating in a context" (p. 731) and appropriate for students lacking any requisite long-term history of positive associations with the topic. However, employing such a broad interpretation implies that every student in a classroom could be considered as pursuing a situational interest. The authors further differentiated between interest and involvement, judging that involvement was related to cognitive activity rather than situational interest, defined as "doing things" by Mitchell (1993, p. 428). However, their description of teaching practices paralleled Gregory's (1917/1963) recommended techniques for constructing deep interests, not temporary responses.

Regardless of their associating involvement with situational interest, their results are important for the present research investigation. Teachers were found to affect the level of involvement in their students by their discourse patterns. Instructors' questions and comments in high involvement classrooms (defined as a balance between challenge and skill levels) led to students sharing the responsibility for problem solving, as well as affording them extensive opportunities to negotiate through the process of understanding. These practices also fostered the expression of intrinsic motivation within the children, as compared to other contexts, where students reported being bored or apathetic.

Furthermore, these discourse patterns functioned as instructional scaffolds, facilitating cognitive, motivational and emotional learning (also referred to as the three facets of interest in this study). As such, scaffolds, which experts have recommended should be constructed from student interests (Hogan & Pressley, 1997) were theorized to help "focus students' attention, foster greater concentration, provide feedback about goals, and keep the task at a moderate level of difficulty." (p. 732) In classes where there was high involvement, students exhibited more understanding and more autonomy. Because involvement has also been associated with interest by other researchers (Schiefele & Csikszentmihalyi, 1994), these findings can also be associated with interest.

Within a smaller qualitative sample of underachieving middle school students (Muir, 2000), students identified teacher practices that appeared to be situationally interesting as "corny," and evaluated teacher's attempts to be the result of making assumptions about what the students wanted. Instead, students suggested that teachers directly ask about their preferences, which included useful, hands-on learning activities that simulated real world activities. Teachers who were interviewed in this same study employed the correct rhetoric about motivating students (i.e., make it interesting, give choices, relate it to their lives), but failed to implement those practices in their classrooms.

Finally, researchers of talented teenagers (Csikszentmihalyi et al., 1993) also identified teachers as providing students with opportunities that required both skill and challenge. They created settings where intrinsic rewards were enhanced; thus "extrinsic pressures like competition, grades, needless, rules, and bureaucratic procedures" (p. 191)

were minimized. These teachers provided informational feedback, which "is focused on the ongoing activity" (p. 192), rather than controlling feedback. Finally, they afforded students opportunities to tailor learning situations to their own interests and styles of learning, offering them a measure of freedom.

Because multiple researchers have associated talent and interest (e.g., Schiefele & Csikszentmihalyi, 1994; Rathunde, 1992), it may be that information on the instructional practices related to talent development will be applicable to the development of interest. As such, one qualitative study of talented individuals revealed extensive information about their instructors (Bloom, 1995). The data indicated there were three distinct phases of talent development, which were facilitated by different teachers using similar techniques. Those findings are summarized below.

In phase one (the beginnings of interest), children were encouraged to explore, manipulate, and control the environment by teachers who were warm, pleasant, nurturing, and enthusiastic about what they had to teach. Because the emphasis was on grasping larger patterns and processes and learning basic skills, no single procedure was emphasized. Students were not pushed, but encouraged to stumble into their interests through fun and comfortable circumstances. Teachers naturally expressed value for the subject matter or activity, gave abundant positive reinforcement and rarely criticized, although standards were set and progress was expected. The correction of performance flaws was accomplished through approval, praise, and encouragement. After completing

simple tasks and short-range goals, students realized they could be very successful and still enjoy the activity. As such, the pleasure of discovery became more important than obtaining a grade or being approved.

In phase two, a sense of specialness was built. Although playful aspects were still emphasized, students became more precise, participating in more defined and planned activities. As the demands increased, so did students' perseverance for they realized their skills were developing. Teachers offered more opportunities for independent decision-making and formulation of plans. As rapport with their teachers increased through expanded levels of attention and caring, students became more self-motivated and involved. Teachers also enlarged their students' perspectives and encouraged higher levels of attainment. Interest was strengthened; intentions became serious.

In the final phase, building competence became the emphasis, which corresponded with a commitment for work as well as fun. Details were less important than understanding the larger concepts or processes, so learning strategies and problem solving skills developed. As a result, products acquired more meaning and purpose. Students set their own goals, evaluated themselves, and competed with other advanced students. They developed endurance and strength, perfecting their own style and performance, thus achieving higher levels of competence. Teachers expected major improvements, but the steps toward achieving those goals were determined by both teachers and students, whose role in the process was increasing. When adults valued their activities, a context for achieving proficient accomplishments was created.

Mastery was achieved as students progressed through definable stages, which were accompanied by different skill and challenge requirements. In each stage different teacher behaviors and instructional practices were also implemented, leading to different forms of interested responses from the student. These were also accompanied by changes in the cognitive demands placed upon the student.

Studies in Germany. A large number of German educators have conducted interest research as their school system tracks students' interests as well as their academic ability. Thus, they have acquired valuable information about the instructional practices related to the development of interest. As such, their studies revealed that learning technical tasks such as using a drill or laying cables positively influenced students' interest in mathematics or physics, prompting the author to suggest that "teachers should establish links between the information to be learned and the pupil's self-concept or identity" through behavioral experiences (Hannover, 1998, p. 114).

Earlier work about gender–related interests in physics by Hoffmann and Haussler (1998) led the researchers and teachers to construct instructional strategies and retrospective assessments for engaging gender-specific interactions into the development of a positive physics-related self-concept. They imbedded the mandated course content of physics into this newly contrived interest-stimulating context, which contained the following previously requested opportunities: an occasion to marvel, links to prior experiences, the construction of first-hand experiences, application-oriented contexts, discussions/reflections on the social importance of science, references to anatomy, and experiences with the quantitative benefits of science. After experimentally comparing

these new units with traditional methods of handling the content, researchers found that levels of competence and achievement in physics significantly increased for both females and males in the experimental group. In other secondary physics classrooms, "clarity of instruction, demanding intellectual standards, and constructivist teaching" also had a positive influence on interest with males and females (Baumert, 1995 quoted in Baumert & Koller, 1998).

Other German studies associated with interest appeared in a volume from a conference in that nation. The explicit methodological details of each study were not included; however, two of the findings related to teachers' instructional practices and interest have been summarized here. The development of students' interests in school subjects was related to teacher feedback; negative feedback was more likely to reduce learning motivation and interests, whereas positive feedback reinforced them (Baumert, Schnabel, & Lehrke, 1998). Additionally, Todt and Schreiber's model of interest development (1998) showed students positively responding to the following teacher behaviors: fairness, creation of a pleasant class climate, high regard for students, well-structured presentations, answering of students' questions, visualization of topics, and variations in teaching.

Teachers have control over a few other factors related to the development of student subject interest. If students need opportunities to explore interest-related experiences, how teachers structure the day's activities can facilitate or impede students being able to work on and return to tasks (Hidi, Renninger, & Krapp, 1992). Interests also require time to become stronger (Todt & Schreiber, 1998), but the requisite quantity of

classroom time is unclear. What does seem evident from research with college students who lost content interest by the end of the semester (Pintrich & Garcia, 1993), is that the stability of interests is influenced by instructional conditions (Prenzel, 1998).

Summary of instructional practices and student subject interest. In conclusion, a variety of instructional practices were suggested for enhancing student interest. They included: building scaffolds, hands-on learning, real-world activities, quality feedback, discussions, and shared responsibility for problem solving. A few teacher characteristics (e.g., stimulating, caring, fair, supportive, high regard for students, and competent) were also recommended as relating to the development of student subject interest. Among the selected findings, some were correlational studies; others were experimental research projects. Few represented dialogues between students and teachers, and there were limited selections of mixed methodological designs. In addition, students had not designated the teachers as having affected the development of subject interest.

A Final Word

Interests have the potential to positively connect a variety of cognitive, affective, motivational, and volitional processes. In addition, students desire to be interested in their subjects. But how do teachers facilitate students connecting with the content? The literature contained examples of several teachers who integrated student interest into their curriculum, but the majority of them were not empirical studies, merely descriptive presentations. Even so, these initiatives began with recognizing student interests as the

focus of the curriculum design. There were no suggestions, however, on how teachers could influence student interest when their curricular choices are restricted by mandated curricular policies, which is true of the present research setting.

Dewey (1913) indicated that teachers seeking to engage student's interests would require a variety of pedagogical techniques. Several empirical sources referred to instructional practices such as feedback, scaffolding, and autonomy as contributing to student subject interest. Furthermore, studies of talented individuals indicated that teachers' instructional practices exerted a significant effect on the development of student interest in a variety of subjects (e.g., science, mathematics, art, and music).

Few studies (e.g., Alexander & Jetton, 1996; Turner et al., 1998) incorporated both student and teacher input into their research design. More frequently, the findings about teachers were obtained from student self-reports and most studies were conducted using quantitative methods. Essentially, the literature on teachers' roles in affecting student levels of subject interest was not well developed.

Furthermore, few studies gave an indication of the components of teacher interest. Inferentially it can be postulated that teacher interest should represent the same facets of interest (i.e., cognitive, affective, and conative elements) as were reported in the student interest research—but few citations support that assumption. It was also unclear how teacher interest is expressed (e.g., subject interest, interest in students, interest in the profession) or if there are types of teacher interest (i.e., situational or individual).

Although the literature on student interest has tended to focus on either individual or situational interest, few developmental studies on interest have been conducted.

Nonetheless, many researchers describe the need for understanding how teachers affect student subject interest (e.g., Renninger & Wade, 2001). Therefore, the focus of this research project has a vital place within the literature, because it targets the role of teachers. By incorporating both student and teacher data into the research design, the research questions are examined within a mixed methodological framework.

CHAPTER 3

METHODOLOGY: MIXED METHODS DESIGN

A human being does not fill his place in the universe without putting out tendrils of attachment in the directions proper to him…It is as true for children as for ourselves that, the wider the range of interests, the more intelligent is the apprehension of each. (Mason, 1989, p. 209)

In the 1960's, the term mixed methods research became acknowledged as a combination of qualitative and quantitative approaches employed within different phases of a single research design (Tashakkori & Teddlie, 1998). As the approach gained more widespread acceptance in the research community, handbooks on the subject (e.g., Greene & Caracelli, 1997; Tashakkori & Teddlie, 2003) have emerged describing the types of definable combinations. Written by pioneer researchers in the field, these volumes established scholarly protocol for implementation and proposed alternative forms of integrated designs.

Primarily the use of mixed methods requires a rigorous application of both procedural and paradigmatic standards within any designated portion of the project, requiring that the researcher become more than a casual practitioner of either approach. Essentially, two basic types of design exist (i.e., mixed methods and multiple methods). A mixed methods design refers to the combining of qualitative and quantitative

approaches in a single study or study with multiple phases, although Tashakkori and Teddlie (1998) have further refined this category into five types of studies on the basis of sequence administration and predominance of either method in the overall design, which are sequential, parallel/simultaneous, equivalent status, dominant-less dominant, and multilevel use of approaches. In contrast, a multiple methods design can be utilized in a larger research program that incorporates more than one study (Morse, 2003) or when the qualitative and quantitative approaches are combined within different phases of the research process. More specifically, a mixed methods study not only includes the use of alternate methods at various stages of the process, but also sanctions multiple applications within a single phase (Tashakkori & Teddlie, 1998).

There are three major reasons why a mixed methods design was selected for this study, which will be enumerated here and elaborated upon immediately thereafter. First, within the construct of interest, the majority of the empirical literature included studies employing quantitative methods. Secondly, the complex research questions in this exploratory project cannot be adequately covered by a single method. Finally, the current literature on teacher interest was limited in scope and quantity, and this study sought to establish a broader and more comprehensive portrayal of the construct. It is "the major strength of mixed methods designs" (Morse, 2003, p. 195) to address such gaps in the literature by providing the format for exploratory research. By generating multiple forms of data on the construct, it was hoped that these results would provide a more thorough base upon which future research questions on the topic can build.

Unlike previous efforts that attempted to determine that interest was indeed related to a variety of learning factors (e.g., recall, flow), this study focused on how teachers may influence the development of students' interest in the classroom content. More than a documentation of interest's existence or relationship to the curriculum at one specific moment, this research project needed not only quantitatively designed self-reports that established students' base-line levels of interest in the content, but also qualitative techniques such as interviews and observations that supplemented the quantitative data and related student interest to the teacher's input. Thus the methodological process required querying both teacher and students involved in the process, and then integrating that information into a more cohesive theoretical framework, which will be discussed in Chapter 5. Therefore, I concluded that a combination of both qualitative and quantitative methods was the most appropriate approach for this research investigation.

As such, this research project consisted of three distinct phases, although phases 2 and 3 were conducted simultaneously. These three phases were also preceded by pilot studies—both qualitative and quantitative. The complete administration is chronologically represented in the following timeline:

February-March, 2001	Qualitative class project with K
November, 2002	Quantitative pilot study-two sites
November-December, 2002	Qualitative pilot study with K
March, 2003	Phase 1-Selection of teachers-QUAN
April, 2003	Phase 2 Investigation of students-QUAN
April, 2003	Phase 3 Investigation of students/teachers-QUAL

Because the quantitative measures were administered prior to the qualitative investigations, the remaining methodological discussion in Chapter 3 has been presented in that same order.

My experiences with pursuing subject interests had infused my ability to learn with energy, so I was biased in favor of believing that interest directly (and indirectly) empowers a pursuit of knowledge. As an instructor, I had also witnessed and activated student interest in the subjects I taught, but I was not consciously aware of the practices I had used to facilitate the process. As much of my teaching experience had been in non-traditional settings, I was curious about how the process worked in traditional academic K-12 settings, especially in core courses where the enrollment was required. After conducting the literature review, I concluded that I would only reach some level of understanding about the process by using a mixed methods approach to investigate the public school classrooms of teachers who had accomplished the feat of helping their students learn and become interested in a required core subject.

Quantitative Investigations-Phases 1 and 2

Thus there were two primary purposes for the quantitative phases: (a) to nominate teachers who helped students learn and become interested in a core subject; and (b) to determine current levels of student interest in the classrooms under investigation. Because the measures were purposely developed for this study, a pilot study was conducted prior to their full administration.

Quantitative Pilot Study

Eleventh and 12th grade students in two different curricular settings participated in the quantitative pilot study, which was designed to obtain data for item analysis, item difficulty/discrimination, and content/face validity. At the time of the pilot study, the research design still intended to administer the measures in three different curricular settings: traditional, vocational, and alternative. Therefore, the decision was made to test the measures in vocational and alternative schools. The first setting was a vocational career center in a public school located in a large mid-western metropolitan school district. Students attended vocational classes at this site every afternoon after completing their general academic courses at schools near their residences.

The measure was administered in a computer course taught by a former student of the researcher. Letters of notification and consent forms were distributed in one class period where the researcher explained the study. The following Monday after permission slips were returned, three different pilot measures (teacher nomination, subject interest, and topic interest) were administered to students (n=11) during one class period, following brief oral instructions. Upon the completion of each measure, students were asked questions about the content and appearance of the measures; they responded with feedback and suggestions. Each measure took approximately 5-10 minutes to administer.

Each of the three measures consisted of Likert style items, with answers ranging from 1 (strongly disagree) to 5 (strongly agree) and a few open-ended questions. Although the accuracy of a measurement outcome cannot be directly determined, indirect methods have been developed to provide efficient methods of evaluation. The one

selected for this study was a measure of internal consistency, that is, the degree to which a test taker responds to items on a test in the same way. This was evaluated by "calculating the (average) correlation between items in the test" (Tashakkori & Teddlie, 1998, p. 85) using Cronbach's coefficient alpha—"a widely used method for computing test score reliability." (Gall, Borg, & Gall, 1996, p. 257). On the basis of the statistical reliability tests, alpha levels for the three measures were in the following range (Cronbach α levels: teacher=.78; subject=.91; topic=.67). As a result of this statistical analysis, five items were added to measure the teacher nomination measure, and minor editing changes were made to two items in the topic interest measure prior to the second pilot of the measure.

The second site for the pilot study was an alternative charter school located in the same city with an enrollment of 180 high school students. Overall, the school's curriculum was creative in scope (e.g., Philosophy of Suffering, Bardology, or Alternative Worlds) and emphasized experiential education. This group of participants (n=17) were members of an educational research class that fulfilled a core course requirement in either literature or social studies. Because the course curriculum included historical readings by educational philosophers (i.e., Dewey) and founders of "radical schools" (i.e., Summerhill), I had also been invited to share with the class members (after the test administration) about my experiences as an educational researcher.

I followed the same procedures that were implemented at the first site for the three measures, and students gave feedback on the appearance and content of the measures. The Cronbach α reliability levels were strong and relatively stable across both administrations, and the addition of items increased all reliabilities (Cronbach α levels: teacher=.93; subject=.94; topic=.84). Additional refining and editing was done to each measure preparatory to the final administration.

During the remaining class time, a lively discussion ensued about the topic of interest. One student raised his hand and disbelievingly asked if it was really possible to care about a subject. Eventually, it became clear that the other 16 students also felt the same way. If learning is natural (McCombs, 2001), then every student should naturally have access to the experience of forming interested connections with a subject. Furthermore, these connections are to be accompanied by cognitive (becoming aware or obtaining knowledge), conative (conscious and purposeful effort or motivation) and affective (feeling, emotion, value) dimensions (Snow et al., 1996).

Quantitative Study-Phase 1

Initially, this study was conceptualized as an investigation of how teachers influenced the development of student interest in core subjects. It was theorized that teachers could accomplish this by integrating students' interests into their curriculum or making the required subject interesting. As such, the original design incorporated three different curricular settings (i.e., traditional, performing arts/alternative, and vocational)

in order to provide contrasting forms of content experiences. I had assumed that teachers were permitted to adapt or supplement the general curriculum with material relevant to the acknowledged interests of students in those three curricular settings.

However, it soon became apparent that within the designated school system under study, curriculum differences did not exist in core courses as the district had constructed a mandatory curriculum package which teachers are expected to implement. As their students have been performing below the state proficiency average in all subjects and grade levels ("Phi Delta," 2002), the entire system was categorized as being in a state of academic emergency. As a result, the curriculum of required courses (i.e., mathematics, English, social studies, and science) has become more explicitly aligned with the proficiency tests. And in discussions with teachers, curriculum specialists, and administrative reviewers at various levels within the school district itself, I was repeatedly told that teachers were expected to strictly adhere to the content of the existing curriculum documents provided by the central administration.

In essence, no curricular differences existed in core courses, regardless of the site, and teachers' curricular decisions have been restricted. Thus there was no opportunity for me to witness a teacher's integration of student interest-related content into the existing curriculum package. Although one administrator affirmed the importance of engaging students' interests, teachers in this school district have been able to access that motivational source only through their instructional practices, where they retain more pedagogical options. Therefore, the necessity for conducting this study in multiple settings was eliminated from the research design.

Setting. Because of the increasing district pressure upon teachers and administrators to improve student test scores, there have been fewer opportunities for students or teachers to participate in research projects (R. Dunaway, personal communication, February 20, 2003). However, the site of this entire research project (all three phases) was recently recognized in the local newspaper (Kubera, 2003) as being a high school where students achieved passing scores on all five-test sections of the state proficiency exam. Another administrator, whose own faculty had declared a semester-long hiatus from participating in any research projects, had suggested I contact this principal.

The population of this high school (n=727) represented students from 41 different nations, and it has been categorized as a comprehensive academic setting with a strong college preparatory program. Demographically the gender breakdown of the school population was 53% males, 47% female; ethnically the students represented 38% African Americans, 53% Caucasian, and 9% other. One-third of the students received free lunch; 5% received reduced lunches. Over 60% of the student body had chosen to attend the high school through the city's public school lottery, and their parent/teacher organization was the largest in the district.

Approval was obtained from the internal review board of the district school board for access to the school site. Students in the 12th grade were targeted as the appropriate grade level for Phase 1 because they could recommend teachers from any grade level in high school. After granting me permission to use her high school as the research site, the principal personally asked the two teachers (Ms. A and Mr. C) whose classes consisted of

only 12th grade students during the spring term to participate in this phase of the research project. Upon receiving their approval, I immediately walked into their classrooms, simultaneously introduced myself to them and their students, and distributed the permission slips. After collecting data on the following day, each teacher received a gift certificate and a letter thanking them for their participation.

Participants and measures. In this phase, only the 12th grade students who volunteered to participate and complete permission slips were included in the study (n=112); no student names were required, so all information was given anonymously. Of the sample, 64 (57%) were male, 45 (40%) were female, and 3 (3%) did not respond; 38 (34%) were African American or African American mix, 8 (7%) Asian, 57 (51%) Caucasian, and 9 (8%) did not specify any category. Their ages ranged from 17 to 20, with the majority being 18 years or older (76%).

The revised teacher nominating measure (Appendix A) initially functioned as a simple survey report to select participants for Phase 2. Within the measure were 17 Likert style items related to two distinctly different factors: teacher effectiveness and teacher subject interest. Responses ranged from 1 to 5, anchored with 1=strongly disagree, 5=strongly agree. Six items relating to teacher interest employed terms from the student edition of Tuckman's (1980) Teacher Feedback Form, including teacher characteristics of organization, excitement, caring, acceptance of students, creativity, and clarity. Eleven more items focused on teacher interest and were constructed to parallel and represent the

theoretical findings about factors associated with student interest (i.e., value, feeling, knowledge, and effort). Question 18, an open-ended item, asked students to describe any additional reasons for nominating the teacher.

The second part of the survey administered in Phase 1 was the revised student subject interest (Appendix B) from the pilot study. Students were told that the questions on this page related to the domain chosen on the teacher nomination form. It was included to cross-validate the students' report of having formed an interest in the subject while attending the nominated teachers' classrooms. This instrument was developed from the literature and again included 13 closed items relating to the four factors of student interest (i.e., value, feeling, knowledge, and effort). Items pertaining to value and feeling were adapted from two existing measures (Pintrich & Schunk, 1996; Schiefele, 1998); while the items examining effort were constructed to represent language used by Rathunde (1992) and Dewey (1913). One final open-ended item asked students to briefly describe any additional reasons why they had become interested and learned in that subject.

Procedure. On the first day, students from the two teachers' classrooms (English 12 and Government, respectively) received the same letter of introduction and parental/student permission slip required for participation in the pilot study, and were told to return permission slips the following day when the test would be administered. The two-page self-report measure consisting of the Teacher Nomination measure (Appendix A) and the student subject interest (Appendix B) was completed at the beginning of each

class period and took approximately 10 minutes to complete after a 3-minute introduction. Each participant received a candy bar as a thank-you gift.

Data analysis. Student responses regarding the domains selected (English, mathematics, social studies, and science), and the teachers nominated were entered into an Excel spreadsheet, where simple frequency calculations indicated rankings in both categories (domain and teacher).

Initially, descriptive analyses were examined to delineate any trends in the data. Because the study was exploratory in nature and the assessment instruments were developed for this project, Cronbach's α for inter-rater reliability was statistically calculated again, indicating a rating of .96 for the 17 items of teacher interest/effectiveness, and .90 for the 13 items of subject interest. On the basis of those results, I continued with a confirmatory data analysis using multiple regression analysis, because this statistical procedure was designed to reveal the influence of multiple independent variables upon one dependent variable (Tuckman, 1999) in an effort to predict values of one variable from the other (Crowl, 1993). Because the literature contained few references to teacher interest, I theorized that teacher effectiveness (IV or independent variable) and teacher interest (IV) would predict levels of student subject interest (DV or dependent variable). In addition, an analysis of variance (ANOVA) was calculated using gender and ethnicity as the independent variables (IV) on student subject interest (DV) to determine if there were any significant differences in student subject interest due to demographic variables.

Quantitative Study-Phase 2

As a result of the frequency of nominations received in Phase 1, teachers in the top three ranked positions were in two domains (English and social studies). They were asked to participate in the remaining phases of the study. Their students participated in the quantitative study in Phase 2, and from those students, a smaller stratified sample was randomly selected to join the qualitative focus groups during Phase 3.

Participants and measures. Of the participants in Phase 2 (n=163), 24 (15%) were in the 11th grade AP English class and the remaining 139 (85%) were 12th grade students. There were more males (98, 53%) than females (65, 47%), and ethnically, there were 57 (35%) African Americans or African American mix, 12 (7%) Asian or Hispanics, and 94 (58%) Caucasian. Their ages ranged from 16 to 19, with the majority being 18 years or older (59%). For the remaining analyses, African American, Asian, and Hispanic scores were combined into one category termed minority.

In this second phase, students (n=163) were administered a two-part measure from the pilot studies yielding information in two areas. The first part of the survey was the revised subject interest measure (Appendix B). One compound question had been divided into two simple statements, increasing the closed-ended items from 13 to 14. In addition, two open-ended items pertaining to instructional practices and content were also added for a total of 17 items. Although the wording of the 17 items remained essentially the same on each administration of this measure, the title and directions were changed depending on the classrooms in which the data were gathered—thus two versions were

distributed (i.e., About English or About Social Studies). The results of this data served as a preliminary baseline on which to assess the teachers' current efforts at facilitating student interest in their respective domains.

The second page of this survey (Appendix C) was the revised topic interest instrument containing questions on students' level of interest in a subject or activity of their choice. The measure consisted of 10 Likert style items with the same response options as were included on the subject interest instrument (1-strongly disagree to 5-strongly agree).

Data analysis. Statistical analysis procedures of the data from these two measures began with an exploratory analysis using descriptive statistics. Correlational analyses were run to determine the relationship between domain and topic interest. On the basis of those results, I conducted a confirmatory procedure, the analysis of variance (ANOVA) with academic subject (English, social studies), course levels (regular, advanced placement), gender, and ethnicity (ethnically diverse, Caucasian) as the independent variables [2 (subject) x 2 (course) x 2 (gender) x 2 (ethnicity)] and student subject interest as the dependent variable. This statistical procedure tests the null hypothesis that two or more sample means are equal (Wiersma, 1995).

Qualitative Investigation

Following the quantitative data collection, an examination of the teachers (n=3) was conducted using methods from a qualitative portfolio: interviews, observations, and document analysis. Furthermore, a smaller group of students from Phase 2 were qualitatively researched using focus groups. As such, my own ontological perspective

was anchored within an interpretivist or phenomenological paradigm, as my intent was simply to discover how instructors who were deemed successful in helping develop student subject interest did indeed accomplish those results.

Interpretivist Paradigm

From this perspective, research "produces descriptions of what is essential to a particular kind of experience. The essences are grasped by 'intuiting' or 'seeing,' after applying a method that enables them to come to light" (Polkinghorne, 1983, p. 42). The researcher first reflectively looks at people and situations, and then sifts through the corresponding data until the essence is gleaned. This is not a passive process, but involves strenuous and active searching. The emphasis is not on finding facts or answering the question “what,” as if the participants are mere objects; instead, the quest is to understand "how." Rather than just studying precise and logical progressions, I am concerned with gathering information about relations, values, and feelings that may represent my own experiences as well as those of others. The examples are submitted to my interpretations until I am able to identify necessary and sufficient aspects that must be present in order for the phenomenon to occur (i.e., the engagement of student interest in the learning process).

Within this research model, I was studying lived experiences—some passive and some active. The more subjective meanings were arrived at through face-to-face meetings with the people involved. While I initially operated within a positivist paradigm from a detached and objective viewpoint during the first two phases of this project, in Phase 3, I interacted with the participants in order to gain their perceptions of the situation. My

assessments were based on the belief that those who live and participate in the social setting constructed their own social realities, which might not be reduced to a single norm or law. As such, their reality was complex and multi-dimensional, represented symbolically by language—and I attempted to convey these different ways of knowing and making meaning from within their social context. My purpose was not to critically examine the context in order to change it; I simply wanted to tell the story of teachers who were successful in helping students develop interest in core subjects. Therefore, I began the process by revisiting a teacher whom I had met two years earlier while conducting a class project on interest and creativity for a qualitative research course.

Qualitative Pilot Study

As a literacy volunteer at a middle school in 2001, I asked one of the supervisors to identify the most creative teacher in the building. Without hesitation, he mentioned K and described her ability to bring her humanity into the classroom. This apparently enabled K to set a stage for using effective management strategies, organizational skills, creative planning and rapport. He portrayed her as being so perceptive of the kids' needs that they enjoyed being there, and that environment formed the guidelines for the adaptation of their behavior.

During an informal interview, K was extremely frank about how she overcame the tension between teaching a “boring” reading program and motivating students to read. Her solution, “act like I believe it, but when I'm finished, I use my own stuff!” She also believed creativity came out of an idea, and therefore intentionally learned what her kids' assets and strengths were so she could give them a consistent time in which to practice

those activities. Such practices motivated her students to keep their attention on other decidedly less interesting stuff they needed to know, knowing they were able to pursue their own interests during the last ten minutes of every class.

She encouraged autonomous decisions, gave students frequent choices, administered an interest survey to all of her students, and determinedly implemented their favored responses into her instructional practices and curricular selections. At that time, she commented about how many of her friends' had decided to locate in other geographic regions because of the increasing pressure to perform on the proficiency exams, which made her nervous. Under the present system of school assessment, even two teachers' poor performances could nullify the work of more successful faculty members (like herself), because all of the subjects had to be passed or the whole school was considered a failure. Because of my prior relationship with K, I believed she was a perfect candidate for this study's qualitative pilot study.

Two years later, I established a methodological procedure with K that I intended to duplicate with the student-nominated high school teachers. I began with a semi-structured interview using a standardized open-ended list of 10 questions that lasted approximately 90 minutes. Initially, the questions primarily consisted of structural questions, but her responses also led to the inclusion of spontaneous descriptive and example items (Spradley, 1979). Because of our former relationship, I could offer a level of reciprocity to K, which enriched the value of what she said (Glesne, 1999). I took her responses seriously and encouraged her to continue elaborating as she reflected on her

more recent experiences. I also attempted to remain nonjudgmental about her conflicts, while suppressing my bias (Johnson & Turner, 2003) about her former ability to motivate students through interest.

This interview revealed that K had moved to another school within the district where the previous faculty had been summarily relocated due to poor academic test scores. Although she had been honored by the request to join the new staff's efforts at designing a different learning environment for the struggling students, the transition had been quite painful, and some of her recent experiences were too private to be recorded in our initial formal interview. During that conversation, she reiterated some of the motivational practices relating to interest I had observed her practicing two years earlier, but now her frustration in teaching to the proficiency test was more pronounced. Because K has been teaching for 16 years, her suggestions for improving the system seemed appropriate (e.g., establishing relevant benchmarks that aligned district guidelines and tests with the state proficiencies), but she was also dissatisfied with some of her own instructional solutions (e.g., bribes) for improving student achievement. The transcription of the interview was submitted to K; her edited version (with only minor changes) was the text that I submitted for peer review to a research team, comprised of professors and graduate students in education at The Ohio State University.

The interview was followed by a series of six observations in order to record both objective and subjective factors (Vidich & Lyman, 1994). These classroom observations were consistent and focused opportunities lasting between 90 minutes and three hours (1 or 2 block periods) over a four-week time-span so that a degree of agreement was

established during the multiple observations. In determining when and how to do these observations, my primary concern was in minimizing the effect of my presence on the middle school students being observed (e.g., Hawthorne effect). As such, I chose to remain at the back of her large classroom and did not use a laptop computer to record the data as the accompanying sounds seemed to distract students' attention from instruction.

I logged reports every 15 minutes, noting conversations, participants, absences, actions, behaviors, and interruptions in specific concrete terms (Spradley, 1980). K provided a consistent routine and series of academic prompts, which afforded a sound scaffold of reinforcement for aiding students' progress in learning. She was thorough about rehearsing what had been previously taught and then connecting it with the current day's lesson plan. But after a few sessions I began recording how many times she smiled each day in my field notes and looking for other indications of her enjoyment in teaching (e.g., positive comments), because her previously contagious enthusiasm seemed to be absent. Instead, her teacher talk was well seasoned with directives for the students to tell themselves they could pass the proficiency, and at least once in every class period, she also vehemently and proudly repeated a new mantra of inspiration, "it's only about the work we are doing!" I began to feel that I was witnessing Dewey's principle of drudgery in action, as there were no corresponding actions related to play.

There were fewer discussions that incorporated more than a single student's response, and the lessons consisted of writing, copying, listening to her read aloud, and remaining in their seats throughout the entire 90-minute block period (during each observation). Unlike my visits from two years ago, students were given fewer

opportunities to read aloud, and there were more private conversations that continued uninterrupted by her active intervention. Although I did see drawing papers scattered on the floor after her afternoon social studies' classes, interestingly enough, she had requested I not observe those classes as the children were less well-behaved. It appeared that she was superbly covering the requisite knowledge base, but the primary reason for students valuing the instruction and engaging their effort was to pass the proficiency. And unfortunately the fourth component of interest (positive emotions) was minimally evident in her behavior.

Eventually, K and I discussed my findings, noting the changes since my visits two years earlier. After the third visit, unlike most practitioners of psychological research (Glesne, 1999) but similar to some qualitative researchers (Ladson-Billings, 1994), I switched roles and became a participant-observer during the second block period. I began actively tutoring some of the more needy students on how to write a research paper about rain forests. I also designed a lesson plan for the topic, which she incorporated into her unit. My status was now one of an insider and an outsider at the same time (Spradley, 1980), affording me the opportunity to learn by participating in the research setting (Erickson, 1986).

Indeed, our relationship had become defined by the "agreement between participants and observers as to what [wa]s really going on in a given situation." (Angrosino & Mays de Perez, 2000, p. 676) Although she had admitted in her interview that "62% of her students passed the writing test" during the previous year, she also confessed to having been through "hell." In comparison, this year was "a little better,"

but the pressures appeared to have affected her own level of interest and produced a corresponding lack of undivided interest (Dewey, 1913) or "serious play" (Rathunde, 1992) in her current students. This pilot study certainly expanded my knowledge and illuminated my understanding of what the high school teachers in Phase 3 might be experiencing.

Qualitative Study of Teachers-Phase 3

Participants and procedures. Three teachers most frequently nominated in Phase 1 were the participants in this third phase. After analyzing the frequency data from Phase 1, I delivered letters of notification and permission slips to all three teachers. Upon their acceptance, Phase 2 began with their students; at its completion, Phase 3 was initiated.

This phase began with a formal interview of each teacher conducted at different locations within the school site. Two interviews were audio-recorded in a private area. The third teacher requested that our first interview be conducted while he was on duty at the front door. As I thought the background noises would interfere with an accurate audio recording, I was given permission to use a laptop computer and directly inscribe our conversation onto a word document.

Methods. This first interview consisted of 9 items (Appendix D) relating to the interest literature, which were slightly modified from the pilot study. Each interview lasted 20-45 minutes, depending on the elaboration of their responses. The audio taped interviews were transcribed and each teacher was given the opportunity to member check

the written reports. These interviews were followed by a series of 4-6 observations within each of the three teachers' classrooms using observation logs created from the review of literature (Appendix E).

The observations were conducted on consecutive days in order to obtain a concentrated portrait of the instructional practices incorporated into one targeted week of lesson plans. During those visits, I also gathered curriculum documents (syllabi and content packets related to the lessons) for analysis. Concurrently, I also recorded my reflections in the observation logs for each teacher. At the completion of the observations and the subsequent student focus groups (described below), another more informal interview was conducted with each teacher in order to wrap up the data collection (e.g., Appendix F). This step functioned as a posttest factor in the research design, offering the teachers an opportunity to respond to my analysis of the data collected thus far from both qualitative and quantitative methods (formal interview, observations, focus groups, student surveys, and document analysis).

Qualitative Study of Students-Phase 3

The quantitative data in Phase 2 was collected within eight different classrooms, two at each course level (AP/regular) within social studies and two at each course level (AP/regular) within English. In order to determine the participants for the four focus groups, I performed a series of independent *t*-tests on each pair of classes at the four levels to see if the subject interest scores were significantly different. There were no

significant differences in the subject interest scores of students in either pair of classes at the four levels. Therefore, the decision was made to limit selection of students for the focus groups to four classrooms.

Participants and procedures. A stratified random sampling process was used to select student participants for this qualitative portion. In Phase 2, each of the students who volunteered to be part of the qualitative sample had completed the quantitative measure. The appropriate demographic data information from the Phase 2 measure was used to create stratified groups (i.e., gender and ethnicity) representing the demographic structure of each individual classroom (n=4). Within those four demographic groups, students were randomly selected to participate in each corresponding focus group. The size of the focus groups depended upon the domain—English (n=8, regular/AP), social studies (n=6, regular/AP).

The differences in the size of the focus groups resulted from the social studies teacher's request that students participate during a block of classroom time (20-30 minutes), whereas English students met during two different lunch periods (45-50 minutes) when another graduate student was present to help monitor the discussions and watch for non-verbal cues. Coupons from a local fast food restaurant were given to the social studies students; lunch was provided to the English students. Students were asked nine questions, which included references to my observations and overall responses to the open-ended questions from the Phases 1 and 2 (Appendix G). Their responses were recorded on audiotape using a microphone; the tapes were then transcribed verbatim into a word document. No record was kept of their names.

Focus groups. The appropriateness of using focus groups for this study related to the method's two main features—a reliance on the researcher's focus and the group's interaction (Morgan, 1997). After listening to the students' comments during the spontaneous discussion at the second pilot site (an alternative setting), I realized I could not assume students either had or could be expected to form intense subject interests during their K-12 academic experience. The incredulity of their responses to such a notion provided further impetus to the importance of exploring this topic through additional conversations with students. In contrast, most of the students in this phase of the investigation also participated in Phase 1, and indicated they had formed some level of interest in one of the four core subjects. Thus the focus group discussions were expected to yield more "focused" information on the development of those interests, and more specifically on the role of teachers in that process.

In order to go beyond a simple recording of students' attitudes and opinions on the topic of interest, I constructed the questions from the perspective of a mixed type of focus group (Johnson & Turner, 2003). Initially, the structured items (Appendix G) were constructed from information gathered in Phase 2 and my observations in their respective classes. This substantive information (Tashakkori & Teddlie, 2003) enabled me to directly target the specific and unique characteristics of each of the four learning environments (regular/AP English and regular/AP social studies).

In addition, additional questions emerged within the dialogue of the focus groups, as the students were given freedom to explore issues and understandings within the conversation itself. As such, their responses helped me learn more about their experiences

and perspectives (Morgan, 1997), while satisfying the four criteria of an effective focus group—range, specificity, depth, and personal context (Merton, Fiske, & Kendall, 1990). Besides providing rich data on how they became or maintained personal levels of interest and learning in core subjects, the students' responses also served as a post-instructional source of information for the teacher's second exit interview.

Overall Qualitative Data Analysis

As an interpretivist, it was essential to focus on how the data would be interpreted and understood, because my purpose was to discover what teacher interest consisted of and how it affected student subject interest. My a priori assumptions stated that teacher subject interest would be demonstrated through curricular choices and instructional practices. I had also theorized that teacher interest in the student, although independent of the content, could still influence student subject interest. These assumptions were supported by the review of literature, although there was limited information about either teacher subject interest and teacher student interest. As such, some of the survey items, interview questions, focus group questions, and observational formats were based upon the findings of other researchers.

For example, the literature contained evidence that student interest was associated with cognitive, affective, and conative factors. Therefore, I incorporated terms (e.g., work, important, know, enjoy, like) associated with those factors into the construction of items for the quantitative survey measures. I repeated those terms and items on both of the interest measures (subject interest and individual area of interest) administered in

Phase 2. Furthermore, I utilized those terms in the a priori codes for analyzing the qualitative data, which appear in Figure 3.1 under the heading teacher/stud interest.

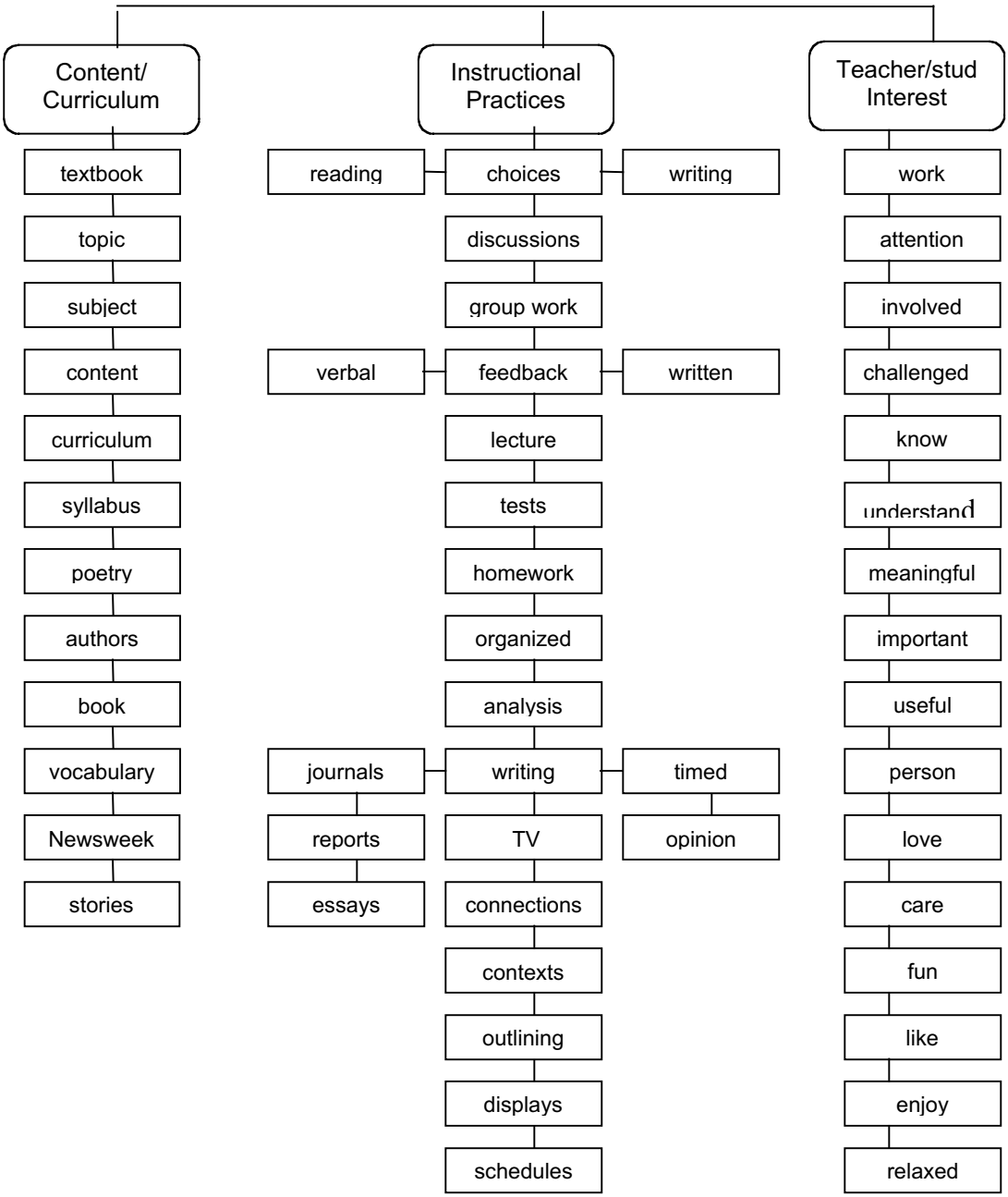

Figure 3.1: A priori and emerging codes for analysis of qualitative data.

The literature also provided clues about the a priori codes that applied to curriculum issues (e.g., textbook, content, topics) and instructional practices (e.g., feedback, choices, discussions). Thus Figure 3.1 includes my a priori codes for all three categories (i.e., curricular choices, instructional practices, and teacher/student interest). I highlighted the a priori codes with colored markers on the transcriptions of each audio interview and focus group, my observation logs and reflection journals, and the students' open-ended items from the quantitative survey.

Furthermore, I analyzed the teacher's curriculum documents to determine how students' interests were incorporated into the content. Next, I studied this evidence to obtain supporting or disconfirming data (an additional measure of validity). As I searched for common threads across the students' classroom experience that connected with the literature on subject interest, I began focusing on the teacher's curricular choices. I compared the teachers' verbal responses on their interviews with my observations, curriculum documents, and the corresponding student data for each teacher.

This process was repeated a second time when I searched for interest-related instructional strategies, a third time as I looked for indicators of teacher subject interest, and finally when I tried to locate information on teacher interest in the students. These four processes were duplicated with the data from each of the three teachers. Initially this analytical system consisted of comparing the data to the a priori codes of existing theory. However, this was primarily an exploratory study, so I also looked for other themes and patterns to emerge, which could contribute to a grounded theory on how teacher interest

affects student subject interest. Thus I was assembling a collective representation of interested learning with its concomitant instructional implications (Wolcott, 1990).

Grounded theory. Grounded theory has been defined as "a general methodology for developing theory that is grounded in data systematically gathered and analyzed" (Strauss & Corbin, 1994, p. 273). As such, grounded theorists do not "attempt to study the social structures of whole communities;" instead, they "look at slices of social life" (Charmaz, 2000, p. 522). Within these vignettes framed by time, the researcher studies a process, identifies connections, and assembles the details into a final product that resembles an expression of art. Rather than simply describing details, grounded theory depends upon the researcher to interact with the field until a portrait emerges that incorporates the data as well as the biases, thoughts, and reflections of the artist-researcher (Charmaz, 2000).

For this researcher, grounded theory represented an opportunity to go beyond some of the one-dimensional expressions of interest that are included in the literature. At the same time, by using this approach I was forced to identify my own interest biography, for my own history with interest had trained me to search for details that were missing from other conceptualizations of interest. For example, I know what it is like to care deeply for a subject. I have also been so inspired by a teacher's love for poetry that I captured a poet's heart in a class essay. Therefore, a grounded theory approach did not just enable me to obtain additional codes for the data analysis (e.g., care, love, personal, vocabulary, outlining, essays). It also provided me with the mechanism to note relationships within this interest inquiry.

I did not create the details or the relationships; however, because of my training I knew what I was looking for—just like a hunter tracks the paw prints of her prey. For instance, the literature contained no conceptual understanding of how teacher interest might relate to student interest. As I subjected the data to constant comparative analysis (Glesne, 1999), it became clear to me that students and teachers perceived teacher subject interest and student subject interest differently. Their descriptions contained terms that were similar (e.g., work) as well as terms that were unique (e.g., organization, love).

As I combined the descriptive terms in their responses, the constructs of teacher subject interest and student subject interest acquired rich textural meaning. Furthermore, the details of their relationships emerged as I was able to identify and define the principles that supported a grounded theoretical framework. As such, the structure of these relationships varied within each classroom context. Therefore, I am presenting the a priori and grounded theory codes for analyzing each pair of interest relationships (teacher/student) by domain (English and social studies) in Figures 3.2, 3.3, and 3.4. In Figure 3.2, teacher interest is analyzed for both English classes (regular/AP) whereas Figure 3.3 contains the appropriate codes for student interest. Finally Figure 3.4 represents those comparisons within the social studies classrooms.

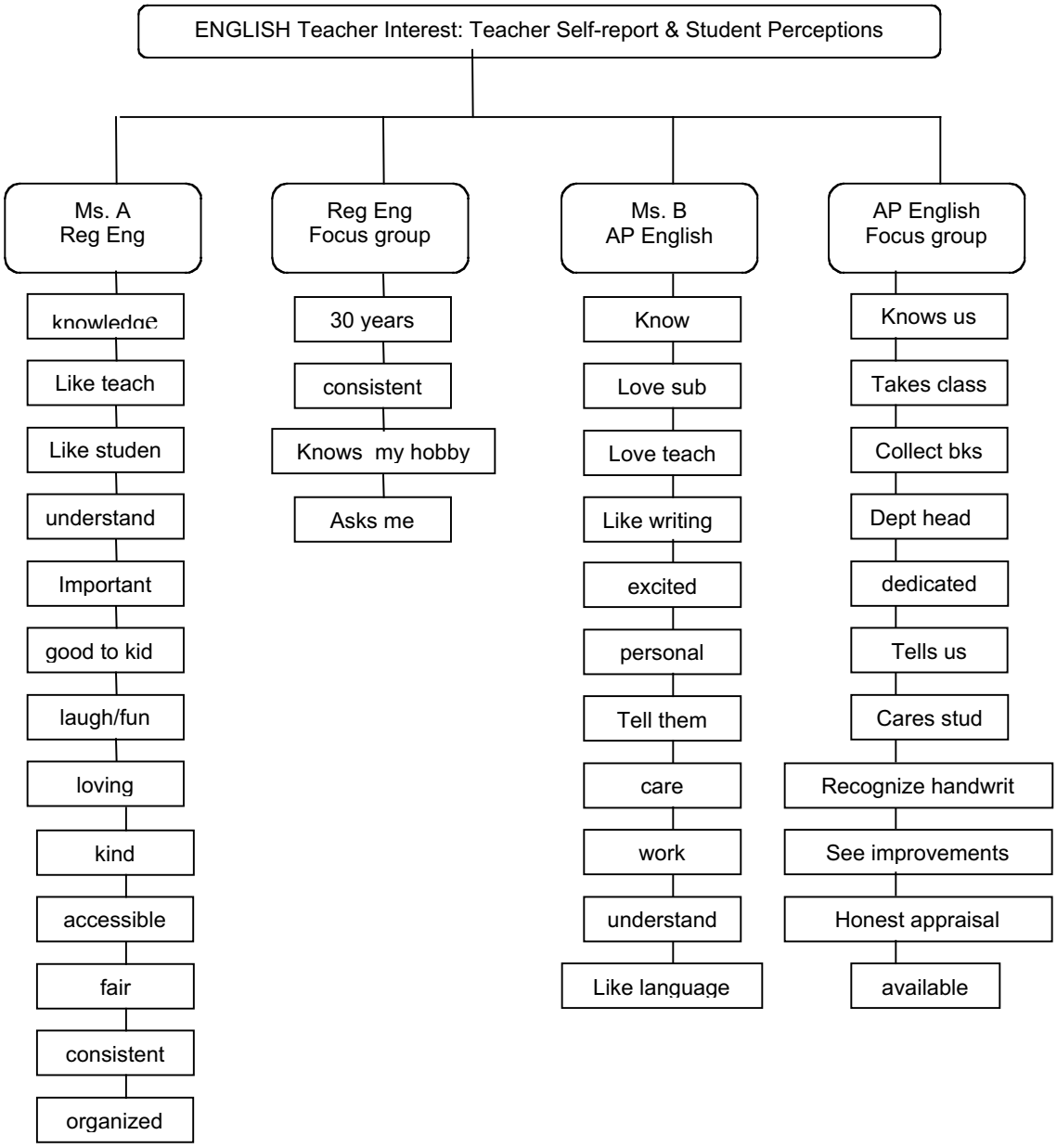

Figure 3.2: Coding schemes for analysis of teacher interest-English.

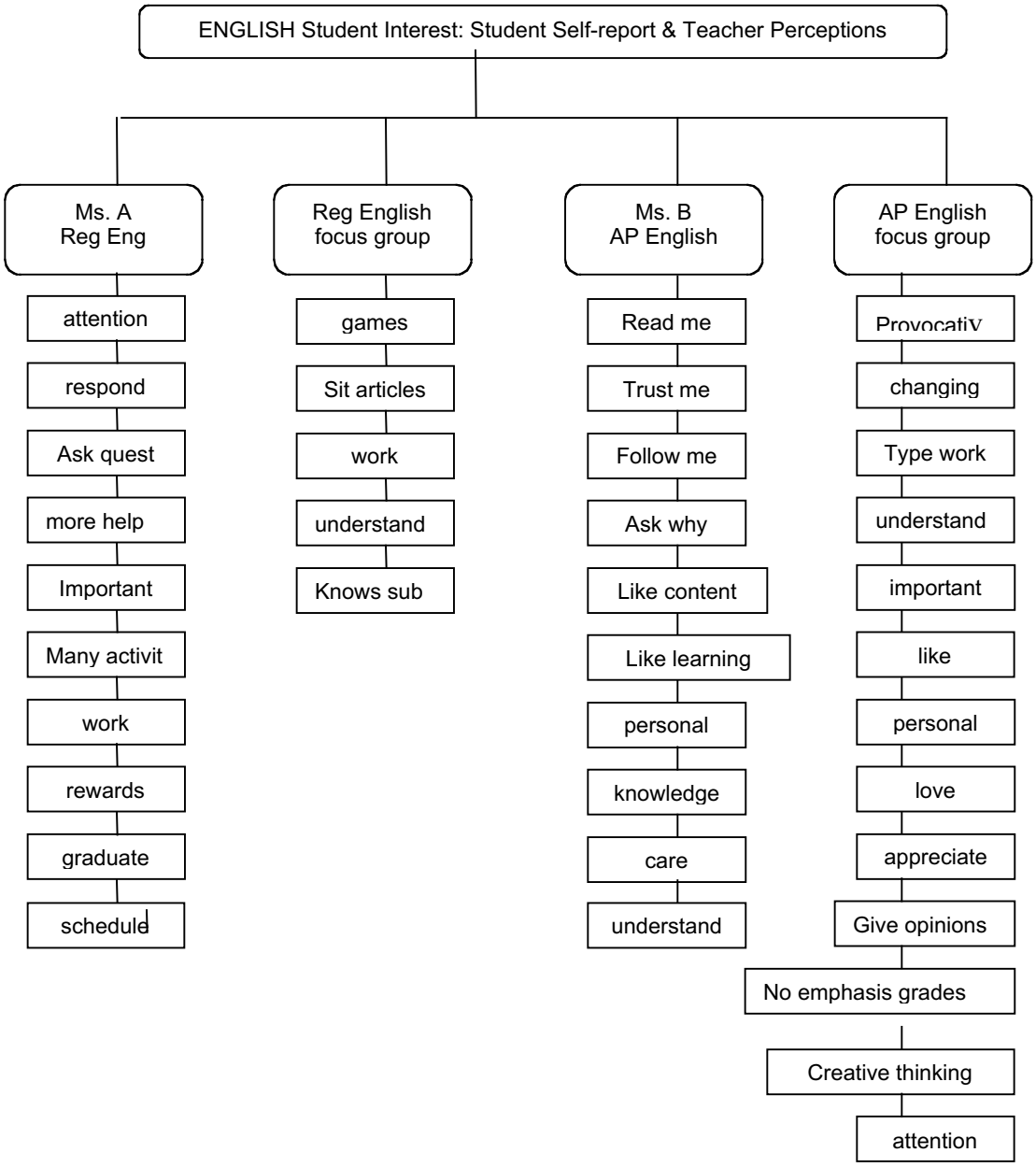

Figure 3.3: Coding schemes for analysis of student interest-English.

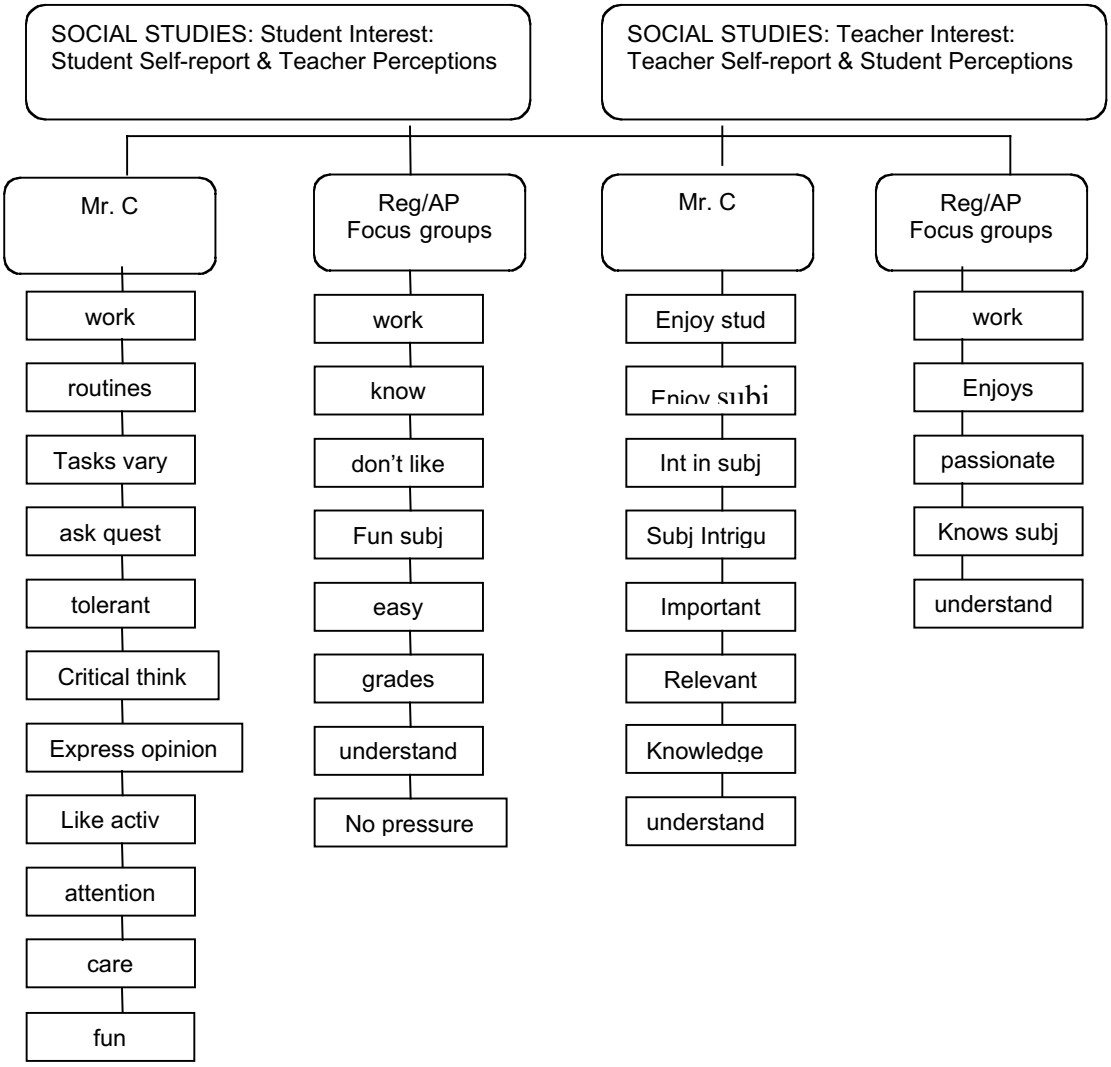

Figure 3.4: Coding schemes for analysis of teacher interest and student interest-social studies.

As I linked the student and teacher self-report responses within each classroom setting and supplemented them with my own observations and reflections, I was able to establish integrated profiles of interested learning that reflected my contextual understanding and interpretation of the participants' meaning (Geertz, 1973).

Reliability and validity issues-teachers. The following factors contributed to the reliability of Phase 3's results. First, the teachers who participated in Phase 3 were quantifiably identified (Phase 1) as having achieved similar levels of success in facilitating students' learning and interest in the subject matter of their classes. Secondly, both domains (English and social studies) have been categorized by educational psychologists as being ill-structured, in which "there are no set of steps teachers can follow to guarantee a successful lesson." (Sternberg & Williams, 2002, p. 322) Thirdly, students spontaneously selected both AP and regular teachers within the same grade level.

Although two of the teachers who were nominated also hosted the collection of Phase 1 data, my introductory remarks had advised students to nominate any teacher of a core course at any grade level in their high school career. In addition, after reviewing my record of the nominations from each class, I was able to ascertain that the social studies teacher received votes from the English students, even as the English teacher was receiving votes from the social studies students. This pattern may have been related to common instructional factors or teacher characteristics associated with the teaching of ill-structured domains rather than the levels of academic achievement (e.g., AP and regular). Furthermore, the four-week time frame in which the entire study was completed (Phases

1-3) afforded me an opportunity to be in the same classrooms, consistently relating with the students and teachers through various activities (e.g., administering surveys and observing). Persistent observations were conducted, helping to "identify characteristics…that are the most relevant to the particular question being pursued." (Tashakkori & Teddlie, 1998, p. 90)

Although the presence of an observer more than likely disturbed the respondents, their reaction also shaped the relationship between the respondent and observer (Lincoln & Guba, 1985). The reality of that exchange afforded me an opportunity to speculate on how those changes have altered this project's results, affording both negative and positive changes. An awareness of being tested introduced the possibility of the "guinea pig" and/or Hawthorne effect, posing a threat to internal validity, which is difficult to estimate. As such, my challenge was to maintain a balance between empathy and detachment, in order to obtain trustworthy eyewitness accounts (Angrosino & Mays de Perez, 2000). To minimize this potential for inaccuracy, I was painfully honest about these conflicts—allowing readers to form their own judgments about my research results—because my personal values, theories, and interests (Vidich & Lyman, 1994) influenced what type of information was recorded (e.g., teacher enthusiasm) and my interpretations.

Additional practices helped to establish trustworthiness in this research project. First, the teachers received opportunities to member check the interview data (Lincoln & Guba, 1985). Secondly, reflections, which are deemed important for credibility, were incorporated into my responses. Thirdly, I included rich, thick descriptions and allowed others to examine my product through the peer review or debriefing process. Two former

teachers scrutinized the data and offered suggestions about additional themes and patterns, as well as disconfirming evidence. Their questions and comments exposed additional biases and clarified my interpretations. Thus both internal and external audits were in place throughout this design through triangulation of methods.

Reliability and validity issues-students. A rapport began to develop between some of the students and myself during Phase 1. They seemed genuinely appreciative of my willingness to reward their participation with candy bars, and their respective teachers verbally supported their participation in the study. A few students also asked me questions about my educational experiences and at one point, a brief but lively dialogue resulted. Several expressed reflective comments at their responses to the survey itself. Although it was not intentional by design, Phases 2 and 3 were conducted in some of the same classrooms. Those continuous experiences coupled with my presence as an observer in their classrooms helped establish a trustworthiness in my position as researcher, which I believed enhanced the conversations in our focus group.

To establish standards of reliability within the focus groups, interobserver evaluations between the second graduate student (who was trained to note non-verbal cues and patterns of agreement among the participants) and myself were compared to determine the degree of unity between us. We entered the group equipped with data about their levels of subject interest from the survey responses and the classroom observations. Through the triangulation provided by the addition of the focus group discussions, I was able to note supporting or disconfirming responses (Morgan, 1997).

Threats to internal validity, which affect the quality of the inferences formed, were directly addressed by the following procedures. First, the selected students were within the same school, domain, and age range (17 years and older); they were also subject to the same internal administrative policies regarding academic performance. Secondly, the quantitative data analysis was performed separately within gender and ethnic groups to determine if the relationship between the main variables was distorted by these factors. Thirdly, statistical analysis provided information on the effect size and interaction effects among the variables. Fourthly, the students were both systematically and randomly selected for the focus groups. Fifthly, the triangulation of teacher observations, student survey results, and focus groups provided a consistency in the data collection.

Ethical Dilemmas

Spradley (1980) recommended adhering to ethical guidelines that relate to putting the interests of the informants first. They included the safeguarding of their rights, privacy, and sensitivities—in addition to being clear about my research objectives so that the participants did not feel exploited. Each teacher and student received a letter of introduction explaining the purpose of the study and was given freedom to choose whether to participate in the project. During Phase 1, no student names were requested on the nominating form. During Phase 2, students' names were solicited for the selection of participants in the subsequent focus groups. At that time, students were told their names would eventually be inked out for the reporting of the data, which I had promised to their school district and to the university's internal review committee.

Another way of handling this was to make my reports available to the teachers, who were individually represented in the report. This allowed them to make amendments to what I recorded, even if their corrections directly conflicted with what I had viewed. In fact, their interpretations and comments would be included as part of the report. In my final wrap-up interview, I incorporated observed teacher practices into the questions in order to give the teachers opportunities to comment on what I had concluded. Although those questions also included input from the students, the identity of those students remained confidential. The wording of those items referred to a general "students said…" format.

Within the focus groups, students in each class had been given the opportunity to withdraw from the pool of possible participants—and several chose that option. In the actual focus discussions, no one was forced to participate. In two groups, after I asked a question about the practices of other teachers who had facilitated the development of their interests, a lively discussion resulted, including both negative and positive remarks about the instructional behaviors of multiple teachers. Although the students were often class members of both domains (English and social studies) where the research was being conducted, my questions were directed toward one specific classroom, not an overview of the four classrooms. Three students were randomly selected to participate in more than one focus group, and occasionally their conversations spontaneously targeted comparisons of the teachers under study. Their comments, however, remained respectful and illustrative of the fact that student/teacher relationships can vary within every classroom environment.

Lastly, the amount of freedom granted me as the researcher was respected and honored. In the concluding interviews, I asked two of the teachers about the effect of my presence. They both complimented me on my behavior and asserted that my presence had not been disruptive— "business was conducted as usual." This acknowledgment provided support for the notion that the students/teachers, resources, and the sociocultural context had remained intact (Wilcox, 1982), even in the presence of individually different teaching styles or participation structures (among the three teachers). My research did not impinge upon their unique performances or create situations that provoked ethical dilemmas (e.g. sharing with one teacher about another teacher's practices). I considered it important that my theoretical or ethical positions would not have a detrimental effect on the participants' performances (van Maanen, 1988).

Methodological Conclusions

In combining the data from these three methodological phases, I have endeavored to achieve a rich portrayal of the process of developing an interest by connecting strands of data from teachers and students to the theoretical literature. This methodological overview created a portrait that included descriptive, comparative, and evaluative elements (Rallis & Rossman, 2003). Moreover, the literature on interest contained limited information about the development of student subject interest. Therefore, I needed information from both the qualitative and quantitative methodological frameworks to construct a grounded theory of subject interest development.

Because a theory consists of "plausible relationships proposed among concepts and sets of concepts" (Strauss & Corbin, 1994, p. 278), I needed to more fully develop

the components of the construct of teacher interest, which is ill defined in the literature. As such, the qualitative data were compared and contrasted with the students' quantitative perceptions of teacher subject interest on the Teacher Nomination measure in Phase 1. After the conceptual components of teacher subject interest were defined, I began to examine how teacher subject interest was expressed (i.e., plausible relationships) and how these expressions related to student subject interest (i.e., grounded theory). The process began with the data analysis in Chapter 4 and was completed in Chapter 5.

CHAPTER 4

DATA ANALYSIS

I could never focus on things I didn't want to learn…I needed to go to a place where I was excited about what I was learning. For me, it's all about getting a person interested in a subject by linking a lot of happiness to it, a lot of joy in doing it. That was lacking for me—and maybe for a lot of other kids in this country. Leonardo DiCaprio (Blumenfeld, 1997, p. 126)

Undoubtedly many students have experienced learning devoid of joy or happiness—like Leonardo DiCaprio—but others have had opportunities to form some level of attachment with a subject. The students in the first phase of this study, for example, were able to recommend a high school teacher in one of the four core domains (i.e., English, science, social studies, and mathematics) who had helped them learn and become interested in a core domain. Because the research questions were designed to understand the process by which teachers affect the development of student interest in the content of a core course, they provide the structure for the data analysis in this chapter.

Generally, the study was designed to examine how teachers affect the development of student subject interest. Therefore, it was necessary to what extent student perceptions of the teachers and student subject interest were related. This was accomplished in Phase 1.

Quantitative Findings-Phase 1

Two purposes were achieved in Phase 1: (a) the Teacher Nomination measure served as a simple sampling device to select teachers for the remaining two phases; and (b) student perceptions of teacher effectiveness and student perceptions of teacher interest were compared with levels of student subject interest in a core course (RQ1).

Teacher Nomination Results

Student respondents in the 12th grade (n=112) nominated a total of 25 unique teachers from the four targeted core domains (English, social studies, science, and mathematics). After running frequency tabulations to see which teachers received the highest number of votes, four received more than 10 votes. Of those four, three were at the same grade level, 12th. Therefore, the decision was made to focus the subsequent phases of this research project upon those three teachers and the students currently enrolled in their English and social studies classes. The total number of nominations per domain as well as the total number of teachers who were nominated in each domain appears in Table 4.1.

Domain	Nominations *n* (%)	Teachers *n*
English	41 (37%)	6
Science	13 (12%)	8
Social studies	33 (29%)	4
Mathematics	25 (22%)	7

Table 4.1: Student nominations of teachers.

Perceptions of Teachers Affect Student Subject Interest

After selecting an appropriate teacher (one who helped them learn and become interested in the course), students rated their nominees on two factors, perceptions of teacher effectiveness (6 items) and perceptions of teacher interest (11 items). Students also completed a second measure rating their interest in the subject taught by the nominated teacher (13 items). Calculations for inter-item reliability using Cronbach's α for the perception of teacher effectiveness subscale was .89, perception of teacher interest subscale was .93, and student subject interest was .90. These figures supported the reliability of the subscales' construction. The validity was assessed during the pilot study.

Descriptive statistics. In order to determine the type of relationship that existed between student perceptions of teacher effectiveness, teacher interest, and student subject interest, descriptive statistics were calculated. Table 4.2 offers a summary of the overall means and standard deviations for the teacher nominating subscales, including average scores for the total group, Teachers A, B, C, and total group minus the top three teachers. In addition, means and standard deviations for students' self-reported subject interest scores are also presented. They are accompanied by data relating to gender and ethnicity.

Variable	n	*M*	*SD*
Teacher effectiveness (6 items)	112	4.49	.69
Teacher A-regular English	18	4.50	.47
Teacher B-AP English	13	4.67	.34
Teacher C-regular/AP soc stud	20	4.63	.58
Total minus top 3 teachers	61	4.40	.81
Teacher interest (11 items)	112	4.52	.65
Teacher A-regular English	18	4.55	.46
Teacher B-AP English	13	4.74	.23
Teacher C-regular/AP soc stud	20	4.60	.55
Total minus top 3 teachers	61	4.43	.78
Subject interest (13 items)	112	3.99	.63
Male	64	3.99	.65
Female	45	4.01	.62
Minority	46	3.94	.70
Caucasian	57	4.00	.60
Teacher A-regular English	18	4.04	.49
Teacher B-AP English	13	4.27	.42
Teacher C-regular/AP soc stud	20	4.17	.48
Total minus top 3 teachers	61	3.85	.71

Table 4.2: Means and standard deviations for teacher effectiveness, teacher interest, and subject interest subscales-Phase 1.

Correlation analysis. Initially, Pearson correlations were run using student perceptions of teacher effectiveness, perceptions of teacher interest, and subject interest scores to determine the direction, strength and significance of their interrelatedness. Those correlation scores appear in Table 4.3. Student subject interest scores were positively and moderately significantly correlated with their perceptions of teacher

effectiveness and their perceptions of teacher interest. Perceptions of teacher effectiveness, on the other hand, were very strongly and positively significantly correlated with perceptions of teacher interest.

Variable	*M*	*SD*	1	2
1-Student percep teacher effectiveness	4.49	.69		
2-Student percep teacher interest	4.52	.65	.921**	
3-Student subject interest	3.99	.63	.419**	.468**

**$p < .01$.

Table 4.3: Means, standard deviations, and intercorrelations for student subject interest and perception of teacher predictor variables.

Regression analysis. In order to test whether student perceptions of teacher effectiveness or student perceptions of teacher interest predicted actual levels of student interest, a multiple regression analysis was conducted. Immediately following in Table 4.4, the results associated with Model 1 confirmed that only teacher interest was a significantly positive predictor of student interest.

Variable	*B*	*SEB*	β
Teacher effectiveness	-.07	.20	-.08
Teacher interest	.52	.21	.54*
Constant	1.971	.37	

Note. $R^2 = .22$ (df=109, $p < .01$).

*$p < .05$.

Table 4.4: Regression analysis summary for perception of teacher effectiveness and teacher interest predicting student interest.

Because the literature has indicated that student interest in a subject is influenced by gender, an analysis of variance (ANOVA) was calculated using gender and ethnicity as the independent variables (IV) and average student subject interest as the dependent variable (DV) using the Phase 1 data. However, contrary to the literature, no significant differences were found in either category within this sample of students.

Quantitative Findings-Phase 2

From a general assessment of the composite group of designated teachers and the students who nominated them in Phase 1, the focus for the remaining phases shifted to an examination of the three specific teachers and the students in their respective classrooms.

In Phase 2, the second research question (RQ2) was addressed: How does student subject interest differ across gender, ethnicity, domains (English/Social Studies) and course levels (AP/standard)?

Students in the eight classrooms of teachers A, B, and C (n=163) were administered a slightly revised subject interest measure (14 items), as well as a topic interest measure (10 items). Calculations for inter-item reliability using Cronbach's α for the revised subject interest scale was .93 and .37 for the topic interest measure. Because the topic measure asked students to identify and rate an interesting topic of their own choice, evidently too much variability was introduced into the data.

Initially, descriptive statistics (i.e., mean and standard deviation) were calculated for subject and topic interest using the complete data set. In order to determine if the total of eight classrooms could be merged into four data groups (two domains-English/social studies, two course levels regular/AP), independent *t*-tests were performed on each pair of classes per level. No significant differences existed and the scores were merged. That descriptive summary is presented in Table 4.5.

Variable	n	*M*	*SD*
Subject interest (14 items)	163	3.80	.71
Male	98	3.70	.74
Female	65	3.95	.64
Minority	69	3.81	.68
Non-minority	94	3.80	.74
Teacher A-regular English	47	3.45	.76
Teacher B-AP English	40	4.17	.47
Teacher C-regular soc stud	40	3.72	.75
Teacher C-AP soc stud	36	3.94	.60
Topic interest (10 items)	163	4.19	.65
Male	98	4.21	.66
Female	65	4.17	.65
Minority	69	4.10	.70
Non-minority	94	4.26	.61
Teacher A-regular English	47	4.21	.81
Teacher B-AP English	40	4.18	.40
Teacher C-regular soc stud	40	4.18	.75
Teacher C-AP soc stud	36	4.20	.53

Table 4.5: Means and standard deviations for subject and topic interest scales-Phase 2.

Correlation analyses were run to determine the relationship between domain and topic interest. On the basis of those results, I conducted a confirmatory procedure, the analysis of variance (ANOVA) with academic subject (English, social studies), course levels (regular, advanced placement), gender, and ethnicity (ethnically diverse, Caucasian) as the independent variables [2 (subject) x 2 (course) x 2 (gender) x 2

(ethnicity)] and student subject interest as the dependent variable. There was only a significant main effect for the course level [$F(1,147) = 18.087$, $p < .001$]. Post-hoc *t*-tests revealed that the overall subject interest of students in AP courses was significantly higher than students in regular courses ($p<.001$), but more specifically, the significant differences existed in English. Again, however, there were no significant gender differences in student subject interest scores across domains or course levels.

In general, the quantitative findings provided a strong skeletal framework of information upon which the muscle fibers from the qualitative data could be attached. The data from Phase 1 findings indicated that student perceptions of teacher interest predicted the strength of their own subject interests (multiple regression). The findings also suggested that for this sample, student perceptions of teacher interest were strongly related to perceptions of teacher effectiveness ($r=.91$). Furthermore, there were no significant gender or ethnic differences in student subject interest scores.

In Phase 2, the ANOVA results indicated significant differences in student subject interest between the course levels in English, but not in social studies. However, it was impossible to confirm if the significance was attributable to content differences or teacher differences. Again, there were no significant student subject interest differences across gender, ethnicity or domains. Thus the preliminary phases have prepared the way for the remaining qualitative phase.

Qualitative Findings-Phase 3

Although the quantitative data in Phase 1 were used to select the teachers for this investigation, they also provided a generous but defined boundary around the gathering

of qualitative data in this concluding phase. Within that open but corralled space, I felt like a pioneer seeking to explore uncharted territory. From the Phase 1 data, I learned that students had varying levels of subject interest within the three nominated teachers' classrooms, ranging from 3.45 for Teacher A to 3.83 to Teacher C and 4.17 for Teacher B. Furthermore, because of the significant student interest differences between the two English classrooms (ANOVA), I also expected to find qualitative differences in those classrooms. As such, the three remaining research questions became my landmarks for negotiating through this final phase of the exploration.

3. How does a test-driven curricular focus affect teacher curricular choices?
4. How do teachers encourage student interest in their subject (i.e., curricular choices, instructional practices, and levels of interest)?
5. How do students evaluate their teachers' attempts to encourage student subject interest (e.g., curricular choices, instructional practices, and teacher interest)?

In this ongoing discussion of how student interest develops, questions 3 and 4 actually represented two different perspectives (teacher, student) of the same variables. Therefore, each of the three variables (curricular choices, instructional practices, and levels of interest) became a unit of analysis upon which the qualitative data was organized, coded, and thematically presented. Student data relative to those three variables was obtained from the following sources: open-ended responses on the student interest surveys from Phases 1 and 2 and student focus groups. Teacher data pertaining to the same three variables were gathered from the following sources: teacher interviews,

teacher observations, reflection logs, and document analysis. In addition, because this entire research project was investigated within a system that has developed a curriculum aligned with state proficiency exams, question three actually provided a context in which all qualitative findings were examined.

As the overall focus of the research project was to determine how students become interested in a subject, the qualitative findings commence with an introductory preview of the three teachers in whose classrooms the students have expressed levels of subject interest. Immediately after this general teacher introduction is a discussion of the district's mandatory curriculum guidelines, which naturally led into the findings on how interest relates to curricular choices (the first teaching variable). The analysis then proceeded to data about instructional practices and levels of teacher interest (second and third teaching variables), and concluded with a final mixed methodological summary of these findings.

Introduction of the Classroom Teachers

As previously mentioned in Chapter 3, I first met Ms. A and Mr. C on the day I was scheduled to introduce the Phase 1 study and distribute the permission slips. At 7:45 AM I followed the principal to Ms. A's classroom where her first-period class was already in session.

Ms. A. Ms. A, a petite woman in her late 50's with dark curly hair and glasses, greeted me at the door in a tailored shirt and pants. She welcomed me into her classroom, and after asking for a copy of the introductory letter and permission slip (which she immediately read upon returning to her desk), she turned and introduced me to the

students. Although she had only been given a few minutes notice about the study from the principal, the students were respectful and expectant, as if she had already prepared them for my entrance. As those who were already 18 years old completed the forms, there were occasional comments between Ms. A and the students, indicating a degree of comfort and ease in their relationship. She also asked me a few precise questions about when the survey would be given and how much time it would take. I left her classroom five minutes after I entered it with a promise to return in an hour to repeat the process for her remaining second period class.

On the following day when I administered the survey, the same orderly atmosphere reigned in her classroom. Students quietly completed the questionnaire after listening attentively to my directions. As each one finished, I handed out candy bars; when they were eaten, students got up, threw the wrappers away, and began working on their assignments. After I finished thanking them for their participation, I received an enthusiastic response of gratitude from her students.

Nearly half of the 18 students who nominated Ms. A in Phase 1 chose to elaborate on her selection in their open-ended responses. Some wrote about her organizational skills and care, describing her as “kind, wise, dedicated, and having fun.” They also emphasized her “passion” for the English language as well as her ability to expand their mental horizons. Several others commented on the tough workload, but remarked that it was worthwhile and ended in “self-satisfaction.” Students also remarked about her understanding of the subject as well as her ability to really understand them.

At our first interview in her classroom during her planning period, I learned Ms. A had been teaching for 35 years. Although her career began in middle school, she has been teaching at this high school since it opened in 1976. Most of her experience had been in the 10th grade, but she recently moved to 12th. As we continued to speak, her affection for her students was obvious. The stories she shared included detailed and lengthy descriptions about prolonged interactions with several individual students; but it was also clear she firmly enforced her policies, providing students with consistent standards of performance as well as the support needed to achieve those standards. At the beginning of each term, she distributed a copy of her schedule to every student so they would be able to find her anywhere in the building for extra assistance.

Although she spoke matter-of-factly about her career, her words conveyed a depth of commitment to teaching that was evident in the quantity of resources and decorations that were displayed in her classroom. For example, on one wall was a collection of almost 50 assorted pink pig items representing gifts from her many students. She has been planning to retire after next year and wistfully remarked during one of my visits that she was already searching for a home for her extensive collection of supplemental reading materials so future students would still have access to them after her departure.

Ms. B. After receiving my letter of invitation to participate in the remaining phases with Ms. A and Mr. C., I met Ms. B for the first time in a music classroom where she was covering for an absent instructor. In her 30's, she responded warmly to being a part of the study and agreed to meet the following day to confirm the arrangements. She laughed and seemed comfortably in command of her surroundings, even though it was

not an English classroom. At our next meeting where we coordinated our schedules, she wore a long skirt and had a colorful scarf tied around her neck. She was very focused and pleasantly conversational. After our five minute conversation, we both began walking away from our table in the lunch area (free space in the school is obviously limited), and out of the blue she off-handedly remarked, "I can tell you how students get interested…they respond to my enthusiasm!" I assured her we would be discussing it in our upcoming interview, but I left excited about having an opportunity to watch her in action.

More than half of her nominators in Phase 1 chose to elaborate on Ms. B. They cited her "fresh and ingenious approach" as well as her ability to challenge them to "think intelligently." She helped uncover "passions for writing" and was "most inspiring." One student commented that she had "exposed me to the depth of literature and gave me (a) thorough, basic understanding of it." Evidently they did not just read or write, but discussed and interpreted the material covered in her class.

In our first interview, Ms. B relayed that her career had been entirely at this school (five years), but she had taught regular and AP classes. By the second question she had become so animated, I had to abandon any hope of keeping up with her on the laptop and turn the audiotape recorder on. During the intervening pause, she took a breath, and then resumed describing herself as starting her teaching career at age 32.

> I knew what I wanted to do. It's the hardest thing I've ever done—and I've done lots of other jobs in terms of—I used to work for a newspaper right after college.

> Then I was a restaurant manager and a waiter. None of them were even remotely fulfilling and this is the most fulfilling thing, the most difficult thing I've ever done in my life.

Her room, which is used by other teachers, has assorted colorful posters proclaiming the virtue of reading, "Read so you will know" and "Turn the pages of imagination—READ." There were joined by pictures relating to *Animal Farm,* a map, a Shakespeare center, and examples of student work. On another wall were 11 posters about the writing process—probably from the district's curriculum guide.

Mr. C. I initially met Mr. C briefly in the commons/lunch area during his planning period to coordinate the survey administration in his four classes. He appeared to be in his late 40's and wore an athletic jacket over an Oxford shirt. As we chatted, his eyes traversed the open space around us; he was aware of everyone who passed by and greeted each of them. I found out later that he was the former basketball coach, but had retired from that position during the previous year. Throughout our conversation, he repeatedly remarked he was happy to help in any way possible, and the decisions about how to administrate the survey in his classes were based on my needs—rather than the requirements of his lesson plan.

When I entered his first period classroom, the atmosphere was casual and included a call to attention so that "the ladies and gentlemen" could hear me. As in Ms. A's classroom, students engaged in a running dialogue with him while they completed their permission slips. Some of the comments were related to the coursework; others were questions about the war in Iraq. The CNN news station was playing on an overhead television, indicating that students had immediate access to information about current

events. One female student also asked Mr. C about his wife and if they had attended an event over the recent weekend. His response was relaxed and led to some additional comments about his son's status in the military. There was also an undercurrent of movement and multiple conversations occurring among the other students. After informing his students that those who participated in the survey would receive a candy bar, Mr. C teased them about being "easily bribed."

The next day, students chatted during and after completing their questionnaires. Another comment was made about the students being "bought," although the first group of students did not eat their candy immediately. Later I remarked to him about their restraint, contrasting it with the students in Ms. A's class. Subsequent groups of his students, however, left his classroom floor littered with candy wrappers.

During that second day I also witnessed a negative exchange between a male student and Mr. C. The student did not seem intimidated by the teacher's response, and continued talking with him. The entire conversation, which lasted no longer than two minutes was tinged with sarcasm by Mr. C, and other students seemed to side with their instructor by snickering whenever the student spoke. Mr. C finally cut the dialogue off. When the student handed in his survey, he remarked that he had recommended Ms. B, who had really challenged him even though he had not received a good grade in her class. I was immediately impressed with the thoughtfulness of his remark.

About a third of the students who nominated Mr. C in Phase 1 completed the open-ended responses. They described him as being "very helpful," dedicated and intelligent. Although two commented on his knowledge, one glowingly called his

knowledge the key to the curriculum. Another remarked about his making the subject exciting and keeping students enthused. One female student, however, disclosed that Mr. C had "no lesson plans…only busy work." That particular student did give him lower scores on the nominating measure as well, which made it puzzling as to why she had nominated Mr. C in the first place.

In our preliminary interview, Mr. C revealed that he had been a teacher for 28 years and was dual certified in both social studies and English. He had begun his career teaching English 16 years earlier, and had been at this present location for 24 years. He bragged about this school being the best teaching job in the district and how current events made this a "great time to be a social studies teacher in general." His classroom contained an American flag across one wall, as well as numerous newspaper articles about current events, editorials, and political cartoons. Also on display was a colorful poster about his German heritage.

A Test-Driven Curricular Context

The school district being studied was categorized by the state board of education as being in academic emergency. Therefore, stringently applied practices have aligned the curriculum with the state's proficiency exams. Curriculum specialists at the district headquarters initially warned me that these curriculum packages "are expected to be implemented." When the district was reviewing my research proposal, one evaluator commented that I must have been confusing a teacher's having curriculum options with their ability to select different instructional practices because the same curriculum was

used at every high school setting within the district. Thus district headquarters mandated the curriculum used by all teachers of a core course at this site.

Because of this mandatory curricular framework and its test-driven focus, I had to examine how this contextual test-driven curricular focus affected teacher decisions about the content in which students were developing an interest (RQ3). Therefore, these curricular issues will be discussed now in order to understand the setting in which the student subject interest developed. I directly dealt with this issue by asking the teachers to describe their interest level in the curriculum.

I expected their answers to be guarded as the principal strictly enforces the district's policies about implementing the mandated curriculum. Ms. A's response was a diplomatically brief, "medium to high." Mr. C's reply was high, although he suggested that more economics should be added to his course content. He has served on the curriculum writing committees for both English and social studies, but those earlier efforts consisted of writing learning outcomes to insure student progression through grades 9-12 learning objectives. "Now it's aligned with state standards" so teachers probably "remediate whenever possible, which means you need to reteach whenever possible." Teachers in this school remediated in every subject and grade level. He concluded, "I'm not a fan of tests. Pressure is intense here as well…Art teachers remediate in reading—everyone in this building does it consistently."

By the time I interviewed Ms. B, who is the head of the English department and a co-writer of the district's current high school English curriculum, I anticipated more

elaboration on the required package. She spoke freely (we met in the nurse's room with the door closed for privacy) and frankly about her concerns.

> We did have very strict guidelines we had to follow, which was really hard for me. I think in terms of it being a guiding document, it works well to guide the teacher, to keep people on track. I have a problem with any document that's sort of mandates any specific thing—like literature—any one piece. You have 4000 years of western civilization and who's going to tell who that one piece of lit is better than another. So what we did was to specifically try to create a document that doesn't say, 'This work has to be taught.' For example, every freshman does not have to learn Romeo and Juliet. No, that's not what we did! (rather emphatically)

Instead, they had tried to "make it skills-based so that the teacher is teaching a specific set of things, rather than a (certain) novel during that time." In that way, teachers "have free reign to pick what they want." As a guiding document, she assessed it as being strong, but reiterated it was not designed to be "used as a cookie cutter. We really struggled with that as we were writing it."

When asked if she had any first-hand knowledge about how other content areas were addressing their curriculum designs, she replied about attending

> workshops on how our curriculum is being what they called 'back-loaded', meaning that the curriculum is being driven by state-mandated tests. So it's being back-loaded rather than letting the actual subject area guide the curriculum; we're letting it test-drive the curriculum…but we really have zero control over that as it's the state legislature. We've really suffered because of that. It's hard.

I briefly mentioned the frustrations of the middle school teacher from my pilot study. Her response described the situation as having to " target teach…teach specific things during a specific time…we specifically d(id) not want to do that." As we discussed the plight of elementary school teachers who are unable to answer student questions when they interrupt an assigned lessons, she described the restrictions as being

"completely antithetical to everything we believe in. That is educational malpractice, but at the same time—that is what they're being told to do." We agreed such practices inhibit teachers from owning what they do. Instead, they feel like an automaton. Thank God I teach in a high school where the stakes are high for the kids to graduate…I don't think I could do it at the middle school or elementary (level) because that is awful. That's not why you become a teacher. That's not the best way to teach children. Anybody would tell you that but that's what's being forced, especially in the inner cities.

She assured me that the flexibility of the English system was also true of social studies, because she helped write the humanities curriculum. An index was used, and within the index, they assigned a sequence as to when certain topics should be taught, "because it's very chronological…Naturally, you're going to teach the civil war in the l860's." Whereas English was thematic so they *could* say—teach a certain book—there were certain things that must be covered in history classes. Students were required to know certain things (e.g., the structure of government) before they can graduate—but "any good teacher would teach that anyway. I would say they're less constricted than other subject areas" (i.e., science or mathematics). In frustration, she mentioned that the entire curriculum has been adjusted to match "the sequencing of the tests…People who are creating the idea to have an exam have no idea what educators do."

During my conversation with Mr. C, I was astonished to learn that the district's designing of the curriculum also included writing his social studies final assessment. As this policy had just been implemented during the previous year, I asked Ms. B how the tests were constructed.

> Well we write the questions for them based on what's going to be on the proficiency test…but we didn't put them together. We give them a bank of questions…I didn't actually write on that, but some of the same people who wrote the curriculum helped with that two summers ago. So, it's very interesting.

In sum, the district's curricular requirements have affected the content of each teacher's course. The mandated curriculum in English contains a skill-based emphasis, which gives the teachers an opportunity to choose the relevant literature for helping students acquire those skills. Although the mandated curricular package in social studies consists of chronological events that are appropriate for the subject matter, there is some flexibility on how those events can be covered. However the district, in an effort to monitor whether the teachers cover the mandated curriculum, now creates the final exams given in these 12th grade English and social studies courses.

This mandated curricular infra-structure was less interesting to the teachers than the profession of teaching or the subject itself. For Mr. C, these implementations seemed to have moved him away from a position in the center of curriculum, where he had helped design both English and social studies units. Now he appeared to be in a position on the outskirts of curriculum development (Goodman & Kuzmic, 1997), where he asserted little curricular authority even in his own classroom. For Mr. C, the curriculum consisted of rigid time schedules and prepackaged standardized teaching models with test-based curricula (Apple, 1988).

None of the representative classrooms exemplified student-centered examples from the literature review, although the students in Ms. A's class were able to choose supplemental books for their research project. After polling the students in the focus

groups, there was no level of interest in their required textbooks. The students in Ms. B's classroom, however, did become interested in the requisite readings (novels, short stories), which she selected to replace the text.

Additionally, students expressed no exuberance for any curricular item that appeared in the a priori or grounded theory codes (Figure 3.1). There were only mixed reviews for the English vocabulary lists from Ms. A and Mr. C's assignment of reading *Newsweek* (primarily because of the three weekly writing assignments that accompanied it). Thus it seems that the mandatory curricular setting has exerted a restrictive influence over the teachers at this research site, which may be directly affecting levels of student subject interest. As I look over the mediocre levels of student subject interest associated with the curriculum, I cannot attribute their subject interest to curricular issues, as none of the teachers integrated their interests into the curriculum. Furthermore, the absence of positive student interest in the curriculum was reminiscent of comments from one district reviewer who had suggested I would not see teachers demonstrating curricular choices that related to student interest because of the mandated curriculum policy. Instead, he advised that I was more likely to witness connections between student subject interest and teachers' instructional strategies.

Instructional Practices and Student Subject Interest

Both English and social studies have been categorized as ill-structured subjects, because there are multiple ways to approach an understanding of the topics. For example, student papers on why Romeo and Juliet were restricted by their irreconcilable family differences could represent a variety of perspectives and be judged equally appropriate.

In contrast, the learning of well-structured subjects has more often accompanied by a requisite process, incorporating steps that should be followed in an orderly fashion (e.g., solving geometric theorems). Theoretically then, the instructional practices for getting students interested in English might also be implemented in a social studies classroom. The practices enumerated in this section were gathered from three sources of data: teacher comments about the appropriate instructional practices for helping students become interested, student reflections on current practices, and student suggestions for additional instructional practices.

Discussions. Both social studies and English students in the Phase 2 open-ended data overwhelmingly mentioned participating in discussions as helping them become better learners in the subject. In addition, students in Ms. B's focus groups attributed their interest in any story or novel to the class discussions (Turner et al.1998). Students in other classes similarly attributed their lack of interest or learning to the absence of discussions. All three teachers confirmed that students would select discussions as a practice that increased their subject interest, although Ms. A was not personally convinced whether their responses were accurate. Her ambivalence, however, was disconfirmed by a remark in our final conversation. After being asked how she got students interested in poetry, she replied, "talking about it in class stimulates their interest."

Her students reflected that Ms. A initiated topics of discussion by bringing in "these little articles that refer to our vocabulary words" or using newspaper stories that promote "our generation." When asked if her techniques got them talking, their responses

ranged from “usually to sometimes, depending on the topic.” Ms. A’s attempts at facilitating class discussion were often responses to student questions and did not extend longer than a few minutes.

From Mr. C’s perspective, class discussions were positive contributors to student interest. He suggested he “creates a comfort zone where they want to talk with you; if they have questions when they enter, you’ve got them.” His students at both course levels decidedly disagreed with his techniques for encouraging discussions, complaining that students had to be “invited” into a discussion by Mr. C. In the AP group, several students remarked, “unless you ask, he won’t tell you.” But “if you ask about something, he’ll go into a big long discussion and tell you like—I mean, he knows the stuff so I guess he’s a pretty good teacher.” In our wrap-up interview, Mr. C concurred with that statement, responding,

> I let them know that at any time, they are able to ask me a question and get a discussion going that is pertinent to the course material. Rather than initiating them myself, I let them ask them. They are free to do it at any time.

It was not clear if these were class discussions or simply conversations with a selected few that the other members witnessed. One student summarized the process, “It’s mostly him that just addresses the discussion and we just kinda listen. It’s a lecture format and if we have questions, we’ll ask him.” Apparently this dialogic model drew some people in, but put others to sleep.

In contrast, Ms. B’s primary instructional practice was the use of discussions, perhaps because she believes,

> Language is a tool that can be used as a weapon, just like fire is a tool. It can burn you or it can heat your home. Language is the exact same thing. A person who can use language well is a truly educated person. And what I tell my students is the most powerful reasoning skill you have is the power of persuasion and you can't do that without language. You can't bully someone into believing your point of view, but you can persuade them—and that's true power. And that's what you need to do is learn the powers of persuasion.

It was apparent that when she asked questions, she expected students to respond—not because there was a correct answer, but as an expression of their individuality. In the midst of one passage where she was reading aloud, she paused and inquired, "How many of you are Victorians?" After analyzing one character in a Thomas Hardy book, she helped students assess the protagonist's motives by almost wondering aloud, "Will you seek out the company of someone who says those pants make you look fat?" In describing her own practices, she portrayed them as asking open-ended questions—that "demand a reaction…(and) play guess words in their head(s). They know if you're looking for a right or wrong answers."

I was so impressed with her Socratic style that I recorded the following comments in my reflections after one observation.

> The depth of questioning and exchanges, including their level of understanding about themes and symbols was refreshing and exciting. She was very complimentary of students' comments, including the sharing aloud of students' work. And the student responded during the course period with all kinds of comments that indicated I was in a trusting environment (like teasing). There was an ease of conversation and a liveliness of discussion that was heartwarming.

Her students also attributed their class discussions with helping Ms. B inevitably cover all of her scheduled topics, rather than functioning as a digression from the assigned plans, for they naturally "might come up with the topics she wanted to touch

on." However, along the way, they also stumbled into more in-depth learning. In our wrap-up interview, Ms. B agreed, comparing her discussions with discovery learning as students were likely to encounter "meaning, change your mind, get new inferences...(and) push boundaries." When "kids depend on the teacher to make meaning for them, (it) is easy but not good for them." It was obvious that students in Ms. B's class not only benefited from these discussions cognitively, but also thoroughly enjoyed the process.

Authentic learning. In our interview, Mr. C informed me that he encouraged all of his students to become registered voters as soon as they became 18. As a registrar, 100% of his students had participated in that process—thus they had become active participants in an authentic context for understanding the subjects covered in class. I did not observe him refer to those connections during my classroom visits (which he described as being indicative of his instruction), nor did students explicitly mention their voting privileges.

I did observe another class conducting a mock trial in a larger auditorium-style classroom. Evidently students from the law school of a local university had been coming once a week to teach the students about legal procedures and rehearse their scripts. Every student had a role in the drama, and Mr. C performed as the presiding judge. Apparently, no other group of students was afforded this opportunity—probably due to the law students' schedules. Such experiences have been associated with student subject interest, especially when they are accompanied by reflective exercises (Hoffmann & Haussler, 1998).

Both Ms. A and Ms. B spent consistent time letting their students know that acquiring more and diverse forms of language expression was necessary for their success

in life, whether in our out of post-secondary schooling. Consequently, students in both levels of English, repeatedly referred to their experiences as preparing them for college writing, thus making their experience authentic.

Scaffolding. As an instructional practice, discourse scaffolds can facilitate all three facets of interest (Turner et al., 1998). Ms. B was a verbal master in this technique. She introduced stories with directions to "pay attention to the word choice, mood, and tone." Then after reading the first page aloud, she paused to ask, "What do you think about the first page?" For me, both of these examples indicated her ability to construct scaffolds from the course material; she used the information from the first page specifically to develop a foundational level, which supported the reading of the subsequent pages. In one of our conversations, she directly connected scaffolding with the development of student interest.

In another discussion with students about a novel, she began the exchange by asking what they knew about the way women were treated in the Victorian age. She likened the author's characterization with Freud's concepts of the id, ego, and super-ego—stopping to refresh their memories on the meaning of those terms. All of these questions were focused on helping students understand the meaning behind the words. Eventually the students came to realize that the dialogues within the novel also represented the author's commentaries on the existing social customs of his era.

Ms. A also provided her students with different form of scaffolding as she deliberately prepared and planned to guide students through every step of writing a research paper. After every book they read, they completed a book report, which helped

them gather content material for their final paper. She also required students to submit 15 bibliography cards and 40 note cards, an outline and a rough draft prior to completing their final paper. Her detailed instructions included written examples on display around the walls of her classroom, and visualization is also connected with student interest (Todt & Schreiber, 1998).

Feedback. Mr. C's teaching practices required a large quantity of writing by the students—critical thinking papers and *Newsweek* reviews of current events. However, I did not witness him verbally acknowledge the quality of their submissions, nor did his students from either group make references to his written feedback. When asked if Ms. A gave them feedback, however, both male and female students responded that she supplied comments on their papers. A chorus of "yeahs" seemed to indicate that her feedback helped them with future writing assignments

Ms. B's students, on the other hand, judged her a master expert at helping them develop their logic in writing. Students proudly boasted of their progress in her class, "when I first wrote a paper, I totally summarized and she taught me about analyzing" the material.

> Like 1st semester, I had a D (as an interim grade) because I didn't take her class last year and I was just like, Wow! This is really a horrible grade! Because I didn't know how to write—I would just do a summary. I didn't know about analyzing anything…I asked her if I should drop the class, and she said, 'No, you just have to get the hang of it…You just need to learn how to write.' And then she hung with it. Like on all my papers she would write—like this is what you do wrong—and then the next grading period, I got a B. She just helped me out a lot; she just told me, 'you're summarizing; don't do this!' She'd say, 'Put more on this character.' She just told me everything I did wrong and I actually learned how I was supposed to be writing.

Not surprisingly, several researchers (e.g., Csikszentmihalyi et al., 1993; Turner et al., 1998) have discovered that feedback helped the construction of student interest, especially when it was "focused on the ongoing activity," and provided information about the task. In the classrooms where teachers provided feedback, students were enthusiastic about its positive effect on their writing skills and expressed great interest in this instructional technique. Ms. B's students remarked that they liked meeting her in the halls so they could find out how they had done on their last papers. They admitted her comments were more important than receiving a good grade on their assignments.

Nurturing environments. Todt and Schreiber's (1998) model of interest development included a number pf teacher behaviors associated with the quality of a classroom experience. Among those behaviors were fairness, creation of a pleasant class climate, a high regard for students, well-structured presentations, and answering of students' questions. All three teachers' classrooms contained some of these elements. I witnessed multiple students approaching Mr. C for a personal reference, and he always prefaced his affirmations with positive comments. I also heard him coordinating his schedule to meet with a few students over the weekend for an undisclosed activity, which indicated he was making some level of investment in their lives. And yet for students in both focus groups, his preferences seemed to extend only to certain students.

Ms. A, on the other hand, who thoughtfully considered what contributed to students' becoming interested and learning in her class and responded,

> I think it's important to be really good to kids. I learned a long time ago that you get what you give out. If you're loving and kind—I don't mean sickening sweet kind of behavior…but if you're good to kids, they will be good to you in time.

> And if you're fair; that doesn't mean you treat everyone the same. But if you're fair, kids will forgive so much of what you do—if you can make mistakes. It's also important to be able to laugh at yourself.

Furthermore, Ms. A consistently gave positive words of affirmation to her students. Although they were not wildly enthusiastic demonstrations of emotion, they did convey a steadfast and consistent support for all the members of her classroom. I noted her asking students about their recent college visits, inquiring about guarding their health during fluctuating work/sleep schedules, and supporting a student's obvious changes in study habits after he improved a quiz score. Even to one incredulous student, she convincingly spoke about his ability to get a B in the course.

Ms. B's students were also the recipients of her encouragement, though it was expressed in different forms. After one student shared a particularly brilliant insight, she responded, "Oh, I need to write that one down!" But class members also immediately asked her, "Is that something you're going to write down?"—as if that special event occurred regularly. She emphatically replied, "Yes, I am!!"

In our focus group, after the students had been sharing about her ability to point out both the good and bad parts of their essays, my co-leader asked, "How do you think she separates the personal from the writing, so that when you're getting critically looked at, you're not thinking she's criticizing me?" The students' evaluations were especially revealing, "She never attacks style—ever! She knows that everybody incorporates a little bit of themselves in their paper. She looks at it but she doesn't grade us on that. She grades us on how well we answered the question."

Integrated learning. Although this instructional practice did not appear in the literature review, students attributed part of their interest in the course to Ms. B's ability at placing their literature in a historical context. Both Ms. A and Ms. B demonstrated a breadth of historical knowledge that related to the content area. They each described characters as corresponding to distinct social strata, brought in colorful pictures of the period, used videos to convey the settings and facial expressions accompanying the language, and discussed the values and mores of the era.

Ms. B's students were enthusiastic about her ability to incorporate so many different subjects into their study of literature, "Today, we were even talking about evolution and Darwinism and all that because those are themes that are explored in the book, so she wants us to explore them fully." Another elaborated, "things like Victorianism, you go over them and she tells us about events that happened during that time. I mean she doesn't just stick to literature, well you know— this could have been written this way because the Great Depression was going on during this time." On their summer reading list, she also included books on math and logic. "And we even had an assignment with Alice in Wonderland where we had to analyze that from a mathematical perspective. She found a way to blend those two subjects together!"

Before leaving this section of the analysis, I want to revisit the literature review and gather information about the teachers who facilitated the development of talent (Bloom, 1995). Because the development of talent has been linked to interest (Rathunde, 1993; Schiefele & Csikszentmihalyi, 1994) and this is a developmental investigation, it is important to note any parallels in the instructional practices of the teachers.

Teaching to encourage talent. It is especially fascinating to note the similarities between teachers who facilitated talent (Bloom, 1985) and two of the teachers in this study. In the first phase of talent development, the teachers in the learning environment emphasized discovery. Students explored and manipulated their environment; teachers were warm, pleasant, nurturing, and enthusiastic about their subject. The emphasis was on grasping larger patterns/processes and students were not pushed, but encouraged to stumble into knowledge through fun and comfortable circumstances. Although value for the subject matter was expressed, and standards were set, performance flaws were corrected through approval, praise, and encouragement.

Bloom's Phase 1 environment and Ms. B's classroom are almost perfectly identical; even the words used by the students and her to describe the experiences are perfectly exact. But even more surprising is the association between Bloom's Phase 3 and the same environment in Ms. B's classroom. In this final phase, building competence was emphasized, building a commitment for work and fun. Problem solving skills developed, and products acquired more meaning and purpose. Students evaluated themselves, and competed with other advanced students, thus achieving higher levels of competence. As adults valued their activities, they created a context for achieving proficient accomplishments. Thus it seems to me that Ms. B helped empower students to competent levels of performance, even as she encouraged them to play with language. The fact that she seemed able to effectively incorporate both ends of the developmental spectrum can be a reflection of her ability to facilitate both play and working experiences (Dewey, 1899; Rathunde, 1993).

Ms. A, on the other hand, seemed to be treating her students as if they were in Bloom's second phase, where a sense of specialness was built. The emphasis was on precision, definition, and planning. As the demands increased, students grew in perseverance for they realized their skills were developing. They were offered more opportunities for independent decision-making. Teachers enlarged their students' perspectives and encouraged higher levels of attainment. Interest was strengthened, and intentions were serious. Although these are admirable accomplishments and indicate increasing levels of developing a positive work ethic, my concern is that before students can function without adult supervision in these capacities, they should have had access to the play stages of Phase 1. As such, I have no way of knowing if students in Ms. A's classes received those opportunities in earlier English classes, but I did hear her students complain about the precision of her routines being enforced daily.

Summary of instructional practices. At this stage of the analysis, both students and teachers were able to definitively describe six instructional practices as relating to student interest. The English teachers participated in every activity, but even within that domain, there were different applications of the technique. As such, levels of approval for each practice varied within each classroom setting.

Summarily, at this point the analysis has primarily looked at two teaching variables (i.e., curricular choices and instructional practices) that were theorized to reflect the teacher's interest in the subject. In this way, I attempted to determine what the teachers did to encourage the development of student interest in their course content. The first variable, curricular choices, did not contribute to students' levels of subject interest. Instructional

practices, however, were highly visible and the students acknowledged the impact of these practices on their interest in the subject. In addition, nearly all of the practices appeared in the literature review as being related to interest.

Finally, I examined and compared the a priori and emergent codes associated with the construct of teacher interest. Because this term is not very visible in the literature, the data relating to this construct were especially important to this discussion, especially as students in Phase 1 reported that their perceptions of teacher interest were predictive of student subject interest levels.

Teacher Interest

As the literature contained only limited information on the components of teacher interest and its relationship with student subject interest, the following findings are especially important contributions to the literature. All three teachers declared their levels of attachments to their respective subjects to be high. Furthermore, each teacher responded that his or her interest in teaching was extremely high. In order to determine what teacher interest consisted of and how it related to student subject interest, I analyzed the data using the a priori and emergent codes from Chapter 3. Those findings are presented below. They include the self-reported terms that each teacher used to describe his/her own teacher interest, which are compared with the corresponding student perceptions of teacher interest. Student data were gathered from focus group responses and open-ended items from the quantitative surveys (Phases 1 and 2). Immediately following these comparisons of teacher interest are the self-reports of students on attributes of their own subject interest in the four courses (English/social studies;

regular/AP level), which are compared with teacher perceptions of student interest. Immediately following these joint teacher interest and student interest comparisons are narrative examples from the teachers and students that demonstrate the facets associated with an experience of interest (cognition, affection, and conation) as defined by the literature.

Ms. A's self-reports of teacher interest in our interview contained terms such as fair, accessible, important, knowledge of the subject, consistency, organization, and being good to the students. Additionally, she asserted that it was necessary to be kind and genuinely helpful (Csikszentmihalyi, et al., 1996) and she shared stories of her commitment to the students (Drechsel, et al., 2001), but student estimates of how she displayed her subject interest primarily centered on the consistency of her daily regimen. In the open-ended survey responses, complaints and positive comments about her content and instructional practices were evenly distributed. Acknowledging that students complained of her workload, Ms. A shared stories of students whose behaviors turned around, and they are now engaged in their assignments. To her, these students now demonstrate their interest in the subject because they acquired organizational skills and responsible work habits.

When comparing student and teacher evaluations of student subject interest in her classroom, the word "work" surfaced again as the predominant theme. Students commented on understanding, playing vocabulary bingo, and liking the books they read for research papers. But more frequently, they directed their remarks to the routines that were enforced in her classroom and they judged these routines negatively. To Ms. A, the

students demonstrated their interest by knowing and observing the routines, asking questions, and paying attention. She also defined their subject interest as consisting of knowing how to write and using more than four-letter words.

Thus, although students acknowledged that Ms. A knows her subject, knows them, and is consistent, their demonstration of interest in her class predominantly consisted of producing work. On her nominating forms, however, two former asserted that her tough workload was worthwhile, indicating they appreciated her standards of performance after the class was completed. Thus Ms. A seemed to demonstrate her interest in the students by her commitment to instill responsible work habits and skills that demonstrated a command of the English language. Like a parent enforcing firm but loving boundaries on immature children, she was committed to their content development. The students, however, read her actions in a different way.

Mr. C, in turn, assessed his teacher interest as enjoying the students and the subject matter, for he found the subject intriguing and relevant. Students agreed that in his classroom, the definition of teacher interest consisted of understanding the subject, enjoying the subject, and knowing the subject. But more frequently, the students in both the regular and AP groups assessed his class as busy work. Furthermore, the students read his interest as being only in the subject. Regarding student interest, Mr. C attested that students responded with interest to varying tasks, critical thinking, activities, asking questions, and tolerance. His students commented that their subject interest consisted of fun and work, but the fun seemed defined as being a lack of pressure in the course. If the

students pushed on his subject interest door, however, they were usually rewarded with more subject knowledge that was also interesting.

Ms. B's assessment of her subject interest, however, received similar student evaluations. Both she and her students characterized her teacher interest as consisting of knowing and caring for the students, which was linked with student engagement in meaningful dialogues (Fraser & Gestwicki, 1998) and cognitive interest (Ainley, 1998). She also demonstrated knowing, liking, and understanding the content—mirroring a subject competence that contributed to student cognitive interest (Graber, 1998). There was a uniform appraisal of her over-enthusiasm (Drechsel, et al., 2001). Furthermore, students confirmed that she exhibiting valued and enjoyed her subject, another contributor to student involvement in classroom dialogues (Turner, et al., 1998). Students also cited her participation in subject related activities outside of their school (Csikszentmihalyi, et al., 1996). Additionally, she described her teacher interest as inspiring students to read, trust, question, and follow her leadership. Thus students were given choices and ample opportunities to discover themselves as they connected with the subject matter, through her capable guidance.

In turn, students confirmed their own subject interest was displayed by their content discussions. They affirmed their hard work in the course, but their effort was produced in response to the challenge and ever-changing nature of the provocative questions. Students especially appreciated Ms. B's de-emphasis of grades, which facilitated creative thinking and content appreciation. They knew, liked, loved and were personally involved in the subject. In addition, the students were convinced they had

acquired competency in their analytic abilities and writing skills. Beyond their relationship with the content, the students also exhibited a personal interest in Ms. B as they received personal interest from Ms. B. Quite frequently their references included examples of being known by their teacher. It also seemed that her acknowledgement of their uniqueness encouraged them to fly higher and conquer more obstacles.

From Dewey's (1899) perspective, Ms. A's classroom might be considered a drudgery as it is missing the element of play, and there appears to be no emotional interest in her class (i.e., like and enjoy). Instead, she emphasized the value of work and simple cognitive skills. Of the eight students in the focus group, seven remained at a low or medium level and one decreased. In the open-ended survey questions (Phase 2), students either appreciated the challenge of being pushed or complained about her strictness. In Mr. C's classroom, where the focus group students' interest increased—much to my surprise—he seemed to have created an atmosphere where students know how to do the work and appreciate being able to set their own pace. However, the absence of pressure to perform at once is not equivalent to having opportunities to explore, marvel at, or actively play with the content.

In Ms. B's classroom, all eight of the focus group members reported having a high level of subject interest. Moreover, her classroom seemed to represent a complete interest experience for students and teacher alike. Their interest incorporated all three of its facets—cognition, affect, and conation. Dewey would likely term the interest in her classroom as an undivided interest, representing elements of both work and play—and the delight was visible on all of their faces as they talked about the experience.

Thus these teachers' expressions of interest varied in structure as well as in degree. Students responded to their perceptions of teacher interest by demonstrating subject interest that mirrored their teacher's own subject interest. This analysis of the interaction between teacher interest and student subject interest is further supported by the following narratives from our conversations and my observations in their classrooms, which focus on the facets of interest (cognitive, affective, and conative).

Cognitive connections.

> You have to interact with them; you have to work with the knowledge; you have to talk to them and do things with the knowledge so it's embedded into their long-term memories. To do that, you have to be enthusiastic about what you're doing—come up with some sort of way to approach the information.

Ms. B's assessment of how to establish cognitive interest in her students was demonstrated by her own apprehension of subject knowledge. She knew one author was only 4'6" tall, and students came to understand how his height "added acid to his tongue." I asked her how she knew students were tracking with the complexity of her vocabulary. She remarked, "I monitor them through writing; I ask them if they understood. I see how they're using the words in context." She started the year with lessons on decoding words so they can deconstruct the vocabulary in text, and gives them the "vocabulary ahead of time if we're going to discuss them." Essentially, she helped them acquire "the tools they'll need that will help them deburden words."

In addition, her questions demanded challenging responses from the students, "Why was there this conflict between Victorianism & modernism—and how is it expressed in the book?" Those questions were not "explicitly stated" in the book, but Ms.

B attempted to "show them that there's a whole life that lives under the page." A male student confirmed his approval of her approach, "She does not want to leave any stone unturned. She always makes sure that everybody has the understanding of the material that they want before she stops." A female agreed,

> Her questions are not easy. You actually have to sit there and think like why—and there's so many different things. She can ask us about a character, and everyone is going to have a different take on the character—so you get to see everyone's—and you get to summarize.

And in her written comments on student papers, they interpreted a "keep going" as meaning "you stopped in the middle of a thought that she saw could have been explored more."

One student boasted, "You can ask us anything about something from our lit this year, and we can tell you something about it. I can't do that in any of my other classes." Others attributed this skill to not just reading the material and regurgitate it—"we actually hold on to it and think about it." As confirmation, another female commented, "After we read it, we talk about it, we write about it, we cover almost every single topic in the book—we learn a lot from that class.

Ms. A, on the other hand, seemed to have an uncanny ability to identify specific components within an activity; thus she was able to break down skills into their simplest parts and could successfully teach those steps to her students. She described herself as deciding in kindergarten that she wanted to be a teacher. After that moment, as she watched every teacher, "I would think to myself, ok—you'll do that or—never do that!" For her students, she has emphasized the necessity of establishing routines in order to

establish cognitive patterns. She was very precise about giving specific directions prior to any activity (e.g., informing students where the next part of the lesson was located in their notebooks). Furthermore,

> when they write essays, they have to write their final copy in class on the day the assignment is to be written. Prior to that, they've done a jot list (brief listing of content ideas) for the essay, free writing—which is their first attempt to put at least 3 paragraphs on paper, and then finally a rough draft of at least 5 paragraphs—and then they have to have 2 people edit it and they can be their peers…they turn in all of that, so I get the final copy and all the pre-writing…so I can see the progression.

Unfortunately, students gave mixed reviews to these emphases. One male student's version of the process called it being "over-organized," although another said he was helped by her requirements.

One male student in Mr. C's regular class described an example of the teacher's ability to decipher the televised version of the war in Iraq's current events. When they had been watching the broadcast in other rooms, but "we have no idea of what's going on, he'll break down what's happening and what people mean when they say something. Like say a dictator comes on and says something you may not understand, cause it's really formal—he…lets you know exactly what's going on—and stuff like that." Mr. C himself reflected that their attention spans were "short in general, so understand your students… and try to keep them engaged" by viewing lessons from their perspective.

Affective connections. Mr. C and Ms. A both mentioned being very highly interested in teaching and in their subjects. Ms. A felt very fortunate to have a job she liked doing, and Mr. C was convinced he had the best job in the district. Ms. B also was highly interested in both teaching and her subject (although she had expressed strong positive regard for

other subjects as well). She equated her feelings about teaching with absolute love—I dream about it!" She shared stories of students poking fun at her excitement—for example, after reading a poem and commenting,

> Oh, this part gets me every time…they were like, 'Oh, you're such a geek!' But they like that; they like knowing that I care about it. They like it and by me caring, I've given them permission to care about it—because there's so much at stake for them to reveal that they care about a subject, or care about poetry, or care about writing—that they don't want to show everybody. But they don't have a problem with saying—I love this part… oh this is great! They feel ok with it; they're not intimidated, they're not inhibited by it. They'll say, 'Well, I got this out of it instead!' And it's wonderful. My freshmen are still a little inhibited and we're trying to work on that.

When asked how students would know she's interested, she responded—"For one thing, I tell them. And I'm excited about it—and it's kind of funny, but it doesn't bother me." She described about 50% of her freshmen as having a deep subject interest. But others were only focused on the grade or the transcript designation. One way in which she encouraged them to take emotional ownership of their written work was by reading their words aloud in individually scheduled conferences with each student. "They like my appreciation of beauty…it's good for them to know people care about language. People love this and it's not just a subject. They love experiencing it."

Ms. B also reflected that when students were not interested, it was related to former negative learning experiences, which were "very tied up with emotion…*or* they just flat-out don't understand it." As such, students have come to equate not liking something with an inability to understand. Her solution was to individually meet with the struggling students so they could diagnose the problem together, and then she could "tailor (her) instruction to what they don't understand."

Her students laughingly agreed that she was "almost overly interested." They described her ability to recognize almost "any piece of literature," and they were impressed by "the fact that she's still taking classes." Her position as head of the English department was "an indication of her dedication to the subject." And when I asked about her dedication to teaching and students, a male student responded, "She likes it; she tells us all the time that loves her job." Another female student finished his sentence, "and she really cares about us!" They were convinced of that fact because, "She's always there if we need her, even if it doesn't have to do with school. She's always there to talk to her. If we need help with extra work or something like that, she's always there." Others spoke of plans to keep "her as a contact when I'm in college."

Acknowledging that some students have never experienced caring for a subject, Ms. A also remarked that it was unfortunate when "students sometimes care about a subject if they care about the teacher who teaches the subject," and yet she related a story about one of her former AP students becoming an English teacher because of her admiration for Ms. A. Finally, she admitted it was possible for a student to borrow a teacher's interest and still form their own deep attachments. However, her estimate of student interest when entering her class was only 10-20%, "but I think it grows."

The focus group students in AP social studies also discussed being passionate for subjects other than government. It appeared they felt intense levels of caring for at least one school subject. Some of their suggestions included science, art, photography, calculus, and computer programming.

Conative connections. All three teachers demonstrated value for their subject and students—although it was expressed in different forms. Mr. C concluded it was only impossible for students not to care about a subject if they placed no value on learning. His students cared as "they're looking forward to getting on with their lives," and were apparently naturally interested in the subject matter. What some of his male students did seem to value about his regular class was, "He's more laid back than other teachers; he's not always in your face. If you need help, he'll help you but otherwise he's not going to bug you or make you do something you don't want to do...that's less pressure." Another male student confirmed the previous assessment.

> He lets you actually do the work. There have been times when I don't do the work in class because I hate the teacher so much, 'cause they nag me about it all the time. I do so much in their class that I don't want to do any more homework for them. And Mr. B's like, if I don't do it in class, I can do it at home—and it'll be the same amount of points next day—so I have no pressure right then to get it done. So…

Ms. A, on the other hand, did not take their valuing her subject for granted. She considered it very important for students to have English skills and be able to communicate in words. Her students also mentioned the importance of knowing English on their Phase 2 open-ended comments. Additionally, it was very important for them to acquire proper work habits, such as consistency, organization, and diligence. Although she stressed the intrinsic satisfaction of accomplishing difficult tasks through steady and deliberate effort, at the same time, she also incorporated short-terms rewards into her schedule, like candy bars and "talk time." Noting that the students in her classes needed to be motivated to keep their attention during the entire block period, she also referred to

"conditioning" them at least twice in our conversations. For her, the development of these behaviors was directly related to the development of student interest, because learning to become responsible in her classroom was necessary as "so many of our kids go out into the world—it's a wonder they're able to survive at all."

Finally, Ms. B summarized her beliefs about the most important factor in students becoming interested in her class. She claimed it was the way teachers present the information.

> They read you; the kids read you like we read them. If they can tell you don't care about it, they pick up their cue and they don't care. Or if they pick up that I'm not as enthused about something—then they're not as enthused about it. It's a very—it's like this weird relationship where we are reading each other constantly, just like you know—in body language. And they can tell if you really care about it, and if you really care about them.

Her students frequently referred to instances where she demonstrated her value for them and their contributions to the class. In one example, a male student began, "We might come up with the topics she wanted to touch on…" "Yeah," a female student chimed in, "And she gets so excited and says, 'Good, good!' That's when you know you did something good. It's like you see her face light up!"

Summary of multi-faceted teacher interest. These qualitative findings about teacher interest were especially important, because the literature on teacher interest has been minimal. In this study, the findings on teacher interest seemed to include interests for the students, and for the subject (distinct from the formal curriculum). Although each teacher reported having strong interests for teaching, their students, and their subjects, they conveyed their levels of interest in different forms. The students readily identified

some of these indicators of teacher interest, but may have misread or overlooked others. Like the quantitative findings, the qualitative data indicated that student subject interest was affected by their perceptions of teacher interest.

In each classroom, the components of interest seemed to be different. However, only one teacher exhibited affective interest, which has been associated with cognitive responses in student interest (Ainley, 1998; Turner et al., 1998). Furthermore, this same teacher, Ms. B, engaged students' dialogically, which is aligned with genuine teacher interest (Fraser & Gestwicki, 1998). Teachers who were able to inspire student interest in their subject were also involved in domain activities outside of class time (Csikszentmihalyi et al., 1993), which students indicated was also true of Ms. B. Although all the teachers seemed to share one thing in common—subject knowledge—researchers have not found that content knowledge alone was sufficient. In fact, the teacher's interest in the content is more related to student motivational levels than the quality of instruction or the content relevancy (Prenzel et al., 1998).

At this stage of understanding about teacher interest, it seems that demonstrating content knowledge is simultaneously exhibiting subject interest. However, content knowledge by itself does not seem to inspire students who would describe themselves as caring for the content in a way that Dewey identifies as an interest. For Ms. B's students, however, an interest is being modeled as a caring, knowledgeable effort to connect with the content and with the students.

CHAPTER 5

CONCLUSIONS AND IMPLICATIONS

"Let each of you look out not only for his own interests, but also for the interests of others." Phillipians 2:4 NKJ

As described in Chapter 1, I designed this research project to begin identifying the components of teacher interest and to explore how teacher interest affects student interest in a subject. By examining the interaction between teacher interest and student subject interest in two core s (social studies and English) where student attendance was required, I focused on the teacher's role in influencing student subject interest. This information was especially important because a relationship of interest represents positive value for the person who is pursuing the object. Therefore, teachers and students who actively pursue a subject of interest can expect to derive benefit from their connections with the subject. The research questions developed to explore the process of connecting with the content are restated below:

1. How do student perceptions of teacher effectiveness and student perceptions of teacher interest affect student subject interest in a core course?

2. How does student subject interest differ across gender, ethnicity, domains (English/Social Studies), and course levels (AP/standard)?
3. How does a test-driven curricular focus affect teacher curricular choices?
4. How do teachers encourage student interest in their subject (e.g., curricular choices, instructional practices, and teacher interest)?
5. How do students evaluate their teachers' attempts to encourage student subject interest (e.g., curricular choices, instructional practices, and teacher interest)?

In order to understand the complex interactions that contribute to being interested in a subject, the project solicited data from both students and teachers. As such, the multidimensionality of the process emerged from the qualitative and quantitative findings, as framed by the research questions. Interpretive responses to each step of the inquiry are now presented, accompanied by appropriate evidentiary statements.

Summary of the Findings

In Phase 1 of the study, students (n=112) nominated high school teachers of core courses (English, mathematics, social studies, science) who had helped the students both learn and become interested in a subject. Not surprisingly, the data revealed that for this group of 25 teacher nominees, student ratings of their teachers' effectiveness and interest were almost equivalent in strength (4.49, 4.52), as well as being very highly correlated ($r=.92$, $p<.01$). These students considered their nominated teachers to be both effective and interesting, and rated the two factors as sharing similar components.

Quantitative Findings

Within that highly restricted population of teacher nominees for whom the data were gathered, the first research question (RQ1) asked how perceived teacher effectiveness and interest contributed to the students' own levels of subject interest. The multiple regression findings revealed that although students evaluated the teachers as being almost equally effective and interesting, only teacher interest was significantly predictive of student subject interest (beta=.54, $p<.05$). Furthermore, no gender or ethnic differences existed in student subject interest, indicating that all students had formed attachments with a core content area (RQ2). From the students' nominees, the three most frequently nominated teachers were selected to participate in the subsequent research phases.

During Phase 2, it became apparent that in this larger sample of mostly 12th grade students (n=163), subject interest also did not significantly vary (ANOVA, $p>.05$) across gender, ethnicity, or domains (English and social studies). Significant differences did exist, however, within the course level (regular/AP) in English. It was impossible to quantitatively attribute the significant difference in student subject interest in English to either teacher or content differences as there was only one teacher for social studies and two teachers for English. This inequity introduced a confounding variable into the statistical analysis. Instead, the question was addressed by the qualitative research, which furnished substantive information about the instructional contexts in which student subject interest developed.

Qualitative Findings

Unlike the citations in the literature (e.g., Weber, 1996) where teachers described their personal attempts to design curriculum around student interests, teachers in this school district appeared to have little freedom to explore a curriculum and interest connection (RQ3). As a system, this district's own report card of performance has been given low ratings by state evaluators ("Phi Delta," 2002). Therefore, each principal was faced with the challenging task of improving overall student academic achievement. To facilitate the requisite transformation, the district has constructed a mandatory curriculum package, which administrators faithfully implement (S. Cantlebury, personal communication, November 3, 2002).

Thus the pressure to perform was present at every level of instruction. In the qualitative pilot study at a middle school, K was dissatisfied with some of her own instructional solutions (e.g., bribes) for improving student achievement. She provided a consistent routine and series of academic prompts, affording a sound scaffold of reinforcement for aiding students' progress in learning. She also rehearsed what had been previously taught before connecting with the current day's lesson plan. But her previously contagious enthusiasm seemed to be absent, and she smiled infrequently. Her teacher talk was well seasoned with reminders that the students could pass the proficiency, and her emphasis was on "the <u>work</u> we are doing!"

At the high school, Mr. C acknowledged that "pressure is intense here as well," and Ms. B spoke poignantly of back-loading the curriculum (driven by the state-mandated tests) as contributing to instructional practices that were "completely

antithetical to everything we believe in…educational malpractice." I also heard anxious conversations by teachers in the library and lounge as they discussed upcoming test administrations and how the student scores would affect administrative evaluations of teacher proficiency. In both of those schools, it was commonly understood that each teacher was to utilize the mandatory curriculum packages provided by the district. Although the two English teachers seemed to exert some measure of curricular choice within the mandated framework, none of the teachers used student interests as the focus of their curriculum design. Both the teachers and the students confirmed this finding.

In order to discuss the findings for RQ4 and RQ5 (how teachers impact the student subject interest and how students evaluate their efforts), the discussion must be placed within the context of the literature review on interest. As defined by Dewey (1899), an interest is an attachment formed between a person and an object or activity, which can be either direct or indirect. As such, it was important to determine whether the subject interests exhibited by the teachers and students were direct or indirect.

All the teachers possessed a high interest in their subject. Observations, teacher self-reports in our interviews, student nominations and descriptions of these teachers all indicated that teachers were interested in their subject. The students in Ms. B's group attested to her subject interest with conviction, contesting that she was also very interested in them as students—and they were equally convinced about their own interest in her subject. In contrast, students in the other focus groups were positive, but more hesitant about their assessments of subject interest in Ms. A and Mr. C. Still it seems appropriate to conclude that each teacher exhibited an interest in the subject, which could

be termed direct (Dewey, 1899) or even individual (Renninger, 1992) as their interests have endured and their connections with the content were not superficial or transient. However, the teachers' expressions of delight (Gregory, 1917/1963,), engagement, enthusiasm, and commitment (Drechsel, Prenzel, & Kramer, 2001) varied considerably. In fact, the qualitative data revealed that teacher interest consisted of different components, which seemed to directly affect the strength and quality of student subject interest.

Furthermore, some of the students in each teacher's class apparently possessed strong direct interests. Of all the students (n=163), 27 chose either English or social studies as their areas of interest on the topic interest measure, indicating the intensity of their interest in the subject. The overwhelming majority of the students in this sample (n=136), however, did not have a self-reported direct (or individual) interest for the subjects being taught. It appeared from the quantitative data in Phase 2 (means) that students possessed moderately strong levels of subject interest in the respective subjects (A-3.45, B-4.17, regular C-3.72, AP C-3.94). No students indicated they were totally disinterested in English or social studies. Although focus group students reported entering the courses with differing levels of interest in the subject, which some attributed to the subject matter, their experiences in the course did affect subject interest, causing it to grow, diminish or remain at the same level. Overwhelmingly, these changes seemed to be attributable to their classroom experience and more specifically to the teacher's own expression of interest. As such, this confirmed the quantitative findings in Phase 1.

Discussion

This study was administered to students during the final semester of their senior year in high school. Student levels of subject interest had been formed during their entire academic careers. Thus the quantitative data revealed student subject interest as a value of their cumulative years of schooling, although years of experience have not been a significant factor in the relationship between academic achievement and student subject interest (Schiefele, et al., 1992). In contrast, the qualitative findings from the student focus groups reported changes in student subject interest during the immediate experience in the classrooms under investigation. Because the major focus of this study was to examine the effect of teacher interest on student subject interest, the composite focus group data yielded a fascinating comparative example of students who were part of both the English and the social studies Advanced Placement courses. The contrast between their experiences is presented here before proceeding to a discussion of the general findings.

A Contrast in Student Subject Interest

Although the focus group participants were randomly selected within a stratified sample (duplicating the demographic distribution within each classroom), two students with varying levels of interest participated in the AP social studies focus group as well as the AP English focus group. Thus their collective experiences within the two classes have been combined to provide a contrasting portrait of how student subject interest can depend on the teachers' expression of subject interest. Both students were Caucasian, one male and the other female. The female initially had high levels of interest in English, but

low in social studies; the male had medium interest in English, and high interest in social studies. Seven months later at the time of the research project, there was no change in the female's low social studies interest rating, but the male had improved in English—moving from medium to a high level of interest.

When entering the English class, the male had not known what to expect, but now evaluated the class as being "better than I had anticipated." He had become really interested. Both students commented on the Ms. B's dedication to her students, citing examples of her availability for conversations or extra help. Their appreciation for any piece of literature had grown because they were given ample opportunities to talk about topics until each student was individually satisfied with his/her level of learning. They both trusted Ms. B to cover lessons in-depth and navigate them through any areas of confusion. They also commented on her trust in their self-assessments of understanding. They appreciated her flexible scheduling and confidence in letting their conversations guide the next day's events.

The teacher's specific instructions in content analysis had taught them to support any personal contentions with examples from the text. Thus they were able to think logically and clearly about controversial issues—and to exceptionally demonstrate their thoughts in written form. Both students also commented on Ms. B's giving encouragement to explore areas beyond their normal cognitive boundaries—or to stay with their existing line of thought if they saw merit in such reasoning. The female student described her as alive, and the male student spoke fondly of Ms. B's supporting his recent pursuit of an interest in philosophy. In general, their experiences in forming what Dewey

(1899) might have termed "undivided" interests in English were extremely positive, in contrast to their experience in social studies.

When asked how their success in Ms. B's class had affected their performance in other classrooms, the female asserted there was so much to learn about in government, but because of the busy work, "I think I'm really skipping out." Although she had agreed Mr. C could really be "passionate about the subject," those kinds of responses were dependent upon student provocation, rather than teacher intent. Unlike their lengthy descriptions of Ms. B, comments about Mr. C were brief and devoid of emotional enthusiasm. Even the male student, whose interest in the subject had remained high, commented that he did not invest time in the requisite text material, which lulled the female to sleep. He summarized Mr. B's class as being a lecture format, and he did not even like doing the supplemental *Newsweek* reviews. To this student, the major emphasis in social studies appeared to be on covering everything in anticipation of the final AP test.

Thus, for both students the contrast between the two courses seemed to be significant. Having had the opportunity to confidently express their own opinions and perceptions of the content matter in English and to acquire skills for "unpacking" the content, the lack of such experiences in the social studies class was especially frustrating. In one classroom, the teacher interest led the learning process. In the other classroom, the curricular mandates led the learning process and seemed to restrain the teacher's natural enthusiasm for the subject matter. Instead, their abilities were channeled into unchallenging tasks, which were uniformly repeated week after week over the entire

school year. Although Mr. C provided an atmosphere where students could self-direct their management of the material, his assignments did not permit their exploration of the topics in a way that challenged their critical thinking processes, nor were students able to express any emotional regard for the content. In short, they seemed unmotivated to invest more than a minimal effort in Mr. C's course. Therefore, students who had experienced the fullness of an interest in Ms. B's class were unable to achieve any connections with the content in Mr. C's classroom. As such, this example further reinforces the finding that teacher interest supports the growth of student subject interest.

Mandated Curricular Context

Before discussing how teachers engage student interest in a curriculum that is mandated by the local school district, it is important to address the context in which the curriculum was designed. To represent the implications of such decisions, it seemed appropriate to relate this discussion to Bronfenbrenner's (1977) ecology of human development. Within that ecological framework, four environmental systems exist that are topologically nested inside each other. The smallest system within the structure is a microsystem, defined as "a place with particular physical features in which the participants engage in particular activities in particular roles for particular periods of time" (p. 514). Within the context of this research study, the microsystem is the classroom where students interact with teachers to acquire subject interest in the assigned content area.

This microsystem is also part of a mesosystem (i.e., the school), where the student forms interrelations within other classrooms. Furthermore, the school is a unit within the

exosystem (school district), which impinges upon the individual school where the student attends. These structures "influence, delimit, or even determine what goes on" (p. 515) in the immediate setting. Finally, all three of these structures are part of the largest structure, the macrosystem, which could represent the state educational system.

Thus the state's enforcement (under federal policies) of proficiency testing has affected curricular policies in the district, the school, and the classroom. Therefore, every teacher and student interaction with the course content has been shaped by those decisions. Although it is beyond the scope of this research project to determine the effect of proficiency testing and mandatory curricular policies upon the formation of student subject interest, the evidence in this research study strongly indicated that the mandated policies of the district have indeed affected the teacher's expressions of subject and student interest. This effect indirectly must alter student subject interest (as has been demonstrated in the previous example with the two students in both AP classes). Each teacher responded differently to the challenge of those mandated restrictions, but none of the teachers were able to design their formal curriculum around student interests or co-negotiate the curriculum with their students. Thus the burden for engaging student subject interest in the content shifted from an emphasis on the curriculum to the teachers' instructional practices and the teacher's own expressions of subject interest and interest in the students.

Instructional Practices and Student Subject Interest

All of the focus group students (n=28) agreed that their textbooks were boring. Therefore, in order for a student to form an attachment with the content in these

classrooms, the teachers depended upon instructional practices that were related to student interest. The literature contained citations about instructional practices relating to student interest, but they were presented as general tools. As such, these tools are effective if they facilitate connections with the content. Their effectiveness is diminished if students form attachments with the tool itself, and never connect with the content. It is also important to note that the teachers' instructional practices were not restricted by administrative policies. Thus each teacher was able to freely choose practices that represented his/her own interests as well as those of the students.

Of the six instructional practices that were featured in this project, five had already been featured in the interest literature (i.e., discussions, authentic learning, feedback, nurturing environments, and teaching for talent). Each teacher implemented the practices differently depending upon their personal preferences and the students' responses. For example, Ms. B used discussions to help students unearth meaning in the literature, whereas Mr. C expected students to initiate these conversations. The English teachers utilized the sixth practice, integrated learning, to set the literature within a historical and sociological context. Although the students did relate to these instructional practices to their interest in the content, the data indicated that the most significant impact on student subject interest was related to the teachers' own expressions of interest.

Teacher Interest and Student Subject Interest

Not only did teacher interest impact the strength of student subject interest (low, medium, high), but it also seemed to determine the form of student subject interest that was generally displayed in each setting. For example, when teachers displayed an

enthusiastic enjoyment of the subject, student interest consisted of affective components conveyed by such terms as like, love, and excitement. In the classrooms where emotional interest was strongly expressed, students also exhibited complex cognitive interests. They moved beyond superficial forms of analysis to acquire understanding rather than declarative knowledge. As they played mental games with the content, they also creatively restructured concepts and forged new associations. Furthermore, they welcomed strenuous evaluations and the opportunity to improve their skills. As their abilities were challenged, their vocabulary increased and they acquired more written and verbal forms of expression. In sum, the teachers' display of subject interest seemed to open the door for students to forge similar attachments with the content.

If the teacher's interest in the content was primarily focused on helping students perform by passing the test or the course, the content was not appreciated for its inherent qualities. Instead, the students looked upon their requisite tasks as superficially challenging and invested minimal effort into processing the material. They completed the volume of assignments, but boasted of producing quantity, not quality in order to fulfill the requirements. Furthermore, they acquired simple declarative knowledge rather than formulating reflective insights. It was difficult to assess whether the students were becoming attached to the content or simply responding to the pressure to perform.

Disconfirming Evidence

Initially, I found the data from the social studies investigation to be a large body of disconfirming evidence, because it was so unclear why students chose to nominate the social studies instructor. Even when students criticized the time devoted to busy work in

his classroom, levels of subject interest increased among the regular students. More specifically, their positive remarks (in both course levels) focused on the absence of pressure in his classroom, the fact that "he's not always in your face…he's not going to bug you or make you do something you don't want to do." They valued his structure, which put the responsibility on them to perform, and they appreciated his easy requirements.

So what appeared to me as an unnaturally quiet atmosphere devoted to busy work was a haven of peace for the students where they could complete their assignments during class time. Their responses also indicated that they were under considerable pressure in other classes to complete what they considered to be excessive volumes of assignments. Since many students on the open-ended survey questions declared that Mr. C's content matter (U. S. government) was interesting and fun, perhaps their levels of subject interest were also related to the content itself.

In addition to this puzzling body of information, it was also evident that in a student body representing 41 different countries, no reference was made to ethnic differences in any of the classrooms where I observed. Nor did the teachers speak of using multicultural approaches in generating student interest in their respective content areas, despite my frequently giving them opportunities to mention any other connections to student interest. Such a glaring absence can also indicate that the formal curriculum of core courses does not include connecting with students' cultural backgrounds and interests. Perhaps a system's mandated curriculum cannot even represent the diversity within one student body.

General Comments

Even when a teacher is both interested and knowledgeable (as all three teachers demonstrated and self-reported), students' level of interest in the same subject can vary along a continuum ranging from disinterest to undivided interest. Rathunde (1993) described the latter student as being both engrossed in the labor and enamored with the joy of learning. Even the most positive student in Mr. C's AP social studies class could not describe his feelings for the subject as being "passionate." However, a condition of undivided interest seemed to be evident in all of the students in Ms. B's focus group. One student supported this conclusion with the following statement.

> I know there are people here whose favorite subject is not necessarily English—they like science and other stuff more. It's just the way that the class is taught and everything that draws them to this classroom specifically. And it might motivate people to appreciate English more as a subject. But I know that there are people in the class whose favorite subject might be science, but they like Ms. B's class more than the science class they have right now.

Essentially, this single comment directly summarized how effectively Ms. B was able to positively impact the development of her students' subject interest, in spite of the mandated context in which she taught. Although Ms. B fully acknowledged the limitations of those restrictions, she seemed unencumbered by their restrictions in her teaching. With unbounded enthusiasm, she was able to lead her students beyond the test-driven paradigm's paddock into territory where the students' thoughts ran freely. Additionally, they were still able to pass the assigned tests, but they were not limited to the requisite material.

Her ability to converge and excite student interest in her subject was confirmed by the statistical findings (ANOVA) as well as the qualitative findings. Regardless of the quantity of years they had been in her classroom, students exuded confidence in their abilities to pass the AP English test and to perform with excellence in their future college courses. It appeared that their student subject interest seemed to be resting upon the strength of her own interest in the subject, and her interest in the students. Thus she not only modeled an integrated and cohesive interest, she was also able to elicit similar responses from her students. One student described Ms. B as making the process so personal that "you develop a very…I guess the best word is relationship, a very personal relationship with the book." I would suggest that the students had also formed a very personal relationship with the "author" of their classroom, and as such, used her interest for the content to form the channels for their own subject interest.

Thus my initial conceptualization of the relationship between teacher, content, and student in Chapter 1 was restructured by these findings. Instead of the students forming attachments with the subject, they seemed to form connections with the content as it was expressed by the teachers through their instructional practices, their own levels of subject interest, and their levels of interest in the student. As such, when the direct content interest expressed by their teachers contained elements of knowledge, value, effort, and joy, students used the teacher's interest to support their own interest in the content.

Implications of the Findings

Five primary applications were implied by these findings. First, the findings pointed to the importance of teacher interest for supporting the development of student interest. As conceptualized in Chapter 1, if the teacher's own level of interest was even remotely related to student interest, information about what teacher interest consisted of and its role in forming person-object relationships of interest was necessary for understanding the process of becoming interested. Although a teacher's role in student subject interest has been briefly acknowledged in the literature (e.g., Sjoberg, 1984), teacher interest has not been well defined or investigated empirically. Thus this study added substance to the concept of teacher interest by describing its components and illuminating its relationship with student subject interest.

As such, teacher interest was a prominent factor in the development of student subject matter interest. Furthermore, the curriculum became interesting to students as it was infused with the teacher's own subject interest. Even when students rated the subject as being moderately interesting, students still depended upon teacher subject interest to make their own classroom experience more interesting. Thus the direct interest of teachers has a powerful mediating effect on student subject interest (Dewey, 1899). In some respects, subject interest (as exemplified by subject knowledge, caring for the subject, and esteeming the value of the subject) can become so integrated with the teacher's identity that the separation between content and teacher is indistinguishable to students.

If teachers acknowledge their love affair with the content, they also model a level of caring for the content that enhances the native interest within the subject itself (Dewey, 1913). Instead of reading the textbook in Ms. B's class, for example, they were reading the content in her. As these teachers became personally invested in the subject matter, they came closer to exhibiting the native interest in all subjects (Dewey, 1913). Ms. B seemed to capitalize on her students' abilities to form deep attachments with a subject matter by demonstrating her own love affair with the content.

Secondly, it appeared that even in a test-driven curriculum, the teacher's perception of curricular restrictions has a dramatic effect on their handling of the curriculum, which inevitably affects the expression of their interest in the content. Consequently, how the teacher evaluates and approaches their curricular options (e.g., with creativity or resignation) seems to construct boundaries around the development of student interest. When the teacher views the situation as being totally predetermined by external forces, students have fewer options within the classroom. In contrast, another teacher can view the same situation through the lenses of possibility and give students permission to push the boundaries of learning beyond the simple requirements imposed by curricular standards.

Third, although the term, interest, is commonly acknowledged as being equivalent to intrinsic motivation (Schiefele & Csikszentmihalyi, 1994), the strength of a subject interest seems to depend upon forming connections with cognition, affection, and conation. If teachers display these types of relationships with the content and facilitate those connections in their classrooms, students are more likely to develop interests that

entail more than catching the content for a brief period of time (Mitchell, 1993). As such, no teacher in this study relied on artificial inducements to engage student interest (Dewey, 1899). Instead they appealed to the inherent value of their subjects and reflected high personal esteem for the subject.

Fourth, one other consistent internal thread within the classrooms was a perception from the students of having a measure of autonomy (Lewalter & Krapp, 2001). Although it took decidedly different forms in each classroom (instructional practices, research and essay topics, pacing of work on assignments), it was present in each learning environment. The students and teachers alike identified these areas as contributing to the formation of student interest.

Finally, the findings also strongly pointed to the need for teacher/student discourse patterns as supporting student interest. Such discussions seemed valuable contributors to the process of interest development, even when they could have been viewed as targeting tangential issues. Although Turner and associates (1998) attributed discourse with creating a context for involvement in mathematics, the application may be quite broader. The students mentioned liking or wanting discussions nearly 40 times in their Phase 2 open-ended questions, which suggests they have an actual psychological or relational need for dialogues with adults. As such, Mr. C may have misread students' lack of initiative as disinterest, when it actually represented their ineptness at formulating appropriate questions. It is also possible that his decision to function within the curricular mandates restrained his own interest in initiating discussions.

Theoretical Implications

Four major theoretical implications are apparent in these findings. The first relates to the categories of interest that have appeared in the literature over the past 20 years. Such terms as individual (or personal) and situational are not always appropriately representative of Dewey's original conceptualization of interest, although Dewey is usually cited as a cornerstone in those researchers' theories of interest (Hidi, 1992; Renninger, 1992). In some respects, these definitions have limited the understanding of interest as researchers seem unable to integrate the two categories into a cohesive frame of reference that permits developmental interactions between both. This highlights the need for consistent and yet fluid terms within the construct of interest.

Second, although the majority of the literature on curriculum and interest tended to be discussions where the curriculum was student-centered around an existing individual student interest, those types of experiences were not present in this research site. The data from the third student measure (individual area of interest) indicated that students care about topics that may be unrelated to requisite courses. Yet these topic interests still represent motivational power that can propel the learning of other subjects or topics. It seems fair to say that the district's current emphasis on a test-driven curriculum has not encouraged interest-driven options. The experiences of the middle-school teacher in the pilot study indicated that in lower grades, intense pressure to perform has thrust instructional emphases on direct instruction to the exclusion of other practices (e.g., discovery methods) that could unleash other sources of empowered learning. Unfortunately, such an emphasis also seemed to preclude students experiencing

"serious play" (Rathunde, 1992), which is a combination of play and work, which should theoretically be visible in any subject and at any grade level where a student can form connections with the content.

Third, both the qualitative and quantitative findings highlighted the importance of teacher subject interest for developing student subject interest. But they also addressed the significance of being interested in the students. Both of these interest components belong in a teacher education program. An interest for the subject, however, is not equivalent to acquiring knowledge about the subject. Apparently every pre-service teacher needs opportunities to identify, express, and grow in levels of caring for the content as they likely reflect aspects of their core identity. Caring for the content is related to acquiring content knowledge (Alexander et al., 1995; Renninger, 1992), but neither is a substitute for the other. If the development of interest is facilitated by repetitive moments of reflecting on the content's inherent value to the teacher and student's future purposes or objectives (Dewey, 1916), it is likely that teacher education programs could facilitate the development of subject interest as they impart content knowledge.

An initial step toward preparing pre-service teachers for supporting student interest could include administering them an interest survey of the topics that should be covered by the curriculum. If they are asked to rate their interests and knowledge in those subjects, the results might be surprising. Once the content areas have been identified that represent a disinterest for these future instructors, they could develop strategies on how to overcome their lack of subject interest. At the same time, the pre-service teachers could

speculate on how their future students might rate their interest on the same topics and begin exploring instructional strategies that could facilitate the process of becoming interested. Such tasks might necessitate acquiring more information about the daily lives of people from that region, for example, or relating the information to their future students' own experiences. It would also be important to instruct these future instructors on the effect of using artificial inducements versus appealing to the naturally interesting attributes of a topic. Furthermore, teachers in any content area can benefit from learning about the instructional practices that relate to student subject interest (e. g., scaffolding, discussions)

Finally, the importance of teachers and students forming person-object relationships with a content area naturally leads to a discussion about curriculum design. Ms. B referred to her frustration with the lack of subjectivity in textbooks. From her perspective, objective presentations prevented students from forming caring relationships with the content. Her perceptions sharply exposed a significant problem inherently present in any classroom setting. Can it be possible for a textbook author to act as the mediator of an interest? Perhaps when teacher interest is absent or underrepresented in classrooms, impersonal presentations of the content (i.e., textbooks) cannot facilitate the development of student subject interest. Apparently student subject interest requires the presence of a caring, valuing, knowledgeable person. It then becomes the classroom teacher's responsibility to penetrate the objectivity within the textbook and the district's written documents by displaying their interest for the content. In this way, the teachers'

interest becomes the bridge or scaffold on which the students can care for the subject matter. Even if eminently qualified curricular specialists design the curriculum, teachers must have proprietary opportunities to display their interest in the content.

Research Implications

A listing of future research projects that relate to this subject begins with the findings on student perceptions of teacher effectiveness and interest. As the two factors were highly correlated, the relationship should also be examined within other populations (e.g., pre-service teachers or all teachers in one school setting). Furthermore, as the literature has repeatedly related student interest to academic achievement (Schiefele, Krapp, & Winteler, 1992), the finding that teacher interest predicted student interest may also indicate that teacher interest is likewise a predictive of student academic achievement. This relationship should be investigated at all levels of academic performance. As the findings exemplified initial attempts to understand the construct of teacher interest, more research should examine this category more broadly and more deeply, especially to identify the interactions that teacher interest may have with other constructs in teacher education.

Next, a follow-up study with Ms. B's regular students would provide an interesting contrast between her instructional practices and expressions of teacher interest in Advanced Placement courses versus regular classroom settings. It would also be helpful to conduct a similar investigation in well-structured domains, such as mathematics and science, in order to compare the results with the findings from these teachers. Additionally, this study could be repeated in other settings (as originally

conceived). Those locations could vary in curriculum emphasis (e.g., vocational, performing arts) or represent private, public, and charter school settings.

Furthermore, although this was a cross-sectional study, the effect of teacher interest on student subject interest also needs to be examined in a longitudinal study. It would be ideal to track students throughout a complete quarter, noting developmental changes, especially as they relate to time and increased content knowledge. This information is fundamentally important for breaking down the barriers of misunderstanding between present conceptualizations of situational and individual interest.

Lastly, it seems quite possible to replicate this study on a college campus. Every year, wherever faculty and graduate teaching assistants are recognized with teaching awards, there is an opportunity to determine how student subject interest has been impacted by the interest of their teachers. This latter study would be even more fascinating because many faculty have not taken educational courses and yet seem to win accolades within their profession. How they are able to accomplish this feat may be partially attributable to their own subject interest.

Conclusion

It is unlikely that the development of student subject interest is attributable to any single factor. It was apparent, however, that subject interest was strengthened by demonstrations of teacher interest. As such, this research project found that student interest responded to expressions of teacher interest in the subject. An interested teacher actively pursues a relationship with a subject because he or she is motivated by emotional

value (Dewey, 1899/1913). Furthermore, teacher interest can also be defined as a relationship between a teacher and students. Teacher interest in the subject (or in the students) is likely to be a direct interest (Dewey, 1899) or an individual interest (Renninger, 1992).

It also seemed apparent that teacher interest in the subject (or in the students) can contain any combination of 3 components (cognition, affect, and conation), but when all of the components are present, the quality of the interest is especially rich and deep, provoking similar responses in the students. Moreover, teacher interest in the subject (or the students) is likely to be expressed through a teacher's curricular choices and instructional practices. However, in a mandated curricular context, the development of student subject interest seems unrelated to the teacher's curricular choices, and is more dependent upon the teacher's instructional practices or the quality of the teacher interest.

The students in this study did not take on the characteristics of a textbook or the content matter. Instead, it appeared that the content area, instructional practices, and components of teacher interest were used to form connections of interest between the teacher and student. Even when the curriculum is mandated by the district, the students still formed relationships of interest with the teacher through the content. Thus it seems rather important to encourage teachers to be themselves and let students read the content that is written on their hearts as well as what is represented inside the textbook.

APPENDIX A

TEACHER NOMINATION MEASURE-PHASE 1

Teacher Nomination Measure ***Please answer every question. There are no right or wrong answers.***

1. CIRCLE YOUR GENDER: Male Female 2. YOUR AGE _____

3. CIRCLE YOUR ETHNIC GROUP: African American Asian Caucasian (white) Hispanic Mixed (explain what mix)_____

A. Recommend any high school teacher in one of the 4 core subjects (English, science, social studies or mathematics) who helped you learn AND become interested in his/her course.

Name of teacher _____ Name of course_____

Subject (Circle): *English science social studies mathematics* Grade in this course_____

B. Read the following statements and give your opinion about the teacher you just recommended. Circle the correct number about the teacher using the scale below.

1 Strongly Disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree

1. The teacher was enthusiastic about this subject.	1	2	3	4	5
2. The teacher was organized.	1	2	3	4	5
3. The teacher made the subject meaningful.	1	2	3	4	5
4. The teacher considered this subject to be important.	1	2	3	4	5
5. The teacher's presentations were clear.	1	2	3	4	5
6. The teacher was accepting of students.	1	2	3	4	5
7. The teacher was excited about this subject.	1	2	3	4	5
8. The teacher's efforts stimulated and challenged my thinking.	1	2	3	4	5
9. The teacher worked hard in this class.	1	2	3	4	5
10. The teacher seemed to be having fun in this course.	1	2	3	4	5
11. The teacher was interested in the subject.	1	2	3	4	5
12. The teacher kept me engaged in the coursework.	1	2	3	4	5
13. The teacher enjoyed this subject.	1	2	3	4	5
14. The teacher cared about students.	1	2	3	4	5
15. The teacher's lessons kept my attention.	1	2	3	4	5
16. The teacher demonstrated and encouraged creative thinking.	1	2	3	4	5
17. The teacher was knowledgeable in this subject.	1	2	3	4	5
18. On the back, briefly describe any additional reason/s why you nominated this teacher (e.g., practices).					

APPENDIX B

SUBJECT INTEREST MEASURE-PHASE 2

ABOUT ENGLISH

Directions: Read the following statements and circle the number that best describes <u>your</u> present attitude about the subject. Please answer every question. There are no right or wrong answers.

1 Strongly Disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree

1. I enjoy learning about this subject.	1	2	3	4	5
2. I want to learn more about this subject.	1	2	3	4	5
3. I get involved in this subject.	1	2	3	4	5
4. Knowing this subject will be useful in my future job.	1	2	3	4	5
5. In this subject, I am challenged to work hard.	1	2	3	4	5
6. This is my best subject.	1	2	3	4	5
7. I like and am attracted to many of the topics in this subject.	1	2	3	4	5
8. The amount of effort it takes for me to learn in this subject is worthwhile.	1	2	3	4	5
9. I usually pay close attention in classes about this subject.	1	2	3	4	5
10. I already know a lot about this subject.	1	2	3	4	5
11. Learning about this subject can be fun.	1	2	3	4	5
12. It is important for me to learn this subject.	1	2	3	4	5
13. I am very interested in this subject.	1	2	3	4	5
14. I consider this subject to be meaningful.	1	2	3	4	5

15. What instructional practices (e.g., discussions, journals) have helped or might help you become a better learner in this subject? Have any instructional practices interfered with your learning of this subject? Please be sure to <u>label clearly whether they helped or interfered.</u>

16. What changes to the content of your English classes would help your learning improve in this subject?

17. On the back, elaborate on anything else that would explain your ratings of this subject.

APPENDIX C

TOPIC INTEREST MEASURE-PHASE 2

INDIVIDUAL AREA OF INTEREST

Directions: Name one subject or activity that you are strongly interested in (for example: dancing, baseball, drawing cartoons, computer programming). _____
Rate how much you agree with the following statements about the topic or activity you have just named. Use the scale below and circle the number that best describes your attitude. Please answer every question. There are no right or wrong answers.

1 **Strongly Disagree**	**2** **Disagree**	**3** **Undecided**	**4** **Agree**	**5** **Strongly Agree**

1. I already know a lot about this subject/activity.
1 2 3 4 5

2. As I do this activity or learn about this subject in my classes at school, I am challenged to improve.
1 2 3 4 5

3. I have learned about this subject/activity in many different classes.
1 2 3 4 5

4. I plan to use this activity or subject in my future job when I finish going to school.
1 2 3 4 5

5. When I'm learning about this subject or doing this activity, time passes by very quickly because I enjoy it.
1 2 3 4 5

6. I work hard to learn about this subject/activity.
1 2 3 4 5

7. I value every opportunity I have to use this subject or practice doing this activity, in or outside of school.
1 2 3 4 5

8. I intend to take more classes about this subject/activity.
1 2 3 4 5

9. This subject/activity is important to me.
1 2 3 4 5

10. I am enthusiastic about this subject/activity.
1 2 3 4 5

11. Who has supported your learning of this subject/activity?_____

12. How long have you been learning about this subject/activity?_____

13. Describe other situations where you have learned about this subject/activity.

14. On the back, briefly describe any additional information about how/why you are interested in this subject.

APPENDIX D

FIRST INTERVIEW WITH TEACHERS-PHASE 3

INITIAL QUESTIONS FOR FIRST INTERVIEW WITH TEACHERS

1. How long have you been teaching? this subject? this grade level?
2. How would you rate your interest in this subject and the curriculum—low, medium, high? In teaching? Why those levels?
3. What helps you maintain or grow in your own levels of interest for this subject? For teaching? For the students?
4. How do the students know you're interested?
5. Are students interested in this class? Why or why not?
6. Dealing with students who don't seem interested in learning can be a real challenge. What are some of the things you try to do to reach these students? Have they worked? What would you do differently?
7. What about their own interests? How do they help or hinder the learning of this content?
8. Is it realistically possible for students' individual interests to be integrated into this content? How would it be done?
9. What could be done to help you get students more interested and able to learn in this class?

APPENDIX E

OBSERVATION DATA LOGS

Observation form:

Teacher _____ Period _____
Date_____ Students present _____
Subject of lesson _____

1. General description of the classroom environment noting physical arrangements, sounds, aromas, and displays.

Rating Scale

Observers choose a number between 1 and 5. Please list specific examples of this behavior below each rating. 1=There are no observable examples of this behavior.
5=There are clear examples of this behavior observed.

A. Teacher characteristics:

1. Teacher is interested in students—caring, warm, accepting, nurturing, supportive, high regard for students; links are made to students' prior experiences & reflections

   1 2 3 4 5

2. Teacher enjoys students—smile, laugh, has fun.

   1 2 3 4 5

3. Teacher models interest in subject—feels positive about subject (enthusiastic, excited, positive comments about topics, enjoyment), work hard, demonstrates being knowledgeable, values subject (importance, meaningful, worthwhile, useful).

   1 2 3 4 5

B. Curricular choices:

1. Students' interests are queried, recorded, and utilized in selecting curricular topics.

   1 2 3 4 5

2. Student interests are the focus of curriculum.

   1 2 3 4 5

3. Students are given choices about what is studied; suggestions are welcomed.

   1 2 3 4 5

C. Teacher instructional practices:

1. Students are given choices (how lesson is learned, what they like, when to hand in assignments, defined academic goals).
   1 2 3 4 5

2. Activities and practices are varied.
   1 2 3 4 5

3. Time is allotted to free exploration.
   1 2 3 4 5

4. Distractions are eliminated; presentations are clear and organized.
   1 2 3 4 5

5. Activities and topics are related to real world and involve hands-on learning.
   1 2 3 4 5

6. Students share responsibility for solving problems and negotiating understanding.
   1 2 3 4 5

7. Relating to other students is facilitated by practices—cooperative learning, discussions
   1 2 3 4 5

8. Links are made between the information and their self-concept.
   1 2 3 4 5

9. Students have adequate time to work—aren't rushed; able to move around room.
   1 2 3 4 5

10. Creative thinking is encouraged—alternative forms and ways to approach subject.
    1 2 3 4 5

11. Students are given quality feedback; interests are acknowledged in discourse.
    1 2 3 4 5

APPENDIX F

WRAP UP INTERVIEWS WITH TEACHER-PHASE 3

Final wrap up interview with Ms. B

1. Were my observational visits representative of the semester? Are there any other instructional practices that I didn't get to witness that you want to share with me? How disruptive was my behavior to the students?

2. In the open-ended questions on the survey, the students in both English & social studies consistently & most frequently mentioned that discussions help them learn. How would you respond to that? How do you get them participating and trained in that?

3. Also in the survey, they spoke about the positive benefits of the timed writings. How do they work?

4. The students were really complimentary about your ability to be organized and yet flexible, adjusting to their level of understanding. How are you able to do that and still cover the required content and prepare them for the AP exam?

5. Another thing they mentioned was how your presentation of the context of each reading really keeps them interested. It was wonderful to hear. You seem to have successfully conquered their tendencies to prefer a 17-minute video than spending 3 days reading a book. How did you achieve that?

6. How do you know they're tracking with your vocabulary? Thought processes, especially in the beginning of the year when you have new students who may not be so facile in thinking?

7. My friend F & I were both interested in the fact that you can be so specific about critiquing their writing, applying strict standards, & yet they seem to be inspired by it rather than disheartened or discouraged.

8. In one of my classes, we've talked about the different emphases of behaviorism, cognition, and the social environment. Are any of these more appropriate for teaching your content & students?

9. Where did you get so convicted about the importance of your enthusiasm in their learning?

Final wrap up interview with Ms. A

1. Were my observational visits representative of the semester? Are there any other instructional practices that I didn't get to witness that you want to tell me about? How disruptive was my behavior to the students?

2. In the open-ended questions on the survey, the students in both English & social studies consistently & most frequently mentioned that discussions help them learn. How would you respond to that? How do you get them participating?

3. Also in the survey, those who evaluated journal writing as helping to learn outnumbered those who complained about it—3 to 1—although there was a suggestion that they be more frequently related to the topic of study. But aren't they able to choose what they write about? Some students felt they equally shared in making decisions with you and the content. Do you agree/disagree?

4. A number of students were positive about liking poetry. I found that refreshing because it didn't happen for me until I got to college and a prof made it come alive for me. Can you give me any examples of how you helped them become interested in poetry?

5. I read one comment that the English curriculum is repetitive every year. Does it cover similar content throughout the 4 years?

6. I'm assuming that students had read the Canterbury Tales b4 watching the videos. How do you get around the fact that they would rather watch a 17-minute video than spend 3 days reading the book?

7. How has your instruction changed in the last 5 years? In one of my classes, we've talked about the different emphases of behaviorism, cognition, and the social environment. Are any of these more appropriate for teaching your content & students?

8. In the AP groups, they seemed to really like timed writings. Could they work in any English course?

9. Finally, if you had no limits on what you could teach, how would your curriculum change?

Wrap-up interview with Mr. C

1. Many students mentioned on their surveys that they really like discussions. And you seem to have a lot of knowledge about the subject. How do you handle discussions? Do you invite them to participate in discussions?

2. From your years of experience, how can you involve your students in government class?

3. The students also mentioned that they like the fact that they know what's expected of them, but you don't put a lot of pressure on them by nagging them. Can you elaborate on that?

4. I know I've only been here a couple weeks; is there anything about your instruction that I haven't seen during my short time here that you would like to share with me?

APPENDIX G

FOCUS GROUP QUESTIONS FOR STUDENTS-PHASE 3

ENGLISH 12 FOCUS GROUP

Thank you all for coming. Basically this is just a wrap-up & I would like to get your input on how you get interested in a subject.

1. When you started this class in January, what were your interest levels? LO MED HIGH

   How has your interest level changed now? If it hasn't changed, that's fine too. LO MED HIGH

   Why have they changed/not changed?

2. Some of the students on the survey have mentioned if the teacher was interested, they are more likely to get interested. What sort of clues let you know your teacher is interested? In the curriculum or the content? In the profession of teaching? In students? On the surveys, a lot of people mentioned they liked the discussions. Do you all feel that same way? Is there anything that helps you get involved in the discussions?

3. Is there anything about the curriculum or the book that really got you excited?

4. Any topics you'd like to have spent more time exploring?

5. Are there any activities that have helped you get interested in this subject?

6. Has this course affected your learning of other subjects?

7. I've only been here for a couple of weeks. Is there anything else that would help me understand how you've learned in this class specifically—

8. Can you describe any classes you've really been interested in and what the teacher did that helped?

9. Each of you answered in the survey about a subject or activity that you really like to do. Does your teacher of this class know you like that subject/activity? Is there any chance any of that stuff could be integrated into your classrooms?

AP ENGLISH FOCUS GROUP

Let's spend some time talking just about your AP lit class. I hope you all will participate, but let each person talk one at a time for the sake of the tape recording.

1. AP English is something you choose to be in, right? When you started in September, what were your interest levels? Does having a choice make a difference?

LO MED HIGH

2. What are your interest levels now? Why have they changed/not changed?

LO MED HIGH

3. Some of the students have mentioned if the teacher is interested, they are more likely to get interested. What sort of clues let you know your teacher is interested? In the curriculum or the content? In the profession of teaching? In students?

4. Is there anything about the curriculum or the book that really gets you excited? Any topics you'd like to spend more time exploring?

5. I've only been in your class a week or so. I've noticed that Ms. B spends a lot of time making comments, analyzing what you read, and asking you questions. How does that affect your interest levels and help you learn? What other activities in this class--like have helped you learn and stay interested in this class? In the survey you filled out, a lot of people mentioned they like the discussions. Can you give me an example of how they work? Do you get to choose the topics?

6. Has this course affected your learning of other subjects?

7. I've only been here for a couple of weeks. Is there anything else that would help me understand how you've learned or why you're interested in this class?

8. For those of you who aren't so interested in this class, can you describe a class you've really been interested in and if there was anything special that the teacher did to help you learn & get interested in that class?

9. Each of you answered a questionnaire about a subject or activity that you really like to do. Does your teacher of this class know you like that subject/activity? How could it be combined with this class?

REGULAR SOCIAL STUDIES FOCUS GROUP:

1. When you started this class in January, what were your interest levels?
   LO MED HIGH

   What are your interest levels now? LO MED HIGH

   Why have they changed/not changed?

2. Some of the students have mentioned if the teacher is interested, they are more likely to get interested. What sort of clues let you know your teacher is interested? In the curriculum or the content? In the profession of teaching? In students?

3. Is there anything about the curriculum or the book that really gets you excited? Any topics you'd like to have spent more time exploring?

4. I've only been in your class a week or so. I've noticed that Mr. B goes over each chapter with a review, you have critical thinking papers and opinion papers, etc. How does that affect your interest in the class and your learning? Are there any activities that he does that really help you get more interested? Is there anything you get to choose a topic in?

5. Has this course affected your learning of other subjects?

6. Can you describe any other classes you've really been interested in and if there was anything special that the teacher did to help you learn & get interested in that class?

7. Each of you answered a questionnaire about a subject or activity that you really like to do.

AP-GOVERNMENT FOCUS GROUP

Let's spend some time talking just about your AP government class.

1. I assume that you chose to be in it, right? Has that made a difference in your interest level? When you started, what were your interest levels? LO MED HIGH

    a. Have your interest levels changed?

2. How would you describe your teacher's interest level? In students? In the profession of teaching? So like what I've been observing over the last week, is that pretty normal for how the class is run?

3. Because I noticed that in some of the responses to the survey, a lot of people commented on the discussions, but I didn't know how they happened. So they have to be spontaneous?

4. Is there anything about the curriculum or the book that really gets you excited? Any topics you'd like to spend more time exploring?

5. I've only been in your class a week or so. I've noticed that Mr. B goes over each chapter with a review, you have critical thinking papers and opinion papers, Newsweek, etc.—the things listed on the board. Have they helped you learn & stay interested in this class? And how have they done it?

6. Has this course affected your learning of other subjects & if so, how? I didn't know if you might have picked up some strategies…

7. I've only been here for a couple of weeks. Is there anything else you'd like to tell me about this class that I haven't seen—some activities perhaps that I might have missed? Any debates or anything like that?

8. Have any of you really cared about a subject?

9. Each of you answered a questionnaire about a subject or activity that you really like to do. Does your teacher of this class know you like that subject/activity? Or combined it into their coursework for you?

APPENDIX H

APPROVAL NOTICES FROM HUMAN SUBJECTS COMMITTEE

BEHAVIORAL AND SOCIAL SCIENCES
INSTITUTIONAL REVIEW BOARD (IRB)
The Ohio State University

Office of Responsible Research Practices
[illegible]
Phone [illegible] FAX [illegible]

Research Involving Human Subjects
ACTION OF THE INSTITUTIONAL REVIEW BOARD

____	Full Committee Review	____	Original Review
X	Expedited Review	____	Continuing Review
		X	Amendment

With regard to the employment of human subjects in the proposed research protocol

2002B0183 **CREATIVE CURRICULUM: INTEGRATING STUDENT INTERESTS INTO CLASSROOM CONTENT, Anita Woolfolk Hoy, Joyce E. Long, Educational Policy & Leadership**

Request to amend the protocol as outlined in a letter dated December 17, 2002, was APPROVED by means of expedited review category [illegible] on December 19, 2002. The following revisions were approved: [illegible] of the pilot study involving an interview with a middle school teacher, administration of an interest survey to students of high school teachers who are being interviewed, addition of a focus group with high school students, and an addition of [illegible] subjects, bringing total enrollment to a maximum of 500.

COMMENT: The Institutional Review Board reminds the investigators to monitor enrollment as data are collected. Enrollment cannot exceed 500 without prior approval of the review board.

The Behavioral and Social Sciences IRB has taken the following action

X	APPROVED		DISAPPROVED
	APPROVED WITH CONDITIONS * * Conditions stated by the IRB have been met by the investigator and, therefore, the protocol is APPROVED	____	WAIVER OF WRITTEN CONSENT GRANTED

[illegible]

- No procedural changes may be made without prior review and approval from the IRB.
- You are reminded that you must promptly report any problems to the IRB.
- You are also reminded that the identity of the research participants must be kept confidential.
- It is the responsibility of the principal investigator to retain a copy of each signed consent form for at least three (3) years beyond the termination of the subject's participation in the proposed activity. Should the principal investigator leave the University, signed consent forms are to be transferred to the Human Subjects IRB for the required retention period.

Date: December 19, 2002 Signed: ____________________
Thomas E. Nygren, Chair

HS-025B (Rev. 2/94)

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