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RELATIONSHIP OF PERSONAL FACTORS AND CHANGE ORIENTATION TO THE ADOPTION OF INNOVATION BY TEACHERS IN ADULT BASIC EDUCATION

DISSERTATION

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

By
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*****

The Ohio State University

1982

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To Donna, Johnny and Maria who gave of their time for me to complete this research
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What research shows. In A Jozik (Ed.), Skills acquisitions and
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press.

Boulmetis, John, Job competency; Adult vocational instruction.
Berkley, California: Pitman Learning, 1980.

Boulmetis, John, "Making traditional the non-traditional", VocEd,
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iii</td>
</tr>
<tr>
<td>VITA</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>ix</td>
</tr>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Background</td>
<td>1</td>
</tr>
<tr>
<td>The Problem</td>
<td>5</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>7</td>
</tr>
<tr>
<td>Significance of the Problem</td>
<td>8</td>
</tr>
<tr>
<td>Statement of Purpose</td>
<td>10</td>
</tr>
<tr>
<td>Scope</td>
<td>11</td>
</tr>
<tr>
<td>Objectives</td>
<td>11</td>
</tr>
<tr>
<td>II. RELATED RESEARCH AND THEORY</td>
<td>13</td>
</tr>
<tr>
<td>Adult Basic Education</td>
<td>13</td>
</tr>
<tr>
<td>In-Service Education</td>
<td>18</td>
</tr>
<tr>
<td>Change</td>
<td>20</td>
</tr>
<tr>
<td>III. METHODOLOGY</td>
<td>34</td>
</tr>
<tr>
<td>Research Hypotheses</td>
<td>34</td>
</tr>
<tr>
<td>Population and Sample</td>
<td>35</td>
</tr>
<tr>
<td>Research Design</td>
<td>36</td>
</tr>
<tr>
<td>Data Analysis Plan</td>
<td>38</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>39</td>
</tr>
</tbody>
</table>
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Distribution of Rhode Island ABE Teachers by Years of Teaching Experience</td>
<td>51</td>
</tr>
<tr>
<td>2. Distribution of Rhode Island ABE Teachers by Years of ABE Teaching Experience</td>
<td>52</td>
</tr>
<tr>
<td>3. Distribution of Rhode Island ABE Teachers by ABE Teaching Responsibility</td>
<td>53</td>
</tr>
<tr>
<td>4. Distribution of Rhode Island ABE Teachers by Educational Level Completed</td>
<td>55</td>
</tr>
<tr>
<td>5. Distribution of Rhode Island ABE Teachers by Hours of In-Service Training Attended</td>
<td>56</td>
</tr>
<tr>
<td>6. Distribution of Rhode Island ABE Teachers by Age</td>
<td>57</td>
</tr>
<tr>
<td>7. Correlation Matrix of Personological Variables and ABE Teacher Change Orientation</td>
<td>62</td>
</tr>
<tr>
<td>8. Chi Square Test of ABE Teacher Change Orientation and ABE Subject Taught</td>
<td>63</td>
</tr>
<tr>
<td>9. Cross Tabulation of Program with ABE Teacher Change Orientation</td>
<td>65</td>
</tr>
<tr>
<td>10. Correlation Matrix of Personological Variables and ABE Teacher Innovation Adoption</td>
<td>67</td>
</tr>
<tr>
<td>11. Chi Square Test of ABE Teacher Innovation Adoption and ABE Subject Taught</td>
<td>68</td>
</tr>
<tr>
<td>12. Cross Tabulation of Program with ABE Teacher Innovation Adoption</td>
<td>70</td>
</tr>
<tr>
<td>13. Correlation of ABE Teacher Innovation and ABE Teacher Change Orientation</td>
<td>73</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The Adoptor Category Model</td>
<td>23</td>
</tr>
<tr>
<td>2.</td>
<td>Levels of Use Matrix</td>
<td>46</td>
</tr>
<tr>
<td>3.</td>
<td>Distribution of Change Orientation Scores</td>
<td>59</td>
</tr>
<tr>
<td>4.</td>
<td>Distribution of LoU Ratings</td>
<td>60</td>
</tr>
</tbody>
</table>
INTRODUCTION

Background

The dynamic forces of change in society as experienced today have such momentum that the gap between knowledge creation and knowledge utilization is gradually widening. Many writers are describing current needs for the rapid consumption of knowledge as parallel to a modern "throw-away society." People have had to adapt to situations in which knowledge must be assimilated and put to use before a full understanding of it has been developed. Moreover, people often must discard this recently acquired knowledge in favor of more up-to-date information before many have had the opportunity to digest and comprehend what has passed.

These forces of change are working with such speed that people in our society are unable to cope with present everyday life situations armed only with knowledge acquired six to ten years earlier. With respect to technological advances within the professions, the forces of change are also accelerated necessitating that a professional be in a state of constant renewal.

Because of these two points, the field of adult education is confronted with two interesting situations. First, it often falls upon or becomes the responsibility of adult educators to be the delivery mechanism for the flow of new knowledge to adults. Second,
there has been a proliferation of the technology used by adult educators in providing instruction to adults. Based on these situations the question can be asked whether the present forms of in-service and pre-service training for adult basic educators can effectively and efficiently provide them with the skills and knowledge they need to help the large number of ill-prepared adults learn to keep up with changes in society. A review of the adult education literature indicates that although adult educators tend to be well prepared and trained at entry level in some area other than adult education, training in adult education skills and processes is often neglected or negligible. This situation exists because educators are trained in other professional fields first and then "transformed" into adult educators. Since in-service training for adult educators occurs as an "add on" to training in other professional fields, it is an important component to an adult education enterprise.

The adult education movement was advanced significantly with the passage of the Adult Education Act of 1965. This Act provided substantial funds for the operation of programs for adults. The Act and its subsequent amendments, however, make monies available only to operate programs which have as a target population those adults with less than a high school education. Nevertheless, these programs have contributed new instructional techniques, methods, approaches and simple visibility to the field of adult education. Such Adult Education Act programs, generally called Adult Basic Education (ABE),
have monies available to

(1) set forth a program for the use of grants, ... which affords assurance of substantial progress with respect to all segments of the adult population,...;

(2) provide for the administration of such plan by the State educational agency;

(3) provide for cooperative arrangements between the State educational agency and the State health authority...;

(4) provide for the grants to public and private non-profit agencies for special projects, teacher-training, and research; (Adult Education Act, P.L. 91-230, 1974)

The last component has been a rather crucial one in that, as previously stated, many teachers engage in adult education instruction without a good working knowledge of the intricacies, nuances and technology of the field.

In-service training for adult educators is focused on providing information on new ideas, techniques, methods, materials. Each of these foci of in-service training contain important innovations. The innovations were developed to assist adult educators to perform their duties in a more effective and efficient manner. The literature on innovation use and adoption suggests that there are a number of variables which have direct bearing on the acceptance and/or use of an innovation by individuals. (Rogers, 1962; Rogers and Shoemaker, 1971; Russell, 1972)

Administrators of federally sponsored adult education programs are faced with an interesting situation regarding teacher training and staff development. Since the passage of the Adult Education Act
in 1965, the teacher training/staff development component of the Act has changed from being mandated as a national priority area to its status as one fundable activity among a number of discretionary or special projects. The decision to fund teacher training/staff development projects is left totally to the individual states. Boulmetis (1979) found in a study comparing ABE programs on a national level that of the special projects monies available to ABE programs, 27 percent of that small proportion of the states' total grant went to operate "other" forms of special projects which could include staff development/teacher training. Thus staff development and in-service training is viewed as an optional activity, at best, and more often as expendible. These state directors are faced with first finding a strong argument to support the funding of staff development activities and second attempting to identify methods of delivery which are cost efficient.

The state of in-service staff development for adult basic education teachers can be summarized by the following two statements. First, teacher training/staff development for ABE is focused on innovation diffusion. Teachers are provided with information on what is new in the field (i.e. methods, techniques, materials). Second, the funds available for teacher training/staff development are becoming increasingly more difficult to obtain. If the latter situation continues and teacher training/staff development is maintained as a desirable program function at a reduced funding level, then alternative delivery systems need to be designed.
These changes in the delivery system can focus on the mechanics of the training system or on those teachers being trained. The low- or no-cost option would be to leave the mechanics alone and attempt to do something with the trainees. The literature on change orientation of individuals indicates that there are personality attributes which identify the nature of a person's orientation towards change. This literature reports that some people are highly change oriented (innovators) while others are less change oriented (resistors). A person's change orientation exists on the continuum which has the above two extremes.

The Problem

Based on the fact that the mandated support and consequently, the total dollar amount for staff development and teacher training is gradually shrinking there are perhaps several alternative strategies available to those responsible for in-service training. First, training could be given to only those members of ABE staffs who might be most likely to change based upon the information obtained through in-service training. This triage philosophy is one which may be necessary given the need for well trained professional staff and the inability to fund major staff development efforts. A second alternative might be to continue operating staff development activities and attempt to reach as many staff as funds allow. A third might be to tailor make specific staff development activities
to the needs of particular groups (i.e. teachers of reading, English as a Second Language or counselors, etc.) and offer these on a state- or area-wide basis. A final alternative might be to identify only those individuals who are resistive to change and provide staff development activities to them.

While individuals participating in in-service activities may very well influence their colleagues, this study examined the relationships among a person's personality attributes, change orientation and adoption of innovations in an effort to predict those ABE teachers who would most likely use new knowledge obtained through training. Given the findings from research on the effectiveness of the "opinion leader" or "influential" method of innovation diffusion (Hensel, 1969; Bice, 1970; Rogers and Shoemaker, 1971; Rothman, 1974; Russell, 1977), the process studied here would be an efficient means of innovation diffusion. However, this researcher did not look at the trait of opinion leadership nor did the researcher assume that a person who is oriented towards change is also an opinion leader. Rogers and Shoemaker (1971) suggest that opinion leaders are evident in all levels of the change orientation continuum. Consequently, highly innovative as well as highly resistive individuals might be opinion leaders.

This study focused rather on how the attribute of change orientation relates to the actual adoption of an innovation. The rationale for this study was based on the premise that the change orientation of ABE teachers along with other personal factors are
valuable in predicting the extent to which ABE teachers will adopt innovations.

Definition of Terms

There are a number of terms that have already been used and others which will be used in this dissertation. For clarity and preciseness, the following educational terms are defined below.

Adult Basic Education (ABE) refers to the state regulated but federally funded educational programs for adults who possess less than a high school education. These programs are funded under the Adult Education Act.

Staff Developers refer to those who in any manner conduct in-service or pre-service training activities for Adult Basic Education teachers and staff.

Change Orientation refers to predisposition or attitude towards change. (Russell, 1972, p. 9)

Competency-Based Adult Education refers to teaching adults in the context of making them competent in the skills and tasks needed to be able to function in current society.

Innovation refers to an attitude, idea, concept or tool that is introduced to an individual or group who had not previously implemented it.

Innovator refers to the category of adopters who are the first to adopt new ideas. (Rogers & Shoemaker, 1971, p. 181)
Adoption refers to the decision to make full use of a new idea, concept or tool, as the best course of action available. (Rogers, 1962, p. 182)

Opinion Leadership refers to the ability to influence informally other individual's attitudes or behavior in a desired way with relative frequency. (Rogers, 1962, p. 182)

Rhode Island-Adult Performance Level (RI-APL) Curriculum Guide. A curriculum guide developed by the University of Rhode Island--Curriculum Research and Development Center based on the adult competencies identified in the Adult Performance Level (APL) Study performed by the University of Texas-Austin.

Significance of the Problem

Research in the field of vocational education indicates that change orientation has some bearing on adoption of innovation. (Russell, 1972; Adamsky, 1973; Kester, 1973; Russell, 1975; Hood, 1975; Spivey, 1977; Russell and Warmbrod, 1977) Research in the field of adult education indicates that age, type of employment and major teaching responsibility have some bearing on use of innovations in the classroom. (Zinn, 1974; Walden, 1975; Hall, 1976; Myers, 1976) Myers (1976) found that active participation in in-service training, a positive attitude toward an innovation and peer acceptance of the innovation heavily influenced whether innovations were adopted by professional personnel of a voluntary
agency. Myers did not indicate which of the three factors were primary in the adoption process but only that each had some influence.

Spivey (1977) in a study of vocational educators in Alabama noted:

The classroom teacher needs a positive orientation to change if change is to occur. Otherwise, efforts to change the schools will be blunted at the classroom door. (Spivey, p. 6)

Newman, cited in Stern and Keislar (1977), indicates that:

It is most unrealistic to expect that organizational changes can be instituted and function smoothly after a brief indoctrination. Successful implementation is a unique and gradual process. A smooth transition comes about with the learning of the new procedures . . . (Stern & Keislar, p. 73)

Stern and Keislar continue by noting that to bring about such desired change will take much more than a brief workshop experience. Instead, continuous in-service demonstrations and activities are needed to initiate and stabilize such an outcome.

This study was undertaken to provide information on the degree to which measurable personal attributes are valid predictors of potential to adopt innovations. These personal factors exist in each individual teacher and may be accessed and measured with little disruption to a program. It is anticipated that the findings will provide educational administrators and ABE staff developers valuable information to use as a basis for the selection of those ABE instructors who would be likely to benefit most from in-service training in which the goal is the use of innovation in
performance. The major benefit to these decision makers is information which allows them to plan ABE training in which the emphasis is on the "quality" of training impact rather than on the quantity of teachers trained.

Several studies were found to deal with the above assertion for populations other than adult educators. However, there were no studies located for the population of adult educators and none for the population of ABE teachers.

Statement of Purpose

The purpose of this study was to investigate the relationships between demographic variables and change orientation of ABE teachers and their adoption of two innovations pertaining to ABE instructional methodology (the R.I. Adult Performance Level Curriculum Guide and Competency-Based Adult Education).

Accordingly, this study sought to answer the following questions:

1. What are the relationships between the change orientation of ABE teachers as measured by the Russell Change Orientation Inventory and the following variables?
   a. years of teaching
   b. years of teaching in ABE
   c. subject taught in ABE
   d. level of education completed
   e. number of in-service functions (ABE) attended in the most recent one year period
   f. age
   g. program where employed

2. What are the relationships between the adoption of innovations by ABE teachers as measured by the Level of Use (LoU) procedure and the following variables?
a. change orientation
b. years of teaching
c. years of teaching in ABE
d. subject taught in ABE
e. level of education completed
f. number of in-service functions (ABE) attended in the most recent one year period
g. age
h. program where employed

Scope

The scope of this study was limited to federally sponsored adult basic education teachers in the state of Rhode Island. From a list of the 100 teachers employed by the ABE programs in Rhode Island, a random sample of 45 was drawn. The findings of this study, therefore are generalizable only to ABE teachers in Rhode Island. However, the findings may be of value to ABE State Directors in other states and all ABE staff developers in so far as their teacher populations are not different from Rhode Island.

Objectives

There were three objectives to be achieved by conducting this study.

1. To determine the relationships that exist between certain ABE teacher attributes and their change orientation as measured by the Russell Change Orientation Instrument.

2. To determine the relationships that exist between certain ABE teacher attributes and their adoption of two innovations as measured by the Level of Use Rating Scale.
3. To determine the relationship that exists between the adoption of an innovation and change orientation as measured by the Level of Use Rating Scale and the Russell Change Orientation Instrument.
Chapter Two

Related Research and Theory

A large body of literature exists dealing with the in-service training of ABE staffs and an even larger body which deals with change. However, the research on change behavior of ABE staff was inconclusive. Therefore, few efforts have been made to draw any connections. Consequently, it was necessary to conduct a purposeful selection of literature in each area that would have some carryover into the other. The review was also limited to those selections which would best orient the reader to the concepts of adult basic education, in-service training, and change.

This section begins with a brief review of the history of staff development as a federally sponsored priority within the Adult Education Acts. The review is followed by a brief discussion of literature dealing with in-service training and closes with a more detailed discussion of change as it relates to the change orientation of individuals in educational settings.

13
Adult Basic Education

Our society categorizes its people by educational levels. These levels may be as simple as high to low, or as complex as gifted to handicapped. The adult population is not immune to this categorizing. It has not been until recently that the number of adults labeled "illiterate" has constituted a threat and embarrassment to educators and society. This became most apparent when the federal government, in 1964, enacted the Economic Opportunity Act, Title II-B (P.L. 88-452) which allocated monies to develop and operate adult basic educational programs on a state-by-state basis.

The Adult Education Act

The Adult Education Act was designed to make a certain allocation of funds available to states from the total federal allocation on a population/need basis. The overriding intent of ABE was and still is to make educational opportunities available to adults who had not yet completed an eighth grade education. However, the underlying motivation for the Act was an economic one. Brown (1977) tells us that

The Adult Basic Education Project sought to remedy the inequities affecting the educationally disadvantaged by initiating programs of instruction for persons 18 years of age and older whose inability to read and write the English language constituted a substantial impairment.
of their ability to get or retain employment commensurate with their real ability. (p. 2)

These aims were educational and the methodologies were to be educational; however, they were to be carried out

.. .with a view to making them (adults) less likely to become dependent on others, improving their ability to benefit from occupational training and otherwise increasing their opportunities for more productive and profitable employment, and making them better able to meet their adult responsibilities. (Brown, 1977, p. 2)

**ABE Teacher Training**

When the ABE program began, instructors were recruited from the day schools. Elementary and secondary teachers within a school system received first chance at these "moonlight" positions regardless of whether they had any previous experience teaching adults. The original Act had as a provision

the development of technical or supervisory services provided to the adult education program by the State educational agency. (Brown, 1977, p. 3)

Consequently, State directors were responsible for the preparation or in-service training of these first ABE instructors. In many instances these activities were, at best, one day workshops held at the outset of employment.

The Economic Opportunity Amendment of 1965 (P.L. 89-253) made available a maximum five percent of a state's appropriation to provide training to persons functioning or preparing to function as instructors in the ABE program. This was the first opportunity to
let the State directors sub-contract staff development or create a staff development unit within their offices.

The U.S. Commissioner of Education at that time, Dr. Francis Keppel, indicated in a statement to the Ad Hoc Subcommittee on the War on Poverty Program that

...since one of the major unsolved problems in manning effectively the instructional leadership role in adult basic education has been the lack of trained persons to educate teacher trainers, the amendment (authorizing teacher training as suggested by the Office of Education) becomes an essential ingredient for assuring competent leadership. (Brown, 1977, p. 20)

The Elementary and Secondary Amendments of 1966 (P.L. 89-750) replaced the previous adult education legislation and polished the program considerably. This new legislation contained language which showed a redirection from a developmental stage to one of establishing and expanding ABE programs. Another provision of this Act, in addition to a state allocation for teacher training activities, earmarked from 10 to 20 percent of the total appropriation to the U.S. Commissioner of Education. These funds were appropriated to fund special projects or teacher training grants.

In Fiscal Year 1971 a portion of the funds for special projects or teacher training was used to establish staff development projects. These projects operated on a regional basis using the ten regions identified by the United States Office of Education (USOE). These programs operated autonomously within each of the regions,
drawing on the State Directors of ABE of the states within the region for counsel. During their three-year existence, these projects were instrumental in establishing networks of ABE staff developers, the institution of both graduate and undergraduate courses, and the in-service/pre-service training for most ABE instructional staffs.

With the end of these projects, the Education Amendments of 1974 (P.L. 93-380) made it a requirement that each state expend at least 15 percent of its allotments on special projects and teacher training. This provision, although not being strong enough to prolong the lives of the ten regional Staff Development Projects, did make it possible for many of the staff developers to be maintained. This first decrease in the high priority of ABE staff development, established in 1966, was only the beginning of this trend. With the Education Amendments of 1976 (P.L. 94-482) the percentage of state funds for special projects and teacher training was decreased to 10 percent.

The technology of ABE has grown considerably since 1965, with more and more monies being spent on curriculum and materials development. In the years since 1970 the state of the art has been centered around more non-human methods of teaching such as computer assisted instruction, programmed instruction, teaching machines, language masters, self-directed learning packages, and learning activity packages. All of this technology leads to a decreasing amount of student-teacher interaction on a group level and an
increased emphasis on the role of the teacher as facilitator of individual self-pacing. However, teachers need to learn about these new methods and materials. The regional staff development efforts were able to keep up with the advances while enjoying a high priority stance. Now, with the decreased priority of staff development activities, the quantity and/or quality of staff development activities may also be decreasing.

Today, ABE staff development activities exist at the discretion of state department staffs and in competition with programs of instruction, research and evaluation for the 10 percent of each state's allocation earmarked for these purposes. In light of these developments the overriding issue of quality vs. quantity has been thrust on ABE staff developers who still maintain the desire to operate training programs that are both quality experiences and in sufficient quantity.

**In-Service Education**

Educators realize that as the knowledge base of society continually expands, learning and teaching methods evolve and new resources become available. For these reasons, it is necessary to conduct considerable retraining and renewal of staff. Moffit (1963) suggests that in the absence of continuing study, teachers soon become obsolete in both knowledge and performance. Jacobsen and
Drier (1974) describe in-service education as a
planned process for influencing teacher behavior with the intent of changing or modifying conditions and instructional practice used in our schools. (p. 2)

Evans, Magnum, & Pragan (1969) indicate that, in theory, school districts are the main determiners of the content of instructional materials and the effectiveness of instruction. However, in reality, it is the teacher who determines that which will be presented. Russell (1975) submits that

If curriculum improvements are to be effective, they must ultimately be implemented where the students are, in the classrooms and laboratories of teachers. What happens in the classroom, what the teacher does, ultimately determines the effectiveness of any curriculum improvement effort. (p. 28)

In-service staff development, therefore, is identified as a means by which innovation is passed on to the members of a profession and the instructors are the main users of these innovations. Stern and Keislar (1977) report that haphazard or periodic in-service activities will not bring about these desired changes. Rather, only some form of sustained, continuous in-service activity will lead to the adoption of innovations.
Change

A review of literature sources on change and innovation shows that this body of literature is quite large. The geometric advancement of technology is but one of the reasons for the proliferation of research and comment on change, but surely, it must be at the center.

Sergiovanni and Starratt (1971) presented three categories of change: (1) change focusing on self (e.g., increase in status); (2) change focusing on a task (e.g., changing an educational situation); and (3) change focusing on a person (e.g., changing a teacher's formats).

Bennis, Benne, Chin, and Corey (1961) give three strategies for change. First, the empirical-rational strategy assumes that individuals are rational and that they will follow their rational self-interests in initiating change where appropriate. Second, the normative-re-educative strategy assumes that although individuals are rational, socio-cultural norms and commitments to the norms will let change occur only as the individuals are persuaded to change their normative orientations to old patterns and develop new ones. Third, the power-coercive strategy assumes that those with less power will comply with the plans, directions, and leadership of those with greater power.
Since a component of this study looks at the in-service activities ABE teachers have attended, it seems safe to say that the study adopts the strategy of focusing on the person and the normative-re-educative strategy. With this focus on the individual, Hood (1975) tells us that

Change requires the acceptance of something new and different; one of the most common reasons for not accepting change is that the person expected to change does not feel a need for the change. (p. 69)

This holds true for the normative-re-educative strategy and illustrates that some degree of external stimulus is needed to realize change.

Weick (1976) proposes that educational institutions are "loosely coupled" systems. By loose coupling he refers to the fact that aspects of an organization (activities, resources, people, etc.) operate with a high degree of autonomy and flexibility within a system. The actions of one of these components may have little or a slow effect on the others. Change, therefore, within such a system can be both hindered and fostered. Weick tells us that

in loosely coupled systems where the identity, uniqueness and separateness of elements is preserved, the system potentially can retain a greater number of mutations and novel solutions than would be the case with a tightly coupled system. (p. 7)
This indicates that the aspect of loose coupling among program components might allow the adoption or the development of innovations to occur with greater ease. However, conversely, Weick continues by cautioning that

While the system may contain novel solutions for new problems of adaptation, the very structure that allows these mutations to flourish may prevent their diffusion. (p.7)

Consequently, innovations that are developed may never appear outside of the originator site. Adult education programs are loosely coupled to their parent institutions. Communications and controls between them are usually limited to financial matters while the operational aspects operate autonomously. Changes, therefore, occur consistent with the above attributes of loose coupling. Even within adult education as a profession there is a loose coupling nature. Actions within one program, within one geographic area will, in all probability, have little consequence in other programs. It is understandable, therefore, that there would be a need for diffusion networks within the larger adult education system. Likewise, it is understandable that subsequent innovation adoption would probably occur on an individual basis. It is the identification of self motivated individuals who are change oriented and have positive attitudes toward adoption of innovation within the loosely coupled system that is in need of investigation.
Change Orientation

Lin, Leu, Rogers, & Schwartz (1966) expressed a belief that the degree to which an individual is oriented toward change and innovation is, indeed, a major factor in the adoption process. They also note that these traits were attitude specific and thus measurable.

Rogers (1962), realizing that an understanding of just the change process was not sufficient, developed a model describing those individuals involved in the process. Figure 1 displays this model and a brief description of each category follows.

![Figure 1: The Adopter Category Model](image)

Innovators are characterized as those who are first to adopt a new idea. They are frequently viewed as deviants from the norm.
**Early Adopters** are characterized as those who adopt new ideas more slowly than innovators but more rapidly than any other category. Their dominant value is respect for their peers which leads them to adopt innovations.

**Early Majority** are characterized as those who are more deliberate in their adoption of innovations and are willing to consider innovations only after they have been adopted by peers.

**Late Majority** are characterized as those who adopt innovations only after overwhelming pressure from peers.

**Laggards** are characterized as those who are last to adopt an innovation.

Russell (1972) indicates that if one is an innovator, that person is probably also change-oriented. He points out that

Change orientation is a relative term, as is one's degree of innovativeness, and is presumed to be normally distributed in the population. (p. 9)

Further, Russell (1975) concludes from his study that

... teachers who generally like change, who thrive upon it, are more likely to accept, implement, and promote curriculum improvements than those teachers who dislike or fear change. (p. 31)
Proceeding to the implications that change and change orientation theories have for in-service training for teachers, Jacobsen and Drier (1974) discuss the four main philosophical alternatives which staff developers can adopt in order to promote change most effectively in an organization. First, it might be assumed that variations among district staff are negligible and would not affect staff development outcomes. Consequently, a staff development plan under this assumption would treat all staff equally and provide a blanket in-service approach to the generalized needs of all participants. Second, a comprehensive attempt might be made to affect change in all staff members in a program while taking certain characteristics of the population into account. In other words, one could tailor-make components of a comprehensive program to the individual needs of groups within the system. Third, only those staff members who have been shown to be change oriented might be involved with the intent that these persons would influence other members of the staff through normal interpersonal interaction patterns. Finally, only those staff members resistant to change might be identified and efforts concentrated on changing the behavior of these staff members. The rationale supporting this option is that the change oriented staff tend to innovate without the training and the resistant teachers are those who most need the training.
Each approach has its good and bad points which could be outwardly apparent. The major problem with the first approach is that by neglecting variations in staff, problems with long range planning could arise. Districts might have different philosophies and goals or individual instructors might have different levels of experience and knowledge. The manner in which districts implement changes or the extent to which individuals adopt innovations might be linked to change orientation. Consequently, long-range decision makers who consciously ignore the resistant or the change-oriented personality might be removing the long-range positive effect needed for total program adoption.

The second approach may seem to be the most egalitarian but, in practice, would be rather time consuming, relatively ineffectual and cost-ineffective. The offering of training as the need arises is representative of a reactive philosophy as opposed to one which is proactive. It does not assist the implementation of long range plans but may instead dilute the efforts. However, in reality, this is the approach that has been used most widely in adult education staff development programs.

Bypassing the third approach, for the moment, the final one, has serious cost effectiveness problems in that the return on the training dollar is small. Resistant teachers tend to become more resistant when faced with innovation. Pepinsky (1966) found that resistance to influence is considered a positively valued trait in
our culture and often represents a form of "productive non-conformity." Likewise, Weber (1962) writes that such resistant attitudes stem from a generalized feeling of opposition to change and that administrators will probably assume the responsibilities for educational changes and curriculum improvements anyway. Bennis, et al (1961) tell us that

... what is often considered to be irrational resistance to change is, in most instances, more likely to be either an attempt to maintain the integrity of the target system to real threat, or opposition to the agents of change themselves. (p. 118)

However, in neglecting this phenomenon, an important characteristic of human nature is lost. This characteristic can best be described by the statement, "there is no worse zealot than a convert." The literature has a number of studies and writings on the identification of the change oriented personality. Unfortunately, little exits on identifying or explaining the resistant personality. Consequently, in light of the sparsity of both pro and con arguments, attempting to work with the resistant personality would be impractical at this time in this study.

In summarizing the comments on the negative aspects of the aforementioned alternatives, Berry and Murfin (1960) tell us that

... the teaching personnel toward whom in-service education is directed often create the greatest barrier to success of these programs. Indifference, negativism,
resistance, lack of interest, apathy, complacency, and inertia may be identified as factors which sometimes limit individuals or whole faculties in efforts at growth through in-service techniques. (p. 354)

In other words, the three previously discussed approaches, although possibly providing and serving important functions, are either less effective than or no longer cost-feasible alternatives in light of the current financial situation, or both.

The third approach may be quickly criticized as one which leaves little room for failure. Yet one might be hard pressed to argue with such a goal. As costs increase and monies decrease it is inevitable that resources will be first used to support programs of instruction. Thus, the earmarking of staff renewal or in-service training offerings for those staff who will most likely implement the new knowledge might become a reasonable alternative. Russell (1975) suggests that

In cases where resources for in-service preparation are limited (which is almost everywhere) it makes a great deal of sense to try to initiate curricular change through those teachers who are most likely to succeed in the change effort. This approach, aimed at getting more for the in-service dollar, focuses upon preparing a cadre of teacher change agents who in turn influence less change-oriented teachers to upgrade their curricula. (p. 30)

Russell makes two points. First, if change-oriented teachers are the recipients of in-service training, the result would be the formation of a body of well-trained professionals who are most likely to implement
innovations. Second, given the above set of circumstances, these teachers would also double as sources of influence to their fellow teachers. Critics might point out that the training function, in this latter respect, would be rather indirect. However, it would still be consistent with the belief that those who see themselves as professionals, regardless of their orientation toward change, will tend to act in a professional manner and continue to seek help in the areas of perceived need. This latter point is supported in the writings of Rogers (1962) and Rogers and Shoemaker (1971).

Innovation Adoption

Current thinking in the "theory-to-practice" arena expresses the view that in order to foster the adoption of innovations most effectively, education must develop a linkage system. It has been further proposed that a human being would be the most appropriate and best manifestation of this linkage. The study by Hensel and Johnson (1969) with teachers of agriculture who serve as change agents in the field, found that these persons (from here on to be referred to as influentials) may be the linking agents needed in all areas of education.

In the model, from whence this premise came, individuals who design or develop innovations are described as innovators or cosmopolites. Rogers (1962) submits that this innovator is often viewed as a deviant and thus not necessarily as an influential in his
social system. This explains, in part, the reason why teachers (or practitioners) tend to be somewhat wary of new ideas coming from a source external to the system. Instead, these innovators traditionally act to set the stage for change by demonstrating new ideas to local influentials or opinion leaders. However, a barrier or hurdle exists when these local influentials are the traditionalists and not the changers. Havelock (1973) reports that

In addition to the formal chains of command, there are many informal channels and leadership structures. It is most important that the change agent know the informal leaders. You should know the 'influentials,' those key people to whom others turn for new ideas. Most social systems contain such 'opinion leaders,' respected friends and colleagues who set the standard for the group even though they may not have formal status as 'leaders' or 'supervisors.' (p. 44)

Havelock continues to state that in developing strategies for change

Most change agents find themselves in the position of having to select from the entire client system only a few members with whom they will be able to work directly throughout the change effort . . . you can identify direct clients who will be very effective in aiding change efforts. With such people working on your side, you will have a good chance of influencing the entire client system. (p. 45)

In simpler form, the innovators are either the first to adopt an innovation or the actual designers of the innovation. They, in effect, could be and have been identified as the "ivory tower" types, the change agents, the researchers and the risk takers. These people alone would have little luck convincing or trying to get most instructors under their direct influence to adopt a certain innovation which had been generated elsewhere. Consequently, it
seems logical that the course to pursue is to identify those early adopters and early majority people who are both influentials and change-oriented in order to be given first priority to receive training on an innovation.

In line with this thinking and in light of the sparse monies available, training the members of adult education staffs who are most likely to use and adopt innovations seems to be the more logical and cost effective alternative.

**ABE Teacher Training in Rhode Island**

In Region I, of which Rhode Island is a member state, the staff development effort followed the form of a consortium of the six states chaired by a Project director who did not answer to any single state director but acted as an autonomous program. The Region I effort identified a list of objectives which guided the cooperative staff development activities of the six member states. These objectives were:

- To assure coordination among state directors of adult education and collegiate institutions through cooperative planning of Regional, statewide, and local training activities.

- To develop the capabilities of adult education personnel, administrators, teachers, counselors and para-professionals to deliver their services with increased expertise in those adult education service or content areas directly responsive to the needs of Region I populations.
To encourage collegiate institutions within the Region to develop and maintain degree programs, courses, workshops and/or other training models in adult education.

To develop an information dissemination system for Regional distribution of progress reports toward project objectives, suggestions for inter-state cooperation, and information of concern to those in the Project.

To further develop in each state within the Region the capability to devise staff training programs through the commitment of human, professional, and financial resources.

To identify and support the appointment of subject matter and other adult education specialists to collegiate institutions and/or state departments of education, to make the services of such specialists available to training programs throughout Region I, and to encourage the permanency of such appointments and activities.

To develop a summative evaluation system.

To identify and encourage the use of additional resources for staff development activities. (The New England Regional Staff Development Project Year End Report, p. 2)

These objectives were designed to bring attention to those particular training areas within the Region which needed immediate attention and also to lay the groundwork for the continuation of some form of responsible staff development effort once the federal special project support expired. The continuation was carried on in Rhode Island and all of the remaining New England states. However, the frequency of offerings and number of staff trained per activity have decreased significantly.

This situation has resulted in a form of staff development which is purely voluntary, thus not reaching all ABE teachers. In addition, the offerings are sporadic and tend to reflect a lack of
continuity and comprehensiveness.

These factors all point to a need for a methodology to be designed by which the offered staff development activities are aimed primarily at participants who would be most inclined to benefit immediately.
The purpose of this study was to investigate the relationship between several personological variables and the adoption of two innovations by adult basic education teachers in Rhode Island. The degree of adoption was compared with change orientation and selected demographic characteristics of ABE teachers' to determine the extent and nature of the relationship between the independent variables and the dependent variable. The procedures used in this study followed those used in conducting descriptive or ex post facto research as described by Kerlinger (1964). Kerlinger indicates that such a study

... may be defined as that research in which the independent variable or variables have already occurred and in which the research starts with the observation of a dependent variable. (p. 315)

Research Hypotheses

Based upon the review of the literature which suggests that change orientation is an attitudinal phenomenon and affected by several personological variables, the following hypotheses were developed to identify data to be gathered from ABE teachers in Rhode Island.
1. There are significant positive relationships between the change orientation of ABE teachers, as measured by the Russell Change Orientation Instrument and the following demographic variables:
   a. years of teaching;
   b. years of teaching ABE;
   c. major ABE teaching responsibility;
   d. level of education completed;
   e. number of in-service functions (ABE) attended in the most recent one year period;
   f. age; and
   g. program.

2. There are significant positive relationships between the degree to which ABE teachers adopt each of two innovations (the R.I.-APL curriculum guide and Competency-Based Adult Education) as measured by structured interviews and the following demographic variables:
   a. years of teaching;
   b. years of teaching ABE;
   c. major ABE teaching responsibility;
   d. level of education completed;
   e. number of in-service functions (ABE) attended in the most recent one year period;
   f. age, and
   g. program.

3. There is a significant positive relationship between the degree to which teachers adopt each of two innovations (the R.I.-APL curriculum guide and Competency-Based Adult Education) as measured by structured interviews and the ABE teachers' change orientation, as measured by the Russell Change Orientation Instrument.

Population and Sample

The subjects of this study consisted of a randomly selected sample of adult basic education teachers employed in the ABE programs of Rhode Island (R.I.). All of these teachers have attended workshops and/or in-service sessions acquainting them with both the
curriculum guide developed for R.I. (according to the Adult Performance Level Study conducted by the University of Texas-Austin) and Competency-Based Adult Education. The sample was drawn from a roster of all ABE teachers in the state. The names on the state roster of all teachers was numbered in consecutive order and a table of random numbers used to select the sample.

The sample size used was 45 percent of the total population of ABE teachers in the R.I. ABE programs. As of May, 1980 there were 100 ABE teachers. Consequently, 45 teachers were randomly selected to participate. This study did not lend itself to either the formula for estimating sample size requiring the variance of the variable being measured nor the formula requiring the estimated difference between groups being studied because a review of the literature shows that no such statistics are available.

A 45 percent sample was an adequate representation for this study for the following reasons. First, the attribute, change orientation, is assumed to be normally distributed in the population; second, the adoption of innovation is measured on a variable rather than dichotomous scale.

Research Design

The study used an ex post facto design since no variables were manipulated by the researcher. Instead, the researcher developed hypotheses concerning relationships between variables existing within
the population.

The researcher randomly selected 45 ABE teachers who were employed by ABE projects in the state of Rhode Island. These 45 ABE teachers were hand delivered an instrument (Appendix A) by the researcher to be completed and returned to the researcher. The instrument collected biographic data and measured the change orientation of the teacher. This instrument was the Russell Change Orientation Instrument (COI) which is discussed in the subsequent section on Instrumentation. The COI was distributed to the sample of teachers with the permission of their respective program directors. The instruments were individualized so that teachers' names were already written on the forms. However, since neither the COI nor the demographic items constituted any threat or attempted to solicit any form of potentially harmful information anonymity was not necessary. However, confidentiality was maintained. In any case, clearance from the Human Subjects Review Committee at The Ohio State University was obtained prior to data collection.

The completed instruments were collected in person by the researcher so that response was greatly enhanced. Since the instrument collected biographical data and the responses to the items on the COI were meaningless without being analyzed, collection of the data in this manner presented no threat to the teachers.

Upon receipt of the completed instrument, interviews were arranged so that data could be collected pertaining to the teachers'
adoption of two particular innovations. The vehicle for collection was a structured interview format which was designed and tested by the Research and Development Center for Teacher Education at the University of Texas at Austin. This procedure is further discussed in the subsequent section on Instrumentation.

Data Analysis Plan

To analyze the first two hypotheses, a Pearson Product Moment Correlation was used to investigate the extent of relationship between a teacher's change orientation and the adoption of two innovations with the variables—years of teaching, years of teaching ABE, level of education completed, number of in-service functions (ABE) attended in the previous one year period, and age. A chi square test was used to test the relationship between the dependent variables of change orientation and innovation adoption with the independent variable of ABE subject taught. A Cross Tabulation Matrix was constructed to examine the relationships among the dependent variables and the independent variable—program. To test the third hypothesis a Pearson Product Moment Correlation was computed to assess the relationship between the innovation adoption score and the change orientation score (divided into high, middle and low change orientation levels). The change orientation score separated into high, middle, and low change orientation levels and whether the teachers attended particular workshops on the innovations
were used as independent variables.

**Instrumentation**

The Change Orientation Variable was measured by Russell's (1972) Change Orientation Instrument - COI (Appendix A). Russell was encouraged by the earlier writings of Lin, Leu, Rogers, and Schwartz (1966) who indicated that

An instrument designed to measure an individual's change orientation would provide vital information for planning the introduction of an innovation into a system. (p. 67)

However, the mere planning for the introduction of an innovation was not enough reason to call for such a development effort. There was a belief on the part of these authors that attitudes and behavior of individuals could be measured and used to predict the extent to which energy would be expended to move for the adoption of an innovation. Consequently, assuming these to be fact, they continued to note that such an instrument

... could be utilized before an innovation is introduced providing information about the member's receptivity to change and the likelihood of successful introduction of the innovation into the program. (p. 67)

Recognizing this need and the feasibility of developing such an instrument, Russell used the Thurstone method of equal-appearing intervals scored with a modified Likert procedure. Eight subscales of the instrument were designed with the capability of measuring the specific change orientation of vocational teachers with regard to
rather specific goals and topical areas (e.g., cooperative education, individualization of instruction and use of behavioral objectives, adult education, team teaching and differentiated staffing, and core vocational curricula).

Supervisors in state divisions of vocational education representing 38 states nominated the "least innovative" and the "most innovative" vocational teachers (n=125 per group) to comprise the sample for this study. Russell concluded that change orientation is measurable with a degree of validity.

A 21-item general factor scale was identified by factor analysis and was found to be a powerful discriminator between the groups and an efficient and effective measure of change orientation in vocational teachers. (Spivey, pp. 38-39)

Russell tested the validity of the measure several ways. One method was to correlate the total scores of the general factor (Appendix B) and subscales of the COI with the Rokeach Dogmatism Scale, the McClosky Conservatism Scale, the Dye Local-Cosmopolitan Scale and the Rotter Internal-External Locus of Control Scale to validate the COI's relationship to these constructs. The general factor items correlated significantly with the Rokeach (p < .05), the McCloskey (p < .01) and the Dye (p < .01). The adult education subscale (Appendix C) correlated significantly with the McClosky (p < .01). Another method to determine validity was to compare scores on the general factor and the subscales from the responses from "known groups" of "early adopters" and "laggards."
In this study, the 'known groups' of laggards and early adopters roughly represent conservative-liberal personality traits, respectively." (Russell, p.19)

Comparisons of scores on the general factor and subscales between early adopters and laggards showed that the general factor was a powerful discriminator between groups (p < .001). However, none of the subfactors proved as effective, although five of the eight discriminated between groups significantly (Russell, 1972, p.26)

Russell (1972) found that the COI had Kuder-Richardson Reliability (Formula 8) Coefficients for each of his subscales ranging from r=.76 to r=.97. The 21 item general scale had a reliability of r=.91. The item-test reliability for these 21 items ranged from r=.40 to r=.66.

Nine of the 28 items included in the subscale identified by Russell as "adult education" were added to the 21 general factor items to raise the total number of items of the instrument to be used in this study to 30. These 9 items were selected on the basis of their relationship to ABE directly and high and item-test correlation coefficients. The item-test reliability for these 28 adult education items range from r=.31 to r=.75. The total subscale reliability is r=.93.

The study performed by Russell provided evidence that the change orientation of vocational teachers is measureable. Subsequent studies performed by others showed the instrument also to be useable with home economics teachers, trade and industrial educators,
distributive education coordinators, teacher educators and state department of education staff members. A search of the literature notes that, to date, 12 studies have been conducted in which the COI was used either in toto or with minor alteration. Adamsky (1973) used the instrument with trade and industrial education teachers. This study attempted to determine the relationship between teachers' change orientation and adoption of the practice in using behavioral objectives. The findings showed a significant relationship ($p < .01$) between the change orientation of and the acceptance of learning activity packages (LAPs) by distributive education coordinators. Adamsky also reported a reliability coefficient for the COI of .82 (Cronbach's Alpha). Hood (1975) in a study with home economics teachers found that the longer one teaches, stays in the same school, and the older one becomes, the less change oriented one tends to become or be. Hood reported a reliability coefficient of .94 (Kuder-Richardson Formula 20) for the COI. Kester (1973) in a study with local administrators, teachers, state department of education staff, teacher educators, state board members and advisory council members reported that three professional-organizational functioning styles could be identified and significantly correlated with change orientation. Kester also reported a correlation coefficient for the COI of .92 (Cronbach's alpha). McCutcheon (1973) studied the change orientation make-up of teacher educators, state department of education staff, and administrators in large city school districts.
Kester reported these groups tend to be highly change oriented. A correlation coefficient for the COI of .77 (split half) was also reported by Kester. Spivey (1977) studying the change orientation of secondary vocational education teachers, found a significant relationship to the morale factors on the Purdue Teaching Opinionnaire. Spivey reported a COI reliability coefficient of .83 (Cronbach's alpha) in this study.

The above studies all reported that the COI was a valid measure of change orientation. The reliability coefficients reported by other researchers indicate that the instrument is consistent in measuring this teacher attitude.

For the purpose of this study certain of the items were altered to relate directly to the population of this study. However, these alterations were minor, and in most cases, called only for the deletion of a word, so as to remove a focus on elementary/secondary or vocational education.

Demographic data such as years of teaching in any educational setting, years of teaching ABE, subject taught in ABE, level of education completed, number of in-service functions (ABE) attended in one year and age were collected by means of questions developed by the researcher and added to the COI.

The Adoption of Innovations Variable was measured using a structured interview format. This procedure was developed by Loucks, Newlove, and Hall (1975). These researchers have based their
research on the premise that

Change or innovation adoption is not accomplished in fact because a decision maker has announced it. (Hall, Loucks, Rutherford, Newlove, p. 5)

They contend that various members of the user system adopt and use the innovation in a variety of ways.

Consequently, the procedure developed was keyed to the assumption that

Innovation adoption is a process rather than a decision-point - a process that each innovation user experiences individually. (Hall, Loucks, Rutherford, Newlove, p. 5)

As a result of their studies a matrix was developed outlining this sequence of adoption. The matrix described in Figure 2 briefly shows that a teacher might exist at one level in a particular category while at another level for a different category. The teacher's "adoption of an innovation" or level of adoption of innovation would be dependent, therefore, on the extent to which the teacher was engaging in categorical activities within the eight levels.

However, an individual may not be on the same level on all seven categories . . . When such variations occur, they become further clues for interpretation by the adoption agent and the researcher. (Hall, Loucks, Rutherford, Newlove, p. 6)

Appendix D includes a copy of the Level of Use (LoU) chart which defines each of the Levels, Categories and Characteristics.
The main vehicle in the LoU procedure for assessing the extent to which a teacher has adopted an innovation is the structured interview. According to Kerlinger

There are two broad types of interviews: structured and unstructured or standardized and unstandardized. In the standardized interview, the questions, their sequence, and their wording are fixed. An interviewer may be allowed some liberty in asking questions, but relatively little. This liberty is specified in advance. Standardized interviews use interview schedules that have been carefully prepared to obtain information pertinent to the research problem. (Kerlinger, p. 481)

The structured interview developed for measurement with the LoU first asks questions based on the major levels of use. For example, the question "Are you using the innovation?" reflects whether the teacher is in Level I or Level II. Having narrowed down the possible LoU for the teacher, a system of branching questions is used to determine
### Levels of Use (LoU) Matrix

<table>
<thead>
<tr>
<th>LEVELS OF USE</th>
<th>Categories</th>
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<tbody>
<tr>
<td></td>
<td>Knowledge</td>
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<tr>
<td>Level 0 (Non-Use)</td>
<td></td>
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<tr>
<td>Level I (Orientation)</td>
<td></td>
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<tr>
<td>Level II (Preparation)</td>
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<tr>
<td>Level III (Mechanical Use)</td>
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<tr>
<td>Level IV A (Routine)</td>
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<tr>
<td>Level IV B (Refinement)</td>
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<tr>
<td>Level V (Integration)</td>
<td></td>
</tr>
<tr>
<td>Level VI (Renewal)</td>
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</tr>
</tbody>
</table>

**Figure 2**

Levels of Use (LoU) Matrix
whether the teacher is at that LoU for all categories. It is this process which then allowed the interviewer to ask probing questions so that clear distinctions could be drawn for these categories and their attendant LoUs. The figure in Appendix E describes a form of this branching technique.

Interviews were conducted by the researcher and one other individual. This other interviewer was trained by the researcher and supervised during the first few actual interview sessions. These two interviewers were completely knowledgeable of the LoU Chart so that information was collected allowing precise LoU ratings. All interviews were tape recorded to assure that all data were maintained and that the LoU ratings could be performed reliably by one person.

The rating of the LoU interview has also been formalized by the original researchers. Appendix F includes a copy of the rating sheet used in scoring each interviewee.

In measuring and determining a Level of Use of an Individual the Decision Point is one of the key data pieces to be collected. The Decision Points make a fairly clear demarcation between each level. (Hall, p. 8)

The rater listened to the tapes of interviews and assessed each interviewee in terms of the level at which they were performing in each category area.

The final rating is not derivable from a straight sum of the category ratings but is a gestalt of how the interviewee is currently using the innovation or what she/he is doing at the present time in regard to future use. (Loucks, Newlove, Hall, p. 43)
The LoU researchers tested the reliability of their rating system by two methods. First, the interrater reliability was assessed by having three raters listen to LoU interview tapes and assessing overall LoU ratings.

In the initial LoU research each taped interview is considered rated when two raters assign the person interviewed to the same LoU. Interviews which are agreed upon by two raters are thus considered rated. If the two raters disagree, a third rater is used. In the initial use of the LoU interview system, 36% of the interviews required a third rating. In 77% of these cases, the third rater agreed with one of the first two. (Loucks, Newlove, Hall, p. 45-46)

A chi square test was performed to determine whether significant differences existed among the raters. In the Loucks, Newlove, Hall research 65 to 70 percent of the taped interviews were agreed upon. This test yielded a $\chi^2 = 3.70$ which was not significant; indicating that rates were quite similar.

Second, an educational ethnographer was hired by Loucks, Newlove and Hall and trained as to the LoU chart. Then he was asked to observe, over an extended period of time, the classes of several teachers who had previously been interviewed by the LoU researchers. The LoU rating which the ethnographer determined was compared with the LoU ratings given by the LoU researchers. This test provided a .98 coefficient indicating a significant degree of reliability for the LoU rating procedure.

In order to control the rater reliability in this study, only one rater was responsible for determining all LoU ratings. This is a
procedure which was suggested by the LoU developers. This researcher rated all LoU interviews.

The nature of the data obtained by the LoU was ordinal. The LoU ratings could not be considered as equal intervals but they are adequate numerical measures of the level of adoption.
Chapter Four

Data Analysis and Findings

This study was conducted to determine the extent and nature of the relationship between several personological variables and a person's change orientation, and to identify the extent to which these factors contributed to the eventual adoption of innovations. The variables used in this study are reported as percentages and frequency distributions.

Three hypotheses were analysed using Multiple Regression, Chi Square and Pearson Product Moment Correlation. For this study, the researcher established an alpha level of $p \leq 0.05$ to either support or reject the null hypotheses.

The literature indicated that certain personological variables could have a direct bearing upon the extent of change orientation a person might possess. For this study, the variables of (1) years of teaching; (2) years of teaching in ABE; (3) subject taught in ABE; (4) level of education completed; (5) number of in-service functions (ABE) attended in the most recent one year period; (6) age; and (7) program in which employed were studied to determine their relationship to the construct.
To fully understand the characteristics of the ABE teachers used in this sample it is important that the demographic make-up of the sample be presented for review. In Table 1 the range of teaching experiences held by the subjects is presented. A review of this table shows that there tended to be an imbalance in the sample at the two ends of the continuum. There were large proportions of teachers who had few years of overall teaching experience as well as those who had many years of teaching experience. This sample was not

<table>
<thead>
<tr>
<th>EXPERIENCE</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than one year</td>
<td>5</td>
<td>11.1</td>
</tr>
<tr>
<td>One to five years</td>
<td>14</td>
<td>31.1</td>
</tr>
<tr>
<td>Six to ten years</td>
<td>7</td>
<td>15.6</td>
</tr>
<tr>
<td>Ten to fifteen years</td>
<td>5</td>
<td>11.1</td>
</tr>
<tr>
<td>More than fifteen years</td>
<td>14</td>
<td>31.1</td>
</tr>
<tr>
<td>TOTALS</td>
<td>45</td>
<td>100.0</td>
</tr>
</tbody>
</table>
unlike the overall distribution of teaching experience among all ABE teachers in the state according to information from the State Consultant in charge of ABE at the Rhode Island Department of Education.

Another dimension of this teaching experience was the extent to which these figures represented specifically ABE teaching experience. The results of this question are displayed in Table 2.

**TABLE 2**

**DISTRIBUTION OF R.I.-ABE TEACHERS**

**BY YEARS OF ABE TEACHING EXPERIENCE**

<table>
<thead>
<tr>
<th>ABE EXPERIENCE</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than one year</td>
<td>4</td>
<td>8.9</td>
</tr>
<tr>
<td>One to two years</td>
<td>9</td>
<td>20.0</td>
</tr>
<tr>
<td>Three to five years</td>
<td>18</td>
<td>40.0</td>
</tr>
<tr>
<td>Six to eight years</td>
<td>5</td>
<td>11.1</td>
</tr>
<tr>
<td>More than eight years</td>
<td>9</td>
<td>20.0</td>
</tr>
</tbody>
</table>

A review of this table clearly shows that the large majority of ABE teachers in this study had five or less years of experience teaching
ABE. Again this was consistent with the overall make-up of ABE teachers in R.I. Consequently, this sample represents subjects who were relatively new to the profession.

Another variable which was assumed to be important was the actual subject matter a teacher covers in an ABE class. These figures are presented in Table 3. A review of this table shows a relatively even

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABE level 1</td>
<td>5</td>
<td>11.1</td>
</tr>
<tr>
<td>ABE level 2</td>
<td>5</td>
<td>11.1</td>
</tr>
<tr>
<td>ABE level 3</td>
<td>9</td>
<td>20.0</td>
</tr>
<tr>
<td>ABE mixed</td>
<td>14</td>
<td>31.1</td>
</tr>
<tr>
<td>Eng. as a Second Lang.(ESL)</td>
<td>6</td>
<td>13.4</td>
</tr>
<tr>
<td>Both ABE &amp; ESL</td>
<td>5</td>
<td>11.1</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>45</td>
<td>100.0</td>
</tr>
</tbody>
</table>
distribution of teachers among the ABE subjects. The ABE mixed category which represents classes where there might be Level 1, 2, and/or 3 learners combined represents the largest grouping of subjects in this sample. This is understandable, however, because such a grouping is the most popular vehicle for offering ABE in this state. This category includes classes where learners are heterogeneously grouped to work on material individually while the instructor circulates as a tutor. Also included in this category are drop-in learning centers where learners might not be assigned to any one instructor but instead only participate in classes for specific instruction.

The change literature indicated that educational level might have direct bearing on acceptance or resistance to change. To test for this, the survey asked for the highest level of education completed by the respondent. Table 4 presents the findings of this item. A review of this table shows that the majority of ABE teachers in this
TABLE 4
DISTRIBUTION OF R.I.-ABE
TEACHERS BY EDUCATIONAL LEVEL COMPLETED

<table>
<thead>
<tr>
<th>YEARS OF COLLEGE</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>One to two years</td>
<td>-</td>
<td>0.0</td>
</tr>
<tr>
<td>Three to four years</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td>A four year degree</td>
<td>17</td>
<td>38.6</td>
</tr>
<tr>
<td>An MA, MS, MEd, etc.</td>
<td>25</td>
<td>56.8</td>
</tr>
<tr>
<td>A PhD, EdD, etc.</td>
<td>-</td>
<td>0.0</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td>TOTALS</td>
<td>44</td>
<td>100.0</td>
</tr>
</tbody>
</table>

sample had some form of Masters degree. The type of degree or area of concentration was not questioned. This was deliberate since the literature did not suggest that type of degree or area of concentration might have some bearing on change orientation or adoption of innovation.

To see if the amount of in-service training a person received while employed in ABE had any relationship to the dependent variables, the survey asked the respondent to provide the total number of hours of ABE in-service training they received in a one year period (i.e., the year prior to the survey being conducted).
Their responses are presented in Table 5. A review of this table shows that the largest grouping of subjects have had more than eight hours of in-service training during the course of the past year. The State requires that all ABE teachers participate in at least six hours of in-service training each year to maintain their eligibility to teach in ABE. Since, the survey was conducted during the Spring of 1980 there would still have been time for those with less than six hours to meet the requirement.

### TABLE 5

**DISTRIBUTION OF R.I.-ABE TEACHERS BY HOURS OF IN-SERVICE TRAINING ATTENDED**

<table>
<thead>
<tr>
<th>IN-SERVICE HOURS</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>One to two hours</td>
<td>6</td>
<td>13.3</td>
</tr>
<tr>
<td>Three to five hours</td>
<td>8</td>
<td>17.8</td>
</tr>
<tr>
<td>Six to eight hours</td>
<td>6</td>
<td>13.3</td>
</tr>
<tr>
<td>More than eight hours</td>
<td>19</td>
<td>42.3</td>
</tr>
<tr>
<td>No hours</td>
<td>6</td>
<td>13.3</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>45</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Another variable which was considered to be a factor in change orientation and innovation adoption was age. Table 6 reports the age distribution of ABE teachers in the study. A review of this table reports that the largest single group of teachers are 25 - 34 years old. Also, the majority of teachers in the sample are 44 years old or younger. This indicates that the ABE teachers in this sample were relatively young.

TABLE 6

DISTRIBUTION OF
R.I.-ABE TEACHERS BY AGE

<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 21 years</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>21 to 24 years</td>
<td>2</td>
<td>4.5</td>
</tr>
<tr>
<td>25 to 34 years</td>
<td>20</td>
<td>44.4</td>
</tr>
<tr>
<td>35 to 44 years</td>
<td>13</td>
<td>28.9</td>
</tr>
<tr>
<td>45 to 54 years</td>
<td>6</td>
<td>13.3</td>
</tr>
<tr>
<td>55 to 64 years</td>
<td>4</td>
<td>8.9</td>
</tr>
<tr>
<td>More than 65 years</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>TOTALS</td>
<td>45</td>
<td>100.0</td>
</tr>
</tbody>
</table>
The overall demographic make-up of this sample of ABE teachers indicates that they tended to be young; had relatively few years of ABE teaching experience but varied on overall teaching experience; were well educated and maintained a high level of up-grading through in-service offerings; and they represented the full range of teaching responsibilities within the entire R.I.-ABE network.

The subjects were drawn on the basis of a simple random sample from the entire population. The demographics of this sample support the fact that they are representative of the population. The final variable which was controlled in the study was program in which the teachers are employed. Every ABE program in the State, save two, were represented in the sample. The two programs that were not represented had only one teacher employed. Thus, it was a result of the random selection that left these teachers and consequently, the programs out of the sample. However, there were two programs represented in the sample that employed only one teacher. In addition, the sample was proportionately represented as well since the larger programs had more teachers in the sample and the smaller programs had few. This was not accomplished through cluster sampling but simply by randomization.

The construct of change orientation as measured by the Russell Change Orientation instrument was found to be normally distributed in this sample. Figure 3 includes the distribution of scores on the COI.
A review of this figure indicates that the COI of the ABE teachers in this sample followed the normal distribution of scores found in the population as reported in the original research (Russell, 1972) and in subsequent research using the COI (Adamsky, 1973; Hood, 1975; Kester, 1973; McCutcheon, 1973; and Spivey, 1977).

The construct of change orientation has a possible score range of between thirty (30) and one hundred and eighty (180). The literature makes no reference to a specific cut off score needed by an individual to adopt and innovation. Instead, reference is made to the fact that those within a population who have higher COI ratings
are considered to be more change oriented than others who have lower scores. This point is the basis for the hypotheses presented in this study.

The construct of adoption of the innovation as measured by the LoU rating scale, for this sample, was on the lower end of the scale. Figure 4 includes the distribution of the LoU ratings for both the curriculum guide (CG) and the concept of competency-based adult education (CBAE).

![Figure 4: Distribution of LoU Ratings](image-url)
Upon reviewing this figure it is seen that the subjects tended to show low adoption levels for both innovations. However, those ratings for the Guide were much lower than those for CBAE.

Change Orientation and Personological Variables

To test the first null hypothesis

There are no significant relationships between the change orientation of ABE teachers, as measured by the Russell Change Orientation Instrument and the following variables:

a. years of teaching;
b. years of teaching ABE;
c. major ABE teaching responsibility;
d. level of education completed;
e. hours of in-service (ABE) attended in the previous one year period;
f. age; and
g. program.

two tests of significance were employed. To test the relationship between the dependent variable (change orientation) and the independent variables, except major ABE teaching responsibility and program, the researcher used a Pearson Product Moment Correlation. To assist in the presentation of the data from these analyses a correlation matrix was constructed to report the extent of relationship between and among the variables. This correlation matrix is presented in Table 7.
TABLE 7
CORRELATION MATRIX OF PERSONOLOGICAL VARIABLES AND ABE TEACHER CHANGE ORIENTATION

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. ABE Teaching Resp.</td>
<td>1.00*</td>
<td>-.10</td>
<td>-.19</td>
<td>-.26</td>
<td>-.00</td>
<td>-.17</td>
<td>-.01</td>
</tr>
<tr>
<td></td>
<td>45**</td>
<td>44</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>B. Highest Degree</td>
<td>1.00</td>
<td>.25</td>
<td>.22</td>
<td>-.10</td>
<td>-.03</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>44</td>
<td>44</td>
<td>44</td>
<td>44</td>
<td>44</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>C. Experience in ABE</td>
<td>1.00</td>
<td>.45</td>
<td>.38</td>
<td>-.09</td>
<td>.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Experience Teaching</td>
<td>1.00</td>
<td>.53</td>
<td>-.00</td>
<td>-.12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. Age</td>
<td>1.00</td>
<td>-.24</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>45</td>
<td>45</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F. Hours of In-Service</td>
<td></td>
<td>1.00</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>45</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. Change Orientation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>45</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* = r
** = n
It can be concluded from these findings that the correlation coefficients obtained from the comparison between the independent variables and the dependent variable (change orientation) are not statistically significant at the $p < .05$ level of significance. Therefore, the null hypothesis is not rejected.

The Chi Square test was used to test the component of this hypothesis that studied the relationship between the dependent variable and the independent variable (major ABE teaching responsibility). The result of this analysis is displayed in Table 8.

\begin{table}
\centering
\caption{Chi Square Test of ABE Teacher Change Orientation and ABE Subject Taught}
\begin{tabular}{llll}
\hline
VARIABLES & n & df & $\chi^2$ \\
\hline
Change Orientation by Subject Taught & 45 & 138 & 168.081* \\
\hline
\end{tabular}
\end{table}

*Significant at the $p < .05$ level.
A review of this table indicates that a significant relationship exists between the independent and dependent variables. Thus there is reason to believe that there is a positive relationship between a persons' change orientation and the ABE subject area (i.e., ABE Levels 1, 2, 3, mixed, ESL or a combination of ESL and ABE) which is taught. However, the findings indicate that this hypothesis was rejected in part.

To study the relationship between the independent variable - program and the dependent variable a Cross Tabulation Matrix was constructed. Table 9 contains the findings of this analysis.
A review of this table indicates that there appears to be some relationship between program and the change orientation scores. The relationship seems to stem from the overall number of teachers employed. Those programs that have one or two subjects have lower mean change orientation scores than programs with larger staffs. This finding indicates some relationship exists between program and the dependent variable. However, given the data available this relationship cannot be explored further.
Innovation Adoption and Personological Variables

To test the second null hypothesis

There are no significant relationships between the degree to which ABE teachers adopt each of two innovations as measured by structured interviews and the following variables:

a. years of teaching;
b. years of teaching ABE;
c. major ABE teaching responsibility;
d. level of education completed;
e. hours of in-service (ABE) attended in the previous one year period;
f. age; and
g. program.

two tests of significance were employed. To test the relationship between the dependent variable (innovation adoption) and the independent variables, save major ABE teaching responsibility, the researcher used a Pearson Product Moment Correlation. The extent to which a person adopts innovation was considered to be directly related to certain personological variables. The results of this test of the hypothesis are presented in Table 10. A review of
TABLE 10
CORRELATION MATRIX OF PERSONOLOGICAL VARIABLES AND ABE TEACHER INNOVATION ADOPTION

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. ABE Teaching Resp.</td>
<td>1.00*</td>
<td>-0.10</td>
<td>-0.19</td>
<td>-0.26</td>
<td>-0.00</td>
<td>-0.17</td>
<td>0.26</td>
<td>0.21</td>
</tr>
<tr>
<td>B. Highest Degree</td>
<td>45**</td>
<td>44</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>22</td>
<td>40</td>
</tr>
<tr>
<td>C. Experience in ABE</td>
<td>1.00</td>
<td>0.25</td>
<td>0.22</td>
<td>-0.10</td>
<td>-0.03</td>
<td>-0.23</td>
<td>-0.18</td>
<td></td>
</tr>
<tr>
<td>D. Experience Teaching</td>
<td>44</td>
<td>44</td>
<td>44</td>
<td>44</td>
<td>44</td>
<td>44</td>
<td>22</td>
<td>40</td>
</tr>
<tr>
<td>E. Age</td>
<td>1.00</td>
<td>0.53</td>
<td>-0.00</td>
<td>-0.09</td>
<td>-0.19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F. Hours of In-Service</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>22</td>
<td>40</td>
</tr>
<tr>
<td>G. Adoption of Guide</td>
<td>1.00</td>
<td>-0.24</td>
<td>-0.08</td>
<td>-0.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H. Adoption of Concept</td>
<td>45</td>
<td>45</td>
<td>22</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* = r
** = n
Table 10 indicates that there are no statistically significant correlation coefficients. Therefore, the adoption of the ABE curriculum guide and the concept of Competency-Based Adult Education cannot be viewed as having a strong relationship with the independent variables. Consequently, because of the finding of correlation coefficients that were not significant at the $p < .05$ level, the null hypothesis is not rejected.

The Chi Square test was again used to measure the relationship between the adoption of innovations and the teachers' major ABE teaching responsibility. The findings of this analysis are presented in Table 11.

### Table 11

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Guide by ABE Subject Taught</td>
<td>22 60 62.792(ns)</td>
</tr>
</tbody>
</table>

CHI SQUARE TEST OF ABE TEACHER INNOVATION ADOPTION AND ABE SUBJECT TAUGHT
TABLE 11 (continued)

CBAE by ABE

| Subject Taught |   40 |   96 | 130.928* |

* Significant at the p < .05 level

A review of the table indicates that there is a significant relationship between the adoption of CBAE and the teachers' subject area (i.e., ABE levels 1, 2, 3, mixed, ESL or a combination of ESL and ABE). However, there was no significant relationship found between the independent variable and the adoption of the Rhode Island Curriculum Guide. Therefore, this hypothesis was rejected in part based on the evidence collected.
TABLE 12
CROSS TABULATION OF PROGRAM
WITH ABE TEACHER INNOVATION ADOPTION

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>CURRICULUM GUIDE</th>
<th>CBAE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>\bar{x}</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>9.5</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>1.3</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>19</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>20</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>21</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>22</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>
To examine the relationship between the independent variable - program and the dependent variables a Cross Tabulation Matrix was constructed. This matrix is presented in Table 12. A review of these findings show no specific pattern between program and innovation adoption. The key finding of this analysis is that the innovation adoption scores tend to be most concentrated in the two ends of the continuum. Programs have either high scores or low scores. There are few programs within the mid-range. This finding warrants further investigation.

An important observation made by this researcher during the LoU interviews needs to be reported. Although, the LoU ratings of the sample tended to show low levels of adoption for both of the innovations, two key factors were common among the subjects. First, few of the subjects were familiar with the curriculum guide. Knowing this, it was understandable that few teachers had adopted the guide. The explanation which can be presented here is that since there is a substantial turnover among ABE staff those teachers who were trained in the use of the guide may no longer be employed in ABE programs. Consequently, the new teachers did not receive in-service training in the use of the guide. Second, many of the subjects reported that they had attended the workshops and had used parts of the guide in their classes. However, use of the guide as a continuous reference or adoption of it in toto was not realized because they were already using many of the methods presented in the guide. Consequently, the
LoU rating for adoption of the guide would be low. As further support of this inference the higher LoU ratings for adoption of the CBae concept indicate that more teachers were using this form of ABE teaching. However, the fact that the LoU ratings on CBae were not substantially higher is not readily explainable. This might be attributable to the fact that the teachers were using the concepts only to an extent which was comfortable to them and their instructional style while not totally adopting all aspects of the concept. Without a structured support group or periodic training on use of the concepts, the level of adoption would understandably remain at the mechanical use stage.

Change Orientation and Innovation Adoption

To test the third null hypothesis

There is no significant relationship between the degree to which teachers adopt each of two innovations as measured by structured interviews and the ABE teachers' change orientation, as measured by the Russell Change Orientation Instrument.

the Pearson Product-Moment Correlation was employed. The results of this analysis are displayed in Table 13. A review of this table shows that there was no statistically significant relationship between
The table below shows the correlation of ABE teacher innovation adoption and ABE teacher change orientation.

<table>
<thead>
<tr>
<th>INNOVATION</th>
<th>CHANGE ORIENTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Guide</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>-0.008 (ns)</td>
</tr>
<tr>
<td>CBAE</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>0.118 (ns)</td>
</tr>
</tbody>
</table>

The ABE teacher's adoption of either innovation studied in this research and their change orientation. The correlation coefficients are low and in one case there is a negative correlation reported. The findings of this analysis fail to reject the null hypothesis.
CHAPTER 5

Summary, Conclusions and Recommendations

This chapter contains a review of the study, including its purposes, objectives, consequent hypotheses, procedures and major findings. Included in the section on major findings is a discussion of the relationships of personalological variables with change orientation and innovation adoption. There is also a discussion of implications of the findings for program planning.

Purpose of this Study

The purposes of this study were:

(1) To gain more knowledge about the relationship of an ABE teachers' change orientation and selected variables.

(2) To gain more knowledge about the relationship of an ABE teachers' adoption of innovations and selected variables.

(3) To better understand the relationship between ABE teachers' change orientation and the adoption of innovation.

Source of Data

The data used in this study were collected from a random sample of ABE teachers in Rhode Island who had experience teaching within
ABE classes ranging from less than one year to more than eight years. A population sample of 45 percent was identified and contacted directly. Of this group, 100 percent completed useable surveys and 88.9 percent participated in useable interviews.

Selection of Innovations

In 1972 the U.S. Department of Education, Office of Occupational and Adult Education sponsored a national study called the Adult Performance Level Study (Northcutt, 1973) which surveyed the adult population of the U.S. in order to assess the existing degree of functional literacy. One side result of this study was the identification of tasks needed by all adults in order to function in present-day society. From this study, and its subsequent dissemination a movement was developed in adult education named Competency-Based Adult Education (CBAE). This movement, or concept encompassed several adult education philosophies but largely represented programs intended to provide adults with a combination of academic and societal coping skills.

In Rhode Island this concept was embraced, and in 1976 the Rhode Island Department of Education, Bureau of Vocational and Adult Education sponsored a project which developed the Rhode Island Curriculum Guide for Adult Educators based on the constructs of the earlier mentioned 1972 national study. Because of the relative newness of both the concept (CBAE) and the curriculum
guide, these two were selected as the innovations to be used in this study.

These two innovations can be viewed as independent entities since the guide represented a form or one suggested method of delivering the concept. Consequently, a teacher adopting parts of the guide might not have adopted enough of it for their instruction to be considered competency-based adult education. Conversely, a teacher adopting the concept might do so without knowing that the guide existed.

Selection of the Independent Variables

A list of personalogical variables was identified for use in this study which represented a wide range of profession-related attributes. These variables were selected as a result of their frequent mention in the literature as contributing to the change orientation of and innovation adoption by a teacher. The variables identified were years of teaching in any educational setting, years of teaching in ABE, subject taught in ABE, level of education completed, number of in-service functions (ABE) attended in one year, age and school district in which employed.

Instrumentation

To measure a teacher's change orientation the study employed the Russell Change Orientation Inventory (COI). This instrument, as designed and tested, had a 21 item General Scale and eight
Sub-Scales. One of the sub-scales was for adult education. Consequently, for this study, the general scale and the adult education sub-scale were combined to form a 30 item Change Orientation Instrument.

To measure the adoption of innovation the study employed the Level of Use (LoU) procedure developed at the University of Texas-Austin. This process uses a structured interview format which yields a measure of adoption based on a matrix of seven categories of information processing and eight levels of innovation adoption.

**Analysis of Data**

The data acquired through the COI and the Lou were coded, keypunched and computer analysed. The significance level established for this study was \( p < .05 \). To test the null hypotheses at this alpha level several tests of significance were employed. For the quantitative data the study used Pearson Product Moment Correlations. However, since the major ABE teaching responsibility data were reported in a categorical format rather than in equal intervals they were considered qualitative in nature and Chi Square analyses were utilized. Also the independent variable - Program was analysed by constructing a Cross Tabulation Matrix with the dependent variables.
Research Hypotheses and Findings

The hypotheses developed for this study were devised only after extensive review of the literature in the areas of change, change orientation, in-service training, innovation adoption and adult education. These hypotheses focused on the relationship among certain personological variables, change orientation and innovation adoption. The hypotheses were tested using data collected from a sample of ABE teachers employed in Rhode Island. A review of the major findings of this study are included in the narrative following the statement of each research hypothesis.

1. There are significant positive relationships between the change orientation of ABE teachers, as measured by the Russell Change Orientation Instrument and the following demographic variables:
   a. years of teaching;
   b. years of teaching ABE;
   c. major ABE teaching responsibility;
   d. level of education completed;
   e. number of in-service functions (ABE) attended in the most recent one year period;
   f. age; and
   g. program.

   It was anticipated that the personological variables of teaching experience, education, age, position and program were major contributors to the change orientation of a person. However, these relationships when tested were not found to be statistically significant except in the case of one variable — major ABE teaching
responsibility. This one instance was not sufficient to reject the null hypothesis. However, it is grounds for further analysis and interpretation.

2. There are significant positive relationships between the degree to which ABE teachers adopt each of two innovations (the R.I.-APL curriculum guide and Competency-Based Adult Education) as measured by structured interviews and the following demographic variables:
   
a. years of teaching;
b. years of teaching ABE;
c. major ABE teaching responsibility;
d. level of education completed;
e. number of in-service functions (ABE) attended in the most recent one year period;
f. age. and
g. program

   The relationship of personalogical variables and adoption of innovations was also well supported in the literature. Again, these relationships were not found to be statistically significant in the findings of this study. The variable of major ABE teaching responsibility again emerged as being a statistically significant determinant of innovation adoption. However, the relationship was not sufficient to reject the null hypothesis.

3. There is a significant positive relationship between the degree to which teachers adopt each of two innovations (the RI-APL curriculum guide and Competency-Based Adult Education) as measured by structured interviews and the ABE teachers' change orientation, as measured by the Russell Change Orientation Instrument.
Change orientation was assumed to be a direct predictor of innovation adoption. However, the analyses performed on these data showed no statistical significance to this assertion. Consequently, this hypothesis was not supported. Therefore, the null hypothesis was not rejected.

Conclusions

The findings of this study on the relationship among personological variables, change orientation and innovation adoption tended not to support the findings of other studies looking at similar relationships. In addition, there were no previous studies identified which studied these phenomena in an ABE milieu. Therefore, the point of comparison between previous work and this research is only the educational environment. Yet, the study has identified several findings which lead to the following conclusions:

(1) The fact that the findings of this study pertaining to the relationships existing between the personological variables and the constructs of change orientation and innovation adoption did not support the findings of other researchers is an important addition to the literature.

(2) The significant relationship between change orientation and major ABE teaching responsibility must be viewed as a key finding. It appears that certain teachers tend to be more change oriented based simply on the type of class or learner they instruct. Further study of this finding needs to be pursued to identify the specific
level which is most associated with change orientation.

(3) The significant relationship between innovation adoption (CBAE) and ABE subject taught is also an important finding. The adoption of this particular innovation may be a function of interest or applicability rather than personalogical attributes. Further study of this finding is also warranted to identify the specific level which is most associated with innovation adoption.

(4) The innovations identified for use in this study are indeed, innovations. However, many of the ABE teachers in the study had not been made aware of the Curriculum Guide. The workshops which were conducted by the developers were held in 1977 when the guide was completed. From that point the dissemination of the curriculum to new teachers was left to the local ABE director. In some cases this may not have occured. The analyses performed on innovation adoption, therefore, were unequal since more of the ABE teachers knew of the concept (CBAE) than were familiar with the guide.

(5) The change orientation personality attribute was found to be normally distributed in this sample. The subjects in this study were, therfore, normally distributed among the categories of Innovators, Early Adopters, Early Majority, Late Majority and Laggards. This supports all findings of previous research which employed the COI.
(6) The LoU procedure was a rigorous measure of innovation adoption. Based on the chart appearing in Appendix D few subjects scored above a level five out of the seven adoption levels in more than one of the eight information processing categories for either innovation. No subjects scored higher than a level four in the overall LoU rating for either innovation.

(7) In the opinion of this researcher in-service trainers might still be able to use these findings if they are able to design training to meet the interests of specific audiences. CBAE offerings might be more appealing to ABE rather than ESL teachers, curriculum development offerings to new teachers rather than well experienced teachers or team building offerings to supervising teachers and administrators rather than classroom teachers are examples of such groupings. However, these groupings are often more a function of common sense rather than research and analysis.

(8) Adult education programs viewed as loosely coupled systems can find that individuals might not only adopt innovations but also create innovations despite the presence or lack of staff development. It is the opinion of this researcher that because of the slippage which exists both within and among these programs a staff developer might search out these innovators/adoptors and hold them up as models to their colleagues. In this way the innovations are disseminated by means of the level of identification with a colleague or on the quality of the attractiveness of the innovation. Thus the ABE Staff Developer plays little part in the transmittal of knowledge but instead acts as the catalyst for change.
(9) The fact that programs that had more subjects in the sample also had higher mean change orientation scores is an interesting finding. There is no mention in the literature of such a relationship existing. Perhaps this is a function of access to communication networks which might exist among larger staffs but not among smaller staffs. This, conclusion in concert with conclusions #7 and #8 above might explain the finding. Given a loosely coupled system and a change oriented individual operating within this system, it might be found that a tendency exists for that person to have some influence on the other teachers in the system. A person operating within a small system (or alone) would not have this influence available. This speculation, however, is based upon the assumption that the small system individual is non-change oriented; an assumption which may be false. Other factors might come into play here to also influence the individual such as interpersonal relationships, competition, hiring practices of the director, "one-ups-man-ship", and resources.

Recommendations

These recommendations were derived from and are based on the findings of this study:

(1) In the opinion of this researcher the change orientation of ABE teachers should be documented by staff developers and used along with other common sense variables to recruit participants when offerings are unrestricted or undersubscribed. For example, suppose
a workshop on new computer assisted instruction techniques is offered and it has not been filled. The staff developer might then recruit those individuals who possess a high change orientation, have taught for several years in ABE and teach ABE Level III (GED) classes. It would appear that these individuals might be the ones who would gain the most from the training.

(2) The R.I. Curriculum Guide for Adult Educators is an excellent resource. As additional comments during the interviews those teachers who were acquainted with it found the concepts, structure and activities to be helpful and important. This might warrant further staff development efforts in how to use the guide.

(3) This researcher believes that the marketing of staff development offerings should focus on how the information or skills to be learned can help in the classroom as opposed to the topic or content to be discussed. Teachers attend in-service offerings and adopt innovations based on what is useful and important to them.

(4) Age is not an overriding factor in innovation adoption as many people might assume. The literature indicates that the age of an individual should have no specific bearing on innovation adoption. However, a common, though unfounded, stereotype that exists among practitioners is that young people will accept change more readily than older people. This study does not support that stereotype. Therefore, offerings should not be directed toward new or young teachers only.
(5) The two innovations selected for this study (the R.I. - ABE Curriculum Guide and the concept CBAE) are not separate and distinct innovations. Teachers could have adopted one or the other, in whole or in part. Perhaps it might have been a more sound test to have selected innovations which were totally different from one another or innovations which would have required the teacher to adopt the process in toto rather than in degrees. Future studies following such a pattern may result in additional insights.

Additional Research Needed

Rhode Island ABE teachers provided a sound data base upon which to focus this study which explored the relation among personalogical variables, change orientation and innovation adoption. There were no findings which led this researcher to believe that the characteristics held by the ABE teachers in this study were significantly different from ABE teachers in general. Thus the demographic make-up of this group should be sufficiently similar to other groups of ABE teachers so that similar studies attempted in other locales would yield similar findings.

Further research or secondary analyses need to be conducted to identify which levels of ABE teaching responsibility are most highly correlated with high change orientation and innovation adoption.

Further research might be undertaken to examine the relationship between the change orientation of and actual participation by teachers in specific types of in-service offerings that lead
directly to innovation adoption.

A key factor which was only touched upon in this study but which warrants further study is the relationship between innovation adoption and program. Research supports the idea that a change oriented organizational climate is as important to innovation adoption as is the orientation of the teacher. Therefore, the relationship between the change orientation of administrators and adoption of innovations by their staffs would be an important study. Allied to this would be a study examining the assumption that change oriented people are drawn together.

A study examining hiring practices and the extent of match on the change orientation construct between the employer and employee would offer some important insights. Specifically, a researcher could measure the extent to which change orientation might be gleaned unconsciously by another change oriented person. This could be studied by examining the individuals hired by that individual or those chosen to work closely with that individual.

Also an important addition to the knowledge base would be a study examining the change orientation of staff who attend voluntary in-service training offerings. This would study the assumption that change oriented people are drawn to new information or to innovations of their own accord.

This study supported a good deal of the research in the area of change orientation relative to the normal distribution of the construct in the population. However, the study failed to find
significant degrees of relationship between change orientation and certain personalogical variables. The available studies on innovation adoption are few and tend to focus on degree of adoption rather than on what personological factors may foster the adoption process.

This study contributed to the body of knowledge on change orientation and innovation adoption in the field of adult education. Although the variables tested showed no significant relationships with the constructs of change orientation and innovation adoption, one variable - major ABE teaching responsibility - did show a significant relationship with both dependent variables.

These results give a clear indication that more varied and controlled research must be conducted on both the populations of adult educators and also in the area of their change orientation and adoption of innovations. This needs to be pursued so that more data would exist on the connectiveness of change orientation and innovation adoption.
APPENDIX A
ABE Teacher Opinion Survey
ABE TEACHER OPINION SURVEY

NAME _______________________

INSTRUCTIONS

The following is a survey of your opinions regarding various statements about adult education. There are no right or wrong responses, so do not hesitate to mark the statements frankly. In answering each statement, we want your personal opinion. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others. Whether you agree or disagree with any statement, you can be sure that many other people feel the same as you do. Please be sure you do not omit any statement.

In addition there are a few questions which will help us better plan future in-service offerings to you and other ABE teachers in R.I.

The numbers in the extreme right hand column are for keypunching purposes only so please do not concern yourself with them.

Please understand that all of your responses will be held in strict confidence and not reported in any individual manner.

Thank you very much in advance for taking a few minutes to help us with this important matter!
Please mark your responses by circling your choice in the right columns, using this following code:

1 = disagree very much
2 = disagree on the whole
3 = disagree a little
4 = agree a little
5 = agree on the whole
6 = agree very much

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Schools can't do much to develop positive attitudes toward work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>We now have more adult programs than we need for the disadvantaged.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>Adult education can do little to alleviate the problems of disadvantaged</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>I find that adults in adult education classes refuse to heed my advice.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>I say adult education is not the business of the high school teacher.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>I find that individualized instruction using behavioral objectives is</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>I initiate new courses for adults whose present skills are obsolete.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>I look on adult education as more of a burden than an opportunity for the teacher.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Item Number</td>
<td>Statement</td>
<td>Disagree Very Much</td>
<td>Disagree a LITTLE</td>
<td>Agree a LITTLE</td>
<td>Agree Very Much</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------------------------------------------------</td>
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<td>-------------------</td>
<td>----------------</td>
<td>----------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>I believe it is more important to work with the entire class than to spend a lot of time with individuals.</td>
<td>1 2 3 4 5 6</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>I accept the idea that individualized instruction using behavioral objectives allows students to experience success more often.</td>
<td>1 2 3 4 5 6</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Adult education is a top priority item in my teaching schedule.</td>
<td>1 2 3 4 5 6</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>I regularly use behavioral objectives with individualized learning experiences to help my students develop to their potential.</td>
<td>1 2 3 4 5 6</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>I argue that increased emphasis on adult education programs would eventually reduce inner city unemployment.</td>
<td>1 2 3 4 5 6</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>I assume responsibility for recruiting adults for adult education.</td>
<td>1 2 3 4 5 6</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>As part of a teaching team I could spend more time developing creativity, responsibility, and habits of inquiry in students.</td>
<td>1 2 3 4 5 6</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>I teach my classes without assistance and discourage others from helping.</td>
<td>1 2 3 4 5 6</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>I carry out adult education as a vital part of the total program I conduct.</td>
<td>1 2 3 4 5 6</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>I would greatly dislike being a member of a differentiated teaching team.</td>
<td>1 2 3 4 5 6</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>I regularly promote and teach classes for adults.</td>
<td>1 2 3 4 5 6</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item number</td>
<td>Statement</td>
<td>Disagree Very Much</td>
<td>Disagree a Little</td>
<td>Agree a Little</td>
<td>Agree Very Much</td>
<td></td>
<td></td>
</tr>
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<td>-------------</td>
<td>--------------------------------------------------------------------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>I uphold the differentiated team teaching concept as permitting a natural exchange of ideas.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td>I do not work well enough with others to make differentiated team teaching work.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>Teaching adults keeps me up-to-date with today's world.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>I'm convinced that differentiated team teaching is a waste of time.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24.</td>
<td>Use of differentiated team teaching would allow me to put more varied content into my lessons.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25.</td>
<td>I say that differentiated team teaching is asking too much of established teachers.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26.</td>
<td>I hesitate teaching adult courses - my other teaching is a full time job.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27.</td>
<td>I am convinced that adult education is essential for a balanced program.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28.</td>
<td>I consider adult education an essential step toward combating unemployment.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29.</td>
<td>I encourage adults to take courses regularly to keep up to date.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.</td>
<td>I refuse to teach adults who did not care to learn when they were students.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
31. Which of the following is the level or subject that is your primary teaching responsibility in ABE? (please select one and place the number in the box to the right)

1. ABE Level I (grades 0 to 4)
2. ABE Level II (grades 5 to 8)
3. ABE Level III (grades 9 to 12)
4. ABE Mixed Levels
5. ESL
6. Both ESL and ABE
7. Other (please specify)

32. Which of the following is the highest level or degree that you have attained? (please select one and place the number in the box to the right)

1. One to two years of college
2. Three to four years of college
3. A four-year degree (BA, BS, BFA, etc.)
4. A MA, MS, MEd, etc.
5. A PhD, EdD, etc.
6. Other (please specify)

33. How many years of experience have you had in ABE teaching? (please select one and place the number in the box to the right)

1. Less than one year
2. One to two years
3. Three to five years
4. Six to eight years
5. More than eight years

34. How many years of experience have you had in any phase of public or private school teaching? (please select one and place the number in the box to the right)

1. Less than one year
2. One to five years
3. Six to ten years
4. Ten to fifteen years
5. More than fifteen years
35. Is your position in Adult Basic Education a part time or full time responsibility? (please check one and place the number in the box to the right)
   1. part time (25 hours per week or less)
   2. full time (more than 25 hours per week)  

36. Would you please indicate in which age category you fall. (please select one and place the number in the box to the right)
   1. less than 21
   2. 21 to 24
   3. 25 to 34
   4. 35 to 44
   5. 45 to 54
   6. 55 to 64
   7. 65 or more

37. How many hours of in-service functions were you able to attend during this past school year? (please select one and place the number in the box to the right)
   1. one to two hours
   2. three to five hours
   3. six to eight hours
   4. more than eight hours
   5. no hours

38. In what form were the in-service functions that you attended this past year? (please check all that apply)

   [ ] local workshop
   [ ] regional workshop
   [ ] statewide workshop
   [ ] professional conference
   [ ] formal course
   [ ] other (please specify)
39. If you have attended in-service sessions, which of the following topics were covered? (please check all that apply)

**SUBJECT AREAS**
- teaching reading to adults  
- teaching math to adults  
- teaching ESL  
- GED preparation  
- teaching consumer economics  
- teaching government and law  
- teaching occupational knowledge  
- teaching health and hygiene  
- teaching use of community resources

**METHODS AND MATERIALS**
- individualized instruction  
- group instruction  
- use of the R.I. Curriculum Guide for Adult Education based on the API  
- applying adult learning theory to practice  
- identifying and using new materials  
- competency-based adult education  
- measuring adult student growth  
- learning activity packages (LAP's)

**Other (please specify)**

Thank you again for having completed this survey for us!
APPENDIX B

Russell Change Orientation Instrument
General Factor Scale
ITEMS:

1. Schools can't do much to develop positive attitudes toward work.

2. We now have more vocational programs than we need for the disadvantaged.

3. Vocational education can do little to alleviate the problems of disadvantaged people.

4. Students can benefit little from occupational education in the elementary grades.

5. I think there is no harm in starting occupational preparation for young school children.

6. Early occupational education may stimulate a better attitude toward school work in later years.

7. Vocational teachers can make a real contribution to occupational education at the elementary level.

8. There is no need in the elementary curriculum for the addition of occupational education.

9. I find that individualized instruction using behavioral objectives is valuable in helping the student succeed.

10. I believe it is more important to work with the entire class than to spend a lot of time with individuals.
11. I accept the idea that individualized instruction using behavioral objectives allows students to experience success more often.

12. I regularly use behavioral objectives with individualized learning experiences to help my students develop to their potential.

13. I argue that increased emphasis on adult vocational programs would eventually reduce inner-city unemployment.

14. As part of a teaching team I could spend more time developing creativity, responsibility, and habits of inquiry in students.

15. I teach my class without assistance and discourage others from helping.

16. I would greatly dislike being a member of a differentiated teaching team.

17. I uphold the differentiated team teaching concept as permitting a natural exchange of ideas.

18. I do not work well enough with others to make differentiated team teaching work.

19. I'm convinced that differentiated team teaching is a waste of time.

20. Use of differentiated team teaching would allow me to put more varied content into my lessons.

21. I say that differentiated team teaching is asking too much of established teachers.
APPENDIX C

Russell Change Orientation Instrument
Adult Education Sub-Scale
ITEMS:

1. I conduct adult vocational education in my community.

2. I often wish the public realized that vocational courses for adults are a privilege and not a right.

3. I find that training programs for adults are usually provided by industry.

4. I promote the extension and modernization of adult vocational education with administrators in my school.

5. I argue that increased emphasis on adult vocational education programs would eventually reduce inner-city unemployment.

6. I avoid teaching adult courses -- my other teaching is a full-time job.

7. I sidestep adult vocational education as my responsibility.

8. I find that adults have a greater desire to learn than younger students.

9. I encourage adults to take special vocational courses to help them compete in changing jobs.

10. I don't disturb me that some of my adult education students are interested in avocational skills.
APPENDIX D

Levels of Use (LoU) Chart
<table>
<thead>
<tr>
<th>LEVEL</th>
<th>Description</th>
<th>Knowledge of the Innovation</th>
<th>Acquiring Information</th>
<th>Sharing Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Low</td>
<td>Some knowledge of the innovation is acquired through personal experience or direct observation.</td>
<td>Some information and resources are sought from others who have used the innovation.</td>
<td>Sharing is minimal or non-existent.</td>
</tr>
<tr>
<td>II</td>
<td>Moderate</td>
<td>More detailed information about the innovation is acquired through personal experience, direct observation, and interaction with others who have used the innovation.</td>
<td>Some information and resources are sought from others who have used the innovation.</td>
<td>Sharing is limited to specific cases.</td>
</tr>
<tr>
<td>III</td>
<td>High</td>
<td>In-depth knowledge of the innovation is acquired through personal experience, direct observation, and interaction with others who have used the innovation.</td>
<td>A significant amount of information and resources are acquired from others who have used the innovation.</td>
<td>Sharing is widespread.</td>
</tr>
</tbody>
</table>

### Definitions of the Levels of Use of the Innovation

**LEVEL I** (Low Use):
- Knowledge of the innovation is limited to personal experience or direct observation.
- Acquiring information is limited to a small amount of information and resources.
- Sharing information is minimal or non-existent.

**LEVEL II** (Moderate Use):
- Knowledge of the innovation includes personal experience, direct observation, and interaction with others who have used the innovation.
- Acquiring information involves seeking information from others who have used the innovation.
- Sharing information is limited but not minimal.

**LEVEL III** (High Use):
- Knowledge of the innovation is comprehensive, including personal experience, direct observation, and interaction with others who have used the innovation.
- Acquiring information is extensive, involving significant amounts of information and resources.
- Sharing information is widespread, involving a large number of people.
<table>
<thead>
<tr>
<th>CATEGORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ABSCESSING</strong></td>
</tr>
<tr>
<td>Examines the potential or actual use of the innovation at some aspect of it. Can involve actual collection and analysis of data.</td>
</tr>
<tr>
<td>Takes no action to analyze the innovation, its characteristics, possible use, or consequences of use.</td>
</tr>
<tr>
<td>Analyses and compares materials, concepts, requirements for use, evaluation reporting, potential outcomes, strengths and weaknesses for purpose of making a decision about use of the innovation.</td>
</tr>
<tr>
<td>Examines own use of the innovation with respect to problems of logistics, management, time, schedules, resources, and general reactions of clients.</td>
</tr>
<tr>
<td>Limits evaluation activities to those administratively required, with little attention paid to findings for the purpose of changing use.</td>
</tr>
<tr>
<td>Analyzes use of the innovation for the purpose of changing current practices to improve client outcomes.</td>
</tr>
<tr>
<td>Approves collaborative use of the innovation in terms of client outcomes and strengths and weaknesses of the integrated effort.</td>
</tr>
<tr>
<td>Analyzes advantages and disadvantages of major modifications or alternatives to the present innovation.</td>
</tr>
</tbody>
</table>

**LOU: A FRAMEWORK FOR ANALYZING INNOVATION ADOPTION**
APPENDIX E

Overview of Branching Format of the Lou Interview
Are you coordinating your use of the innovation with other users, including another not in your original group of users?

Are you currently looking for information about the innovation?

Have you decided to use it and set a date to begin use?

What kinds of changes are you making in your use of the innovation?

Are you planning or exploring making major modifications or replacing the innovation?
APPENDIX F

Levels of Use (LoU) Rating Sheet
### LEVEL OF USE RATING SHEET (CBAM, 1975)

<table>
<thead>
<tr>
<th>Level</th>
<th>Knowledge</th>
<th>Acquiring Information</th>
<th>Sharing</th>
<th>Assessing</th>
<th>Planning</th>
<th>Status Reporting</th>
<th>Performing</th>
<th>Overall LoU</th>
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<tbody>
<tr>
<td>Non-Use</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>D.P. A</td>
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<td>Mechanical Use</td>
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<tr>
<td>D.P. D-2</td>
<td>IVB</td>
<td>IVB</td>
<td>IVB</td>
<td>IVB</td>
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<td>Refinement</td>
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<td>Integration</td>
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<td>User is not doing:</td>
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</tr>
</tbody>
</table>

Is the individual a past user? Yes  No

How much difficulty did you have in assigning this person to a specific LoU? None 1 2 3 4 5 6 7 Very much

Comments about interviewer --

General Comments --
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