Educator study groups: An exploration of an alternative method of preservice teacher development

Leah Mary Herner

*University of Nevada, Las Vegas*

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EDUCATOR STUDY GROUPS: AN EXPLORATION OF AN ALTERNATIVE
METHOD OF PRESERVICE TEACHER DEVELOPMENT

BY

Leah M. Herner

Bachelor of Science
Bowling Green State University
1990

Master of Education
University of Nevada, Las Vegas
1993

A dissertation submitted in partial fulfillment
of the requirements for the

Doctor of Education Degree
Department of Special Education
College of Education

Graduate College
University of Nevada, Las Vegas
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The Dissertation prepared by

Leah M. Herner

Entitled

Educator Study Groups: An Exploration of an Alternative Method of Preservice Teacher Development

is approved in partial fulfillment of the requirements for the degree of

Doctor of Education

Examination Committee Chair

Dean of the Graduate College

Examination Committee Member

Examination Committee Member

Graduate College Faculty Representative
ABSTRACT

Educator Study Groups: An Exploration of an Alternative Method of Preservice Teacher Development

By

Leah M. Herner

Dr. Kyle Higgins, Examination Committee Chair
Professor of Special Education
University of Nevada, Las Vegas

This study was conducted to investigate the effect study groups have on preservice teacher education. The participants were enrolled in ESP 444, The Special Education Student in the General Education Classroom. The study took place during a 9-week period.

Forty-two students participated in this study. The study involved placing the students randomly into two groups. The lecture group received lectures from graduate students in special education. The study group worked together in groups to research and discuss inclusion of students with disabilities. All students took a knowledge-based pretest and attitude survey prior to beginning the study. All students took a knowledge-based posttest and attitude survey after a presentation by a guest lecturer. All students took a knowledge-based posttest and attitude survey after the intervention phase of the study. Two students from each group were also interviewed prior to and after the completion of the study.
Students' scores on three knowledge-based tests and three attitude surveys were analyzed. Results of this study indicated: (a) achievement between the two groups was similar (b) study groups can be an effective tool for preservice instruction (c) study group participants were more confident in their beliefs
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CHAPTER ONE

INTRODUCTION

Teaching, like all professions, has an interesting formative history. In European countries in the 17th century, a valet or groom could receive a teaching position as payment for a job well done. By the early 1800s, it was considered a great professional advance for teachers to pass an exam and earn a certificate that ranked them as excellent, good, or sufficient in the areas they taught. During these early time periods, teachers held their positions for life and no further training was required (Fraser & Brickman, 1968).

By 1900, a movement toward better educational practices began in the United States. This movement believed that education prepared immigrants to be good citizens in the American democracy. The goal was to prepare people for a role in society and, thus, the education of students was considered the patriotic duty of teachers. At this time, universities began to advocate for more financial support for teacher education in order to expand their programs to meet this patriotic task (Fraser & Brickman, 1968).

From the early 1930s to the 1950s the expectation evolved that teachers should be life long searchers of knowledge. John Dewey was a major influence on teacher education throughout this time period. He wrote extensively about teachers and the importance of them being knowledgeable in many areas. Dewey viewed
the university as the place to find the most current educational research and believed that the university was responsible for the transfer of knowledge to the practicing teacher, or to the preservice teacher. He also maintained that it was the responsibility of teachers to cultivate a lifetime connection with the current research conducted at universities (Simpson & Jackson, 1997).

An important issue facing veteran teachers and preservice students today is the use of current research in the classroom (Carnine, 1997; Evertson, 1987; Kornblet, 1997). Education that helps preservice students develop research evaluation skills is an important step in creating teachers who are prepared to read and utilize research in their classrooms (Carnine, 1997). The techniques and tools that preservice students acquire early in their training are important components in helping them become confident, independent, and professional participants in their schools (Warby, Greene, Higgins, & Lovitt, 1999).

One method used in schools for inservice professional development has been the educator study group (Powell, Berliner, & Casanova, 1992). The focus of these study groups has been the empowerment of teachers to explore research concerning best educational practices. Murphy (1991) described the evolution of educator study groups in a school district that used study groups to examine teaching practices and curricula. The study groups provided the structure for the teachers to explore research in a semi-independent manner that reflected their own needs and curiosity.

Birchak, et al., (1998) believe that study groups put teachers at the center of their own learning. In their research, teachers voluntarily met after school once every two weeks to reflect, share data gathered in their classrooms, and discuss
information about teaching practices. Collegial support and a sense of professionalism were the products of this experience (Birchak et al., 1998). These findings support the findings of Little (1982) in which collegiality was found to be the key element in a successful school. She found that schools in which teachers valued professional discussion and shared ideas with their peers were schools in which teachers were receptive to staff development and continued learning.

Study groups also have been implemented in preservice teacher education in university classes. Roberts, Jensen, and Hadjiyianni (1997) used study groups in a children’s literature course. The preservice teachers in this study reported that their participation in the groups helped them value the ideas and opinions of others in their group (Roberts et al., 1997). These findings corroborate the findings of Brantlinger (1996) who found that preservice students who participated in study groups that focused on the inclusion of students with disabilities indicated that the groups provided a semi-structured method for them to examine their own professional development, evaluate the benefits of their professional development, and share with their peers on a regular basis.

As we move into a new millennium, the pre-professional and professional development of teachers continues to be a focus of education (Lieberman & Miller, 1991). Researchers and educators continue to search for professional development tools to increase the professional knowledge of teachers, to continue educational reform (e.g. inclusion of students with disabilities), and support the use of research-based best practices in university coursework and school classrooms.
Pre-Professional Development Defined

The goal of preservice teacher development is to move teacher education beyond university training into the realm of the school and into the direct and daily application of what is taught in the classroom. What occurs in preservice development is viewed by instructors and the preservice teachers as an important component in the continued growth of the preservice teachers and their later success in their future classrooms (Applegate & Lasley, 1983). It is seen as enhancing skills and attitudes of those who will work in the school setting, as well as increasing preservice teachers' understanding of their chosen profession. Well designed pre-professional development can ultimately lead to an improvement in practice and a more successful outcome for the preservice teachers when they begin teaching and for the students who reside within their care (Curry & Wergin, 1993).

Preservice development contributes to the general basic learning of those who are future members of the teaching profession and supports the concept of lifelong learning. An important component of professional and preservice development is the provision of methods and strategies for continued learning (Hoberman & Mailick, 1994). The goal is to provide a vehicle that will allow the preservice teacher to meet the expectation that he/she incorporate current research and best practice into his/her teaching upon graduation.

Challenges in Preservice Teacher Development

Several challenges concerning professional and preservice development have been identified in the literature (Andrews & Clementson, 1997; Applegate & Lasley, 1983; Birchak et al., 1999). Effective pre-professional development is often difficult...
to coordinate because colleges of education are comprised of large numbers of faculty who often do not agree on coursework that will effectively promote the goals of both the general education and special education curricula (Andrews & Clementson, 1997; Applegate & Lasley, 1983; Brantlinger, 1996). This can result in disjointed curricula or curricula that presents opposing viewpoints on a particular topic of study (Applegate & Lasley, 1983).

Another challenge to preservice teacher development identified in the literature is that instructors do not always implement in their courses the best methods to encourage active learning (Ross, 1987). This can be attributed to the fact that instructors and students are often isolated in university courses (Ross, 1987). Because of this, instructors often find it difficult to motivate preservice teachers to interact across courses in a collegial and sharing manner. An added consideration is that preservice teachers have full schedules and finding time to read, do research, reflect, and/or share information with each other may involve more time than the student or instructor are willing to dedicate outside of the course (Kruse, 1997).

A third challenge to pre-professional development that has been identified is concerned with student interaction with one another. Students often experience difficulty working with each other in a positive and productive manner and, thus, they must be taught how to work together in groups. Research indicates that prospective teachers can be taught to signal quietly that they are listening, ask clarifying questions, and challenge each other in a non-judgmental manner (Birchak et al., 1998). This study also found that a safe environment was necessary for participants to discuss areas in which they needed help and to admit that they did
not possess all the knowledge they needed. These are skills that preservice teachers need to develop prior to employment in a school setting (Kruse, 1997).

Positive Outcomes of Preservice Development

The challenges involved in pre-professional development have led researchers to focus on the importance of the empowerment of the individual preservice teacher so that positive learning outcomes occur. The most effective pre-professional development provides students with a voice in their own growth and in the improvement of their future school (Ross, 1987).

Hord (1997) describes the major attribute of a professional learning community as one that incorporates every voice in the school. This is an attribute that is imperative for preservice learning environments (Goodman, 1986). The goal must be to teach relationships that are collaborative and committed to the creation of a better educational atmosphere. This shared vision makes successful student learning more probable (Hord, 1997). Educator study groups are one method to involve preservice educators in shaping their professional and preservice development as well as facilitating the use of research based tools, methods, and materials (Anders & Richardson, 1991; Kincheloe, 1991).

Educator Study Groups

Educator study groups involve independent personal study, paired with group study in areas of professional interest. The study group works from a shared agenda rather than an agenda imposed by someone else (Birchak et al., 1998). Outside experts, journals, books, and other group members are seen as resources for the group. This

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sharing of research and information can result in a team of educators who are knowledgeable in many facets of the area(s) studied (Herner & Higgins, in press).

Members of the educator study group become the experts in their particular area of study and are able to provide support and mentoring to those outside of the group as the information provided by the group is implemented. This creates an environment that is rich in research-based knowledge specific to the needs and goals of a preservice group (Brennan & Simpson, 1993). It also brings into the university environment teambuilding and mentoring which are two effective means of facilitating professional and preservice development (Anders & Richardson, 1991; Goodman, 1986; Kincheloe, 1991; Sanacore, 1993).

Study groups involve a group of educators concerned with a specific idea or issue (Sanacore, 1993). The focus of the group is to take research and apply it in a practical manner to their area of study and then apply their findings in the classroom setting (Birchak et al., 1998). The participants work to restructure educational practices, promote collegiality, and become powerful learners (Calkins, 1996; Joyce, Murphy, Showers, & Murphy, 1989; McDonald, 1986). Members of the group contribute to all aspects of planning, including instructional improvement, curricular innovations, and reviews of recent research concerning teaching and school reform (Murphy, 1992). This can result in a variety of products being developed by a group (e.g., presentations, reports, curricula).

The process of developing products valued by a group has been called "achieving fit" by Miles and Snow (1994, p. 7). In this process members develop a strategy, structure, and managerial ideology. If successful, the participants develop into a group that fits well together, not only internally, but also externally. The
group, in turn, provides the larger organization with strategies that fit internally or externally. A successful school strategy with good external fit would be one with which the community expresses satisfaction (e.g., one that achieves acceptable district test scores) (Miles & Snow, 1994). An example of internal fit would be a school in which teachers work together in a collegial and sharing manner.

The use of teacher study groups in preservice education is one method that can be used to achieve internal and external fit in a teacher education course. An effective study group process can help preservice teachers achieve personal goals (internal fit) as well as contribute to the fit of the study group (internal fit) and eventually contribute to the class as a whole (external fit) (Brennan & Simpson, 1993).

In a study group, members break into working groups to help each other find research, materials, and information regarding the topic selected by the group. The members study this topical area for a set number of weeks. Six weeks has been identified in the literature as the optimal time period for a group to work together so that interest is maintained concerning the selected topic (Murphy, 1992). The group should meet at least once a week (Joyce et al., 1989).

In a preservice class, the study group members become the on-site experts in the area studied and continue to serve as sources of information and/or mentors for each other and the entire class after the study group disbands. The study groups provide a class with a continuing resource that is easily accessed by other preservice teachers as they become interested in a topic or need the information collected by a group.
Specific issues and activities related to the school or community environment can be the focus of preservice study groups. The groups often come together to resolve specific concerns and discuss how to apply ideas or research in a classroom (Roberts et al., 1997). Ideas are developed and shared to increase cooperation, understanding, and knowledge among group members (Brantlinger, 1996). Thus, study groups become a method to facilitate appropriate communication as well as learning (Forrest, 1991). This communication leads to productive group work and helps to convey the idea to preservice teachers that they must be powerful learners on a topic if they are to be powerful teachers (Calkins, 1996).

Statement of the Problem

While the intent of preservice and professional development is to improve skills and attitudes of future and practicing educators (Murphy, 1991), current research indicates that the manner in which the preservice development is conducted is critical to its success (Brantlinger, 1996). The needs and interests of the group must be examined and the preservice development process should encourage communication and facilitation of a group’s common goals. Preservice teachers do not always find lecture presentations and general inservices beneficial to their pre-professional growth (Ross, 1987; Sarason, 1999). Current research indicates that a presentation to a whole group rarely meets the needs of each individual member of the group (Birchak et al., 1998). Thus, the goal of a study group is to create a very personal learning experience that revolves around the needs or interests of each participant. The techniques studied and research that the
group members read and share often are implemented into their future classrooms (Birchak et al., 1998).

The current research concerning educator study groups is limited. An ERIC search conducted in the fall of 1998, spring of 1999, and fall of 1999 produced five articles concerned with professional and pre-professional study groups. Of these, three contained qualitative data, one contained quantitative data, and one was descriptive in nature. Another nine articles concerning preservice teachers' attitudes toward inclusion or the use of different types of preservice education that could be linked to study groups were identified. Of these, one contained quantitative data, three contained qualitative data, and five were descriptive in nature. While there is a history of research in the business field concerning group work, it does not translate directly to educational best practices (DeLucia-Waack, 1997; Forrest, 1991). Research is needed to explore the effectiveness of study groups as a method to facilitate student learning in preservice education. The purpose of this study was to compare the use of a study group with a traditional lecture presentation to determine the effectiveness of study groups in preservice education.

Research Questions

The questions addressed were:

Question 1. Does the type of pre-professional development have an effect on the knowledge acquisition of preservice teachers concerning inclusion?

Question 2. Does the type of pre-professional development have an effect on preservice teachers' attitude toward inclusion?
Significance of the Study

This study contributes to the research concerning study groups, specifically the use of study groups in preservice education. The current literature suggests that preservice teachers can make productive changes in teaching practices when they read research and learn to apply it to the classroom (Warby, Greene, Higgins, & Lovitt, 1999). Current research also indicates that the most effective type of preprofessional development provides preservice teachers with a voice in their own growth and the improvement of their skills (Ross, 1987). Because there are some data to indicate that preservice teachers do not always find lectures beneficial (Ross, 1987), and because the best method to disseminate information to preservice teachers has not been defined clearly in the literature, it is important to explore alternative methods for preservice teacher education (Sarason, 1999). Preservice teacher study groups may prove to be an effective method to encourage collegial interchange and reflective practice among preservice teachers as well as contribute to the acquisition of research-based knowledge by preservice teachers.

Limitations

This study has five identified limitations. The first limitation of this study deals with the measurement instruments used in the study. The two instruments used were a five-point Likert scale and a multiple choice test. Both instruments were devised using the criteria suggested by Neuman (1997). The survey focused on the attitudes of the participants toward students with disabilities and inclusion. The multiple choice test dealt with participant knowledge concerning the inclusion of students with disabilities. While the two instruments were created according
Neuman’s (1997) criteria, they were normed on only two groups of students with similar abilities. This may limit the generalizability of this study.

The second limitation involves the topic selected for study by the groups. Typically, in the study group format each individual group decides on the topic of focus for the group and proceeds to collect information on that topic (Sanacore, 1993). In order to compare knowledge acquisition across groups, it was decided to select the topic and to provide all groups with the same initial information. The generalizability of this study may be limited in that the groups did not have the opportunity to evolve based on perceived needs (e.g., select their own topic), but were structured around the set topic of inclusion.

The third limitation of the study is that this research was conducted in a university classroom that already had completed 8 weeks of the semester. The students in the course had already been introduced to the topic of inclusion. It may be that their prior knowledge of inclusion confounded the results of this study.

The fourth limitation of the study is that the preservice teachers interacted outside the classroom. It was not possible to control what information was transmitted between the study group and the lecture group during these interactions.

Finally, the last limitation of this study concerns the reliability of the multiple choice knowledge-based test and the attitude survey used in this study. Because an item analysis of the items contained in both the test and the survey was not conducted prior to the study and items changed accordingly to ensure reliability of the instruments used, results of this study should be viewed as being exploratory in nature only.
Summary

The education of teachers has undergone many changes throughout its history. The evolution from lecture style learning to active learning development (e.g. study groups) only recently has begun to play an important role in teacher education (Ross, 1987; Sarason, 1999). With this evolution, instructors and researchers are searching for effective methods to facilitate the dissemination of best practice research to preservice teachers.

The research that has been conducted concerning preservice teacher study groups indicates that study groups may be an effective and useful tool for professional development (Roberts et al., 1997). The study group seems to be beneficial not only to the individual group and its members, but to those outside the group as well (Murphy, 1992). The group provides each participant with an opportunity to expand his/her knowledge, work actively with peers to build a strong knowledge base, create a positive learning environment, and to grow as a future educator. While it appears that study groups may provide an opportunity for preservice teachers to become active seekers of information specific to their individual needs and the needs of the children/youth with whom they wish to work, further research in this area is needed.

Definitions

The following are terms and definitions used in this study. Precise definition of terms is crucial to understanding the procedures and results of this study.

**Study group.** A study group is a meeting of people where everyone is in close proximity to one another and can communicate with one another. The
meetings take place at a set time and involve a small number of people. The study group should consist of approximately 6 people and each topic should be studied for approximately 6 weeks (Murphy, 1992).

Inclusion. Inclusion is the policy of placing students from all disability categories and levels of disability severity in the general education classroom. Students are provided instruction with appropriate educational experiences and support (Lerner, 1997; Stainback & Stainback, 1992).

Active/Action research. Active/action research involves a process by which a person studies a specific problem by observing, collecting, and analyzing data concerning the problem (Ross, 1987). The researcher is actively involved in the implementation of the research for practical classroom use.

Lecture group. A lecture group is a group that meets only during a set class period. The participants receive information on a topic from a variety of speakers or one speaker. The participants do not meet at any other scheduled time to discuss the information.
CHAPTER TWO

REVIEW OF THE LITERATURE

Teacher education, as we know it today, was virtually nonexistent from 1620-1820 in American history (Urban, 1990). Teachers were hired if they could read, write, and understand mathematics. In the early 1800s, normal schools provided education for many public school teachers, but the coursework in these schools was concerned with the achievement of a higher level of academics and not with pedagogy (Urban, 1990). Future teachers focused on understanding the subject material and not on the instruction of their future pupils. In the late 1800s, philosophy and pedagogy began to merge in the university setting with the creation of departments of education. However, university departments of education existed to train high school teachers only. Normal schools continued to be the environment in which students who wanted to work in elementary schools were educated. Those who attended normal schools were afforded a lower educational status than those who attended the university (Urban, 1990).

At the beginning of the twentieth century universities were divided between two philosophies of teacher education. One philosophy believed education should be taught as a science and the other as a school-based laboratory. Dewey (1904) maintained that practical experience should be combined with educational philosophy. His writings during this time period describe the importance of the
application of theory to practical work in the field. This involved training teachers to understand the use and value of research findings in the classroom.

In the early 1900s, as colleges evolved into universities, the science of education became more prevalent than practical training in the field. Researchers became concerned with the process of learning (Joncich, 1968). However, the process of teaching and the concerns of teachers were generally not part of this research process.

The public's interest in the improved education of teachers coincided with the Russian launch of Sputnik and the failure of the United States to win the race into space. It was not until the late 1950s that the arguments for better and more practical training for teachers were heard by the public (Urban, 1990). As a result, more funding for education was made available from the federal government.

Arguments concerning the education and training of teachers have continued until the present (Carnine, 1997; Sleeter, 1985). Urban (1990) believes that knowledge of the past may be beneficial to those in teacher education so that they are better able to intertwine research into practical information for preservice teachers. It has been argued that teacher education can not be reformed without careful study of current societal issues and their impact on what occurs in the classroom (Joyce et al., 1989; Sarason, 1999; Sleeter, 1985; Urban, 1990).

One of the most important issues that teachers face is the application of current research in their classrooms (Billups, 1997; Carnine, 1997; Evertson, 1987; Kornblet, 1997; Lloyd, Weintraub & Safer, 1997; Mitchell, 1997; Sydoriak & Fields, 1997). Carnine (1997) maintains that the quality of research can be assessed in terms of trustworthiness, usability, and accessibility. Trustworthiness is determined
by the technical analysis of data. If the data are analyzed correctly, then the findings may be used to enhance academic programs. Usability refers to the recognition of research as useful, thus, increasing its use in the field. Accessibility is defined as the quickness with which teachers can extract information from the research to help them meet a goal or need. If preservice teachers are taught to extract pertinent information from published research, they may be more likely to continue using research throughout their careers (Carnine, 1997).

Carnine (1997) advocates for more research to facilitate the development of preservice teacher training programs and materials. This involves the exposure of preservice teachers to current research and providing them with tools for its use in the classroom. These techniques can help form a group of practicing teachers who know how to access and use current research (Warby et. al, 1999).

Educator study groups are one method that may contribute to preservice teacher development as well as facilitate the improvement of independent research and learning skills for preservice teachers. Preservice teacher study groups involve independent personal study paired with group study in areas of interest. This sharing of research and information results in a team of educators who are knowledgeable in many facets of the areas studied (Sanacore, 1993). Members of the study group become knowledgeable in their particular area of study and are able to provide support to those outside of the group as they implement the ideas and research presented by the group.
Preservice Education

Understanding the development of adults can make planning preservice education easier as well as make it more successful. Four focus points have been identified as critical in adult education. The first involves practical application of experiences followed by reflection. This allows the participant to internally confront old opinions and assumptions, acknowledge how new theories conflict with old theories, and adopt new behaviors as a result of this new knowledge. It has been suggested that preservice teachers have opportunities to reflect with their peers. This provides the preservice teacher with a support group in which to explore new ideas and teaching techniques (Ross, 1987; Oja, 1990).

The second focus point is concerned with peer supervision and advising. This involves the continuous and consistent support from university instructors in the modeling of communication and group skills to help maintain collegiality among preservice teachers (Birchak et al., 1998). Once preservice teachers have learned these skills, they can help each other evaluate the effective use of the skills. Regularly scheduled meetings should be planned to provide preservice teachers time to supervise each other in a supportive manner and communicate with each other concerning important information (Roberts et al., 1997; Oja, 1990).

The assuming of complex roles is the third focus point. This involves the preservice teacher in becoming a resource person and action researcher. This provides the student with opportunities to build confidence in their own skills, as well as increase their communication skills. In these situations preservice teachers have the opportunity to see other peoples' points of view as well as express their own (Goodman, 1986; Oja, 1990).
The last focus point concerns the provision of a supportive environment in preservice education. The adult who is attempting new things and challenging previously held views needs support, as anxiety and frustration with the process are common. This might be a supportive group meeting or a one-on-one conference with a peer. The supportive environment helps the adult learner feel that understanding and empathetic feelings are coming from the learning environment (Applegate & Lasley, 1983; Oja, 1990).

**Methods of Preservice Teacher Education**

Students who are provided early exposure to specific professional development experiences (e.g., study groups) have an easier time with student teaching and later in their educational work environment (Applegate & Lasley 1983). Applegate and Lasley (1983) conducted a study that focused on the expectations of undergraduate education students concerning their early field experiences. The goal of the study was the development of constructs to shape successful field experiences for the students. Two types of data were collected from two different sample groups. Personal accounts of the expectations of 197 students were collected prior to early field experiences. From these personal accounts, a checklist containing 57 student expectations was developed. This checklist was completed by a second group of 291 students. An item-analysis of the checklist was conducted to ascertain which items held the most agreement for the preservice teachers. From this item-analysis, a six-factor criteria list that focused on the field experience expectations of the preservice teachers was created.
The first factor identified dealt with student expectations concerning their ability to assess the complexities of teaching (e.g., preparation time, student responses). Preservice teachers expected to better understand their abilities to perform in the teaching role after learning about assessment and having the opportunity to observe practicing teachers. The second factor focused on student expectations concerning modeling professional practice. Preservice teachers wanted to understand the subtle skills (e.g., classroom management) necessary to be effective in classrooms. The development of practical insights and ideas was the third expectation held by preservice teachers. They hoped to acquire specific ideas concerning the evaluation of their own successful performance in the classroom.

Preservice teachers in this study expressed the fourth expectation that they have an opportunity to practice teaching. They wanted the experience of doing activities with children. The fifth expectation identified involved student understanding of various school and classroom settings. The preservice teachers expressed the desire to see how different teachers handle different settings and cultural experiences. The last factor identified dealt with student expectations for working directly with students. Preservice teachers wanted to work with students early in their educational experiences and to work with students who had disabilities.

From their research findings, Applegate and Lasley (1983) concluded that preservice teachers have strong ideas and expectations concerning their preservice education. It appears that preservice teachers are eager for experiences that approximate the real world. The authors concluded that teacher educators should
use real life case studies and current research in pre-field work courses instead of frequent lectures. The use of study groups fits into this scenario. Study groups provide the preservice student with simulated staff development experiences, as well as preparing them to use research in their field experiences and later in their own classrooms.

Another method for increasing the preservice teachers' knowledge prior to and during field experience is the use of action research. Ross (1987) described the use of action research and the benefits of its use with preservice teachers. Action research allows a person to study a specific problem. This involves observation, data collection, the analysis of data as well as the use of current research to devise a plan, implement a plan, and observe the outcome. The preservice teacher then assesses the benefits of continuing the plan or changes aspects of it until the problem has been solved to his/her satisfaction. Action research encourages participants to take responsibility for their actions and to create their own database of information (Ross, 1987).

Ross (1987) described how action research was used as a part of PROTEACH, a five year teacher education program. In their junior year in the program students participated in a course that encouraged their use of research as a guide to meet their learning goals. In this course, teacher educators helped the preservice teachers overcome their insecurities concerning research and taught them criteria to use in the selection of appropriate research questions. In groups, students brainstormed questions related to their field experience and reviewed previously used action research questions. Time for class discussion and sharing of student projects were important components of the program. Students were taught
to gather data qualitatively (e.g., field notes, audio-tapes, journals, interviews, and checklists) and then link the data collected with classroom intervention results.

One of the most important components of the program involved the students working in groups. The students shared their progress, clarified questions, and received critiques from peers. This interaction led to changes in individual projects and the manner in which the students were teaching.

Data were gathered in the PROTEACH program through the evaluation of student reflection journals and the students' action research projects (Ross, 1987). At the end of the program the students shared their research with each other in a round-table symposium. From the analysis of the journals and evaluation of the projects, Ross (1987) concluded that the students viewed themselves as active problem solvers and that they learned they were capable of reading and interpreting research as well as conducting their own research.

Short and Burke (1989) discussed the need for preservice teachers to formulate questions and to use a holistic approach for teaching and learning. They stated that most teacher-education programs don't encourage students to view themselves as active problem solvers and tend to teach one piece of knowledge at a time without relating the information to actual classrooms. They believed that this lack of active engagement results in the reliance of preservice teachers on their instructors while in college and on textbooks and curricula created by experts when they begin teaching. They state that preservice teachers need to possess the skills that help them to seek out knowledge.

Short and Burke (1989), in a descriptive study, described a preservice course in which preservice teachers met in the library to read and discuss professional
literature. The students were broken into study groups to read one book or article. The students then came back to the class and shared their book or article. Their description of this preservice course ended with their conclusion that providing preservice teachers with a time for group reflection concerning the content to be learned and the process of applying that content resulted in preservice teachers who better understood the purpose of learning (Short & Burke, 1989).

Providing an opportunity for preservice teachers to work with research, collaborate, and learn the inquiry process can ultimately result in teachers being better able to make educational decisions (Goodman, 1986). Goodman (1986) designed a course that focused on critical thinking skills and the educational process in middle school Social Studies. The course dealt with: (a) curriculum development, (b) creating a link between research and curriculum development, and (c) encouraging preservice teachers to engage in reflective analysis of their own teaching and learning.

The first part of the course involved the preservice students in an examination of their first preservice school experiences. In groups, students discussed the present situation in their individual schools and looked for similarities, differences, and common themes among their placements. The second half of the course involved the students in the development of a curriculum. In this half of the course the students selected a topic with input from their field supervisors and from their classmates and explored possible teaching and learning resources. The students were encouraged to seek outside resources, grade level resources at their schools, and the knowledge of their peers.
The preservice teachers then developed learning activities for the curriculum they developed. The focus was to create activities that involved research-based instructional strategies as well as to promote reflective inquiry by the preservice students. The preservice teachers were required to incorporate an evaluation component in their curriculum and were encouraged to go beyond traditional tests and include discussion groups or research projects.

Goodman (1986) found that the majority of preservice teachers were positive about building their own curriculum and that they felt they gained knowledge from working with their peers. The personal knowledge of the preservice teacher and his/her peers was found to be very valuable in the design of the curriculum. Goodman (1986) concluded that preservice teachers have the ability to go beyond traditional lecture style courses and employ their own experiences, the knowledge of their peers, and current research to create innovative instructional curriculum.

Educator Study Groups

**Educator Study Groups Defined**

Study groups provide preservice teachers with opportunities to explore research and discuss various methods to incorporate the research into their future classrooms. Study groups have been defined in the literature as a group of educators concerned with a specific idea or issue (Sanacore, 1993). These groups band together to examine current teaching practices, curriculum development, or academic content and involve a proactive rather than a reactive approach to learning (Murphy, 1991).
In a study group, participants identify areas of importance, explain challenges they may face in the classroom, and seek answers based in best-practice research. Researchers have viewed study groups as people working to restructure the workplace, promote collegiality, and become powerful learners (Calkins, 1996; Joyce et al., 1988; McDonald, 1986). Though not specifically discussed in the literature, preservice teachers may benefit from study groups in that they have an opportunity to practice using a tool that may contribute to their present and future professional development.

**Effectiveness of Study Groups**

One of the most important elements of a study group is that the participants have the opportunity to come together to read about different educational theories, the effect teaching styles have on student learning, and cutting-edge practices. An important consideration in this process is that participants have the opportunity to discuss this information in a collegial group.

Powell et al. (1992) conducted a study in which teachers formed a study group to focus on teaching reading. Packets of research-based articles concerned with reading instruction were developed by the researchers. Each article contained notes from the researchers to the participants that explained the statistical reporting method used in the research. The teachers also were provided with information concerning the educational research process and how to effectively read educational research. The teachers used the information provided as they read the articles and interacted in their study group.

Areas evaluated by Powell et al. (1992) included teacher discussions, teacher evaluations of their study group, and audio-tapes of the group. Qualitative analysis
of the data indicated that the participants found it helpful to discuss the research readings with others. More than half of the participants felt they would discuss research more frequently as a result of their participation in the study group. The participants indicated they felt less isolated and stated they were more likely to seek out interchanges with colleagues in the future. The participants maintained they would read more educational research literature concerning their areas of interest. Powell et al. (1992) also found that an overwhelmingly large number of the participants indicated they would participate in study groups again.

Roberts, Jensen, and Hadjiyianni (1997) described the use of literature study groups with preservice teachers. In this research, the study groups focused on books concerned with current educational issues. The teacher educators selected the books for the study groups based on the ability of the book to generate dialogue among participants. The groups of three to four preservice students were told to read the book, discuss it, and prepare a teaching presentation based on the work of the group. The study groups met weekly in class and were expected to meet outside of class as needed. The instructor moved around the class each week and participated in each study group. Following the final meeting of the study groups, participants completed a questionnaire.

In a qualitative analysis of the questionnaire, questions were sorted and grouped, one question at a time, until themes emerged for each question. These themes created categories of responses concerning the nature of study groups. Sixty-two percent of the participants indicated that the most positive aspect of the study group format was the input they received from the other participants. Conversely, 51% of the participants indicated that the major hindrance to their use
of study groups was the amount of time involved and the scheduling constraints involved in study group participation. The preservice teachers were asked if they would use study groups in their own classes. Seventy-five percent indicated that they would use study groups, however, 15% indicated they were unsure because of evaluation issues and fairness of work loads.

In a case study, Ellis (1993) focused on the use of study groups and collegiality. Fifteen teachers, who had previously participated in formal professional development activities focusing on a new language arts instructional approach, participated in this study. The teachers participated in an informal study group on a daily basis that revolved around language arts instruction, particularly the reading and writing process. They also observed in each other's classrooms.

Ellis (1993) then observed the fifteen teachers for one hour in their classrooms and interviewed them at the end of the study. The focus of the observation and interview was on collegiality in the workplace as well as on the teachers' willingness to change their reading and writing instruction as a result of study group participation. The interview consisted of specific demographic questions (e.g., age, years teaching) and open-ended questions concerned with the interaction among teachers, how the teachers implemented the process approach, and what they learned from observing one another.

Ellis analyzed these data according to specific, pre-selected categories of teacher definitions of the process approach, how the teacher implemented the process, collegial talk, and specific changes made by the teachers. Four themes emerged from the analysis of the interviews: (a) definitions of the writing and reading process approach, (b) talk/communication among the teachers, (c) reports of
classroom implementation, and (d) descriptions of the changes implemented by the teachers. Results indicated that the teachers were able to name specific colleagues who had helped them during the learning phase of the reading and writing process. The teachers believed that the informal study groups were integral to their success in implementing these new processes in their classrooms. The teachers also reported that they felt they had made gradual changes over time and that these changes were likely to continue as a result of the support they had received from their colleagues. Ellis concluded that informal study groups can have a direct impact on collegial interactions, how collegial interactions influence teacher reflection, teacher decision making, and direct classroom implementation of teaching practices.

Joyce, Murphy, Showers, and Murphy (1989) conducted a study that involved 50 schools, 1800 teachers, and 33,000 students. The teachers were organized into collegial study groups that met weekly. The focus of the study was on the creation of an atmosphere in which teachers felt comfortable to learn new teaching strategies.

The study groups met formally every week. Teachers also visited each other's classrooms to assess student responses to the teaching strategies being studied in the study groups. Data collection included observations of the teachers, surveys, and student test results. In their surveys, the teachers indicated satisfaction with the study groups. They believed that the collegial setting of the study groups helped them make the changes in their instruction that led to student success as well as to their success as a teacher.
The result of this improved instruction was represented in substantially higher test scores attained by the students on curriculum-based tests. Joyce et al. (1989) concluded that when teachers are provided the opportunity to work in groups and share their plans for teaching, their skepticism concerning their plans decreases and they are more apt to implement new teaching strategies in their classrooms.

The evolutionary development of the study group as an entity has been described in the literature. McDonald (1986) found that as the study group gains confidence in their work they begin to realize the importance of the work and begin to share it with others outside of the group.

McDonald’s (1986) study involved teachers from different schools who met informally in a study group to discuss improving the teaching practices in their classrooms. Data were collected by means of journals kept by each teacher that focused on discussions, readings, and activities. The journals were shared by each participant during meetings of the study group. Observational field notes of the study groups as they worked also were analyzed.

The evolutionary stages of study groups were identified from the data. The first stage revolved around the sharing of anecdotes for the sake of collegiality. In this stage the members of the group were just happy to have a venue in which to vent frustrations. The next stage involved discussions by the group that were theoretical in nature. The group members decided that they wanted to have a political focus and wanted to become active makers of policy. They believed that policy makers should read their work. During the third phase, the teachers became involved in the reading of educational research and in discussions of how the
research-based practices could be used in the classroom. This included detailed discussions of experiences, analysis of situations, and classroom application of the research and theories read. Teachers also discussed how the research and educational theories could benefit them in the different situations discussed by the group.

Preservice Teachers and Inclusion

Inclusion

While the general education classroom of today includes many students with disabilities, preservice teachers are not always prepared to work with this diverse population (Devlin-Scherer, 1993). Thus, they need to be taught how to teach in a manner that affirms everyone’s equal chance at educational opportunities (Sleeter, 1985).

Andrews and Clementson (1997) stated that preservice educators need to assess the type of instruction used with preservice teachers. This study focused on the use of active learning techniques coupled with the use of literature and the resulting influence on preservice teacher attitudes toward the inclusion of students with disabilities. The participants in this study were 67 students taking an introduction to education and special education course. Throughout the course the students were engaged in active learning activities that involved the use of simulations, awareness activities, problem solving, role playing, and discussions. The students also participated in field trips to schools in which students with disabilities were included.
The students completed a pre- and post intervention survey that was designed to ascertain their attitudes concerning the inclusion of people with disabilities. Data from the surveys were analyzed using t-tests to compare the pre- and post-survey results. Results indicated that the students significantly increased their knowledge concerning people with disabilities by participating in the active learning activities. The survey results also showed that student attitude towards the inclusion of people with disabilities increased significantly in a positive direction. Andrews and Clementson (1997) concluded that the incorporation of active learning methods in introductory education courses can be significantly influential in creating positive attitudes toward students with disabilities.

Brantlinger (1996) attempted to identify beliefs of preservice teachers that might hinder inclusive practices. She screened the written and oral comments of 182 junior and senior special education preservice teachers and found that many held negative beliefs toward inclusion. The written documents analyzed included papers written during field experiences, reaction papers to chapters in a book concerned with socio-cultural influences in the school setting, and reviews of inclusion articles. Oral statements that were analyzed came from class discussions, individual interviews held at the end of the semester, and casual conversations held between the researcher and the students. Students' written work and oral statements were qualitatively analyzed and involved the development, refinement, and expansion of anti-inclusion categories in order to distinguish statements from one another.

Written statements concerning inclusion were placed into the following categories: (a) the application of the grade level norm to all children, (b) disability
status of students with low achievement levels, (c) academic achievement that mirrors the levels of academic subjects, (d) students learn best through individualized instruction, (e) advantages of homogenous and separated grouping, (f) attributing students' achievement differences to motivation and parental attitudes about education, (g) assuming the neutrality of educational structures, and (h) the unwillingness to make modifications for students with disabilities. Analysis of the data revealed that 75% of the preservice teachers expressed at least one anti-inclusion belief, 57% expressed at least two anti-inclusion beliefs, and 25% expressed at least three anti-inclusion beliefs. The students indicated that the source of these beliefs were their supervising teachers and their own experiences in the school setting.

Brantlinger (1996) concluded that preservice teachers needed more time and practice concerning the identification of anti-inclusion beliefs and more exposure to techniques designed to combat negative attitudes. This exposure could encompass an opportunity to read more research and have the opportunity to work in a group to actively reflect upon the information read.

Rademacher, Wilhem, Hildreth, Bridges, and Cowart (1998) also conducted a study to assess the attitudes of preservice teachers toward inclusion. Seventy-eight student teachers participated in this study. The students were divided into three instructional groups. The first group was comprised of 35 students who were enrolled in a one-credit-hour course entitled Special Education in the Mainstream. The students were required to complete questions at the end of each unit in the book assigned for the course. They also were required to do one observation of a student with a disability in a general education classroom and interview the special
education teacher who worked with the child. At the end of the course the students took a final exam. The students did not meet with the instructor after the conclusion of the course.

The second group of 20 students participated in a four-week Professional Development Group. The participants addressed several topics concerned with students with disabilities and explored their attitudes toward teaching students with disabilities. The topics were revisited in weekly, discussion follow-ups throughout the semester. The topics included: (a) shared responsibility, (b) implementing effective classroom modifications, (c) social skills, and (d) creating a cooperative classroom. Assignments included: (a) interviews with mentor teachers, (b) written reactions to observations, and (c) writing modified lesson plans for students with disabilities.

The third group was made up of 23 students who worked in a small, ethnically diverse, professional development school. The students were interns in this school for part of the day and had classes on-site the rest of the day for a whole semester. They were assigned to classrooms full-time for the second semester. During the course of the year, the students took a special education class that met four times the first semester and four times in the spring. The assignments included projects, a case-study, two reaction papers concerning their perceptions of special education, and article critiques concerning special education. All assignments were shared with a group and were combined into a student portfolio.

Participants in the three groups completed an anonymous pre- and post-instruction survey. The 5-point Likert survey included 17 statements concerning positive and negative aspects of working with students with disabilities. Two survey
items were open-ended questions that dealt with the most positive and negative aspects of including students with disabilities.

Results from the surveys indicated that students who participated in the one-credit hour had a decrease in their belief that every student should have a chance to participate in school. They felt that they were not adequately prepared to meet the needs of students with disabilities. The second group of students who participated in the four-week professional development group believed that they were somewhat prepared to work with students with disabilities. The students who worked at the Professional Development School for a semester showed a significant increase in their sense of being prepared to work with students with disabilities. The students also felt that the general education teacher must make modifications for students with disabilities.

Rademacher et al. (1998) concluded that preservice teachers' attitudes and knowledge can be influenced by interactive methods of teaching and having the opportunity to work closely in groups. The authors also indicated that further study concerning the specific components should be conducted.

Summary

Preservice education has changed significantly over time. Teachers were not formally educated until the 1800s and the focus of this education revolved around subject matter to be taught, not pedagogy (Urban, 1990). The early 1900s brought about a change in educational philosophy with practical experience and the science of education becoming more intertwined (Dewey, 1904). As preservice education has matured, the field has come to recognize the influence of teacher education on
the development of the preservice teacher's skills, as well as the generalization of these skills into the school environment. The demand for a better educated teacher workforce has led to the exploration of a variety of new methods to incorporate into preservice education (Sarason, 1999; Sleeter, 1985; Urban, 1990).

Preservice education has recently begun to focus on active and action learning that incorporates the use of research. The value of using research and feeling empowered to create research is being incorporated into teacher education programs with the goal of the transferance of educational theory and research into classroom practice. Because preservice teachers have expectations that focus on a desire to learn about the complexities of teaching and the acquisition of the skills necessary to succeed (Applegate & Lasley, 1983), study groups may be a method to empower preservice teachers to actively engage in learning to meet the individual expectations of each preservice student.

Study groups provide preservice teachers the opportunity to explore research in a semi-structured fashion. Because the group provides structure to the exploration process, the preservice teacher is provided with assistance to overcome their insecurities concerning the reading and use of research (Carnine, 1997; Ross, 1987). The preservice students learn to rely on themselves as well as on their colleagues as they explore potential classroom situations or problems and apply research to the situations or problems (Short & Burke, 1989). This allows the preservice teacher to come to some conclusions about the use of the research in his/her future classroom (Sanacore, 1993).

While there is little research concerning preservice teacher study groups in the literature, the little that does exist appears to indicate that, when provided the
opportunity, preservice teachers welcome the chance to go beyond the traditional lecture format and participate in active learning (Goodman, 1986). The literature also indicates that participants in study groups believe they would continue to participate in study groups because they find them to be beneficial to their professional development (Joyce et al., 1989; Powell et al., 1992). With the current focus of preservice teacher education being on the engagement of preservice teachers in active learning, it appears that preservice study groups may be one method to facilitate the development of active learners. Study groups, by their very nature, provide a forum to actively investigate individual interests in a systematic fashion over a period of time, as well as explore the relevance of current research to these interests.
CHAPTER THREE

METHODOLOGY

The early 1800s saw the beginning of formalized teacher education in the United States. However, it was not until the late 1950s that preservice teacher education became the focus of public and political attention (Urban, 1990). This focus has intensified in the late 1990s and now revolves around the translation of research to classroom-based practice and how to train preservice teachers to read and use research (Carnine, 1997). One method to train teachers to use research may be teacher study groups.

While there is a plethora of information concerning pre-professional development in the literature, there is little information concerned specifically with preservice teacher study groups. Most research concerning the use of study groups as a vehicle for professional development has been conducted in business and psychology (Miles & Snow, 1994). Even in this literature, there are no research studies comparing study groups with other types of professional development. This study compared the knowledge acquisition and the attitude toward inclusion of preservice teachers who participated in two instructional methods. The study compared the use of the study group format of pre-professional development to a traditional lecture format. The use of teacher study groups for professional and preservice development has been documented in the literature only five times in the
late 1980s and 1990s (Birchak et al., 1998; Joyce et. al, 1988; Murphy, 1991; Murphy, 1992; Roberts et. al, 1997). However, information in these articles is descriptive or qualitative in nature. This study collected qualitative and quantitative data concerning the effectiveness of preservice teacher study groups when compared to a traditional class lecture.

The questions addressed in this study were:

**Question 1.** Does the type of pre-professional development have an effect on the knowledge acquisition of preservice teachers concerning inclusion?

**Question 2.** Does the type of pre-professional development have an effect on preservice teachers' attitudes toward inclusion?

**Participants**

Preservice Teachers. Forty-two preservice teachers at University of Nevada, Las Vegas (UNLV) were the participants in this study (Table 1). The students were enrolled in ESP 444, *The Special Education Student in the General Education Classroom*, which is a required course designed for future or preservice general educators to learn about students with disabilities, federal law concerning students with disabilities, and methods and instructional modifications to facilitate the inclusion of students with disabilities into the general education classroom. The preservice teachers included three sophomores, 25 juniors, and 14 seniors. Thirty-two participants in this study were female and nine were male. All participants were studying to become general education teachers. Thirty-one students were majoring in elementary education and 11 were majoring in secondary education.
Table 1

**Student Demographics**

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<th>Lecture Group</th>
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### Student Demographics

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The randomly selected students participated in the preservice study groups or lecture group, weekly, over a 6-week period. Demographic information was collected from all participants using the Teacher Demographic Questionnaire (see Appendix A). Each student signed an informed consent form prior to participation in the study. An example of the informed consent form is contained in Appendix B.

**Facilitator.** A special education graduate student was the facilitator of this study. She has been a general educator for 10 years and is currently a fourth grade teacher at Paradise Professional Development School. The role of the facilitator was to provide organizational materials and guidance for the implementation of study groups.

**Guest Lecture Provider.** An expert in the field of special education from the University of Nevada Las Vegas (UNLV) made a presentation to the students of ESP 444 during week two of the study. The focus of the one-hour session was the topic of inclusion. The Guest Lecture Provider has taught many classes that deal with inclusion and has presented at national conferences concerning inclusion. His presentation focused on federal law, definitions, and collaboration ideas related to inclusionary practices. At the end of the inservice presentation questions were answered and all students were provided with three articles concerning inclusion. The articles were: *Supporting the Education of Students with Severe Disabilities in Regular Education Environments* by Michael Giangreco and JoAnne Putnam, *Winners All: A Call for Inclusive Schools* by The National Association of State Boards of Education, and *The Desegregation of America's Special Schools: Strategies for Change* by Andrea McDonnell and Michael Hardman.
Weekly Guest Lecture Providers: Weekly guest lectures were provided by special education doctoral students in areas of their expertise. The lectures focused on the topics of occupational therapy, gifted education, creativity, early childhood, and special education at the high school level. The guest speakers discussed inclusion briefly in their presentations.

Setting

The course, ESP 444, The Special Education Student in the General Education Classroom, was held at the University of Nevada, Las Vegas in a classroom located in a classroom building at UNLV campus. The study group was held on the second floor of the C building and the lecture was held on the first floor of the C building. Both rooms were typical university classrooms that contained no windows and were painted white. Each room contained an overhead projector and one wall of white boards.

Instrumentation

Quantitative Measurements

Pretest. A 50-item knowledge-based pretest (see Appendix C) over material presented in the guest lecture, information in the articles passed out by the guest lecturer, and information not contained in the lecture or in the articles was administered to participants. The 50-item pretest, designed according to Neuman (1997), contained 25 multiple choice questions, 15 true and false questions, and 10 matching questions. The pretest was reviewed and revised for content validity by the guest lecturer. The pretest was scored by the facilitator. Twenty-five percent of
the pretests were re-scored by a graduate student in special education to ensure inter-rater agreement.

In an attempt to ascertain reliability of the knowledge-based test questions an item analysis was performed. The item analysis was performed to ascertain if individual test questions were reliable. Test question reliability would be indicated by equal numbers of students selecting each of the multiple choice answers. Knowledge-based test 1 $\alpha = .639$, test 2 $\alpha = .533$, test 3 $\alpha = .348$.

**Posttest.** The 50-item pretest was re-administered following the guest lecture and again at the conclusion of the study (see Appendix C). Thus, the pretest/posttest served as a posttest to the lecture phase of the study and as a pretest to the intervention phase of the study. The 50-item posttest contained 25 multiple choice questions, 15 true and false questions, and 10 matching questions. The posttest was scored by the facilitator. Twenty-five percent of the posttests were rescored by a graduate student in special education to ensure inter-rater agreement.

**Pre-attitude survey.** A 25-item attitude toward inclusion survey was administered to all participants prior to the inclusion lecture (see Appendix D). The survey was designed according to criteria suggested by Neuman (1997). The survey used a five-point Likert scale designed to assess teacher attitudes toward inclusion, collaboration, and students with disabilities. The survey was scored by the facilitator. Twenty-five percent of the pre-attitude surveys were rescored by a graduate student in special education to ensure inter-rater agreement.

In order to ascertain the content validity of the pre-attitude survey it was reviewed apriori by three experts in the field of inclusion. The experts were asked to make modifications. Once modifications had been made, the experts were asked
to review the survey once again. At this point, the experts agreed that the content of the survey was appropriate and reflected current information concerning inclusion in the field of special education.

In an attempt to ascertain reliability in the survey questions, an item analysis was performed. This item analysis was performed to ascertain if individual survey questions were reliable. If a survey question was reliable, the number of participants selecting a particular number on the five-point Likert scale would be similar. For example, equal number of participants would select numbers one through number five. Test-retest reliability for the attitude surveys are survey 1 \( \alpha = .436 \), survey 2 \( \alpha = .609 \), survey 3 \( \alpha = .489 \).

Post-attitude survey. The 25-item pre-attitude toward inclusion survey was re-administered to all participants following the guest lecture and again at the conclusion of the study (see Appendix D). It served as a post-attitude survey for the lecture phase of the study as a pre-attitude survey for the intervention phase of the study. Twenty-five percent of the post-attitude surveys were re-scored by a graduate student in special education to ensure inter-rater agreement.

Demographic survey. A demographic survey (see Appendix A) was completed by each preservice student to determine their personal, teaching, and academic profile. This 15-item survey included personal information (e.g., age, gender), academic information (e.g., last university course taken), and previous teaching experiences (see Table 1).
Qualitative Measurements

Pre-intervention interview. Two participants were selected randomly from the study group and two participants from the lecture group to be interviewed concerning inclusion. The interview was designed to elaborate upon information collected in the knowledge-based test and attitude survey. The interview was open-ended to allow the participants to expand on their knowledge and attitudes concerning inclusion and was designed according to the criteria established by Marshall and Rossman (1999) for the standardized open-ended interview (see Appendix E). Open-ended interviews are exploratory in nature and are used to explore domains believed to be important to the study and about which little is known (Schensul, Schensul & LeCumpte, 1999).

While the open-ended interview is unstructured, it is not unplanned. The open-ended interviews conducted in this study were reviewed by three experts. Two were experts in the field of inclusion and one was an expert in the field of qualitative research. This was done to determine that the questions were pertinent to the field of inclusion and that they would elicit responses from the participants that would be elaborative in nature rather than simple yes or no responses (see Appendix E). Probes (e.g., tell me more, what do you think about) were used when necessary to elicit more information from the participants.

The interview was conducted by the facilitator in a classroom on the UNLV campus. Students were assured that all information collected in the interviews would be confidential and permission to tape record responses was obtained in writing from the students.
A time limit of 50-minutes was established for the interview. The interview was tape-recorded and transcribed by the facilitator and a transcription service in ensure transcriber agreement.

**Post-intervention Interview**

The four participants who participated in the pre-intervention interviews were interviewed again at the end of the study. The same questions were asked at the conclusion of the study (see Appendix E). The interviews were conducted by the facilitator and took place in a classroom on the UNLV campus. A time limit of 50-minutes was again established for the interviews. The interviews were tape-recorded and transcribed by the facilitator and a transcription service to ensure transcriber agreement.

**Design and Procedures**

This study was conducted in four phases. A diagram and a timeline of the phases the study is contained in Appendices F and G respectively.

**Phase One**

The forty-two preservice teachers were randomly assigned to groups in this phase. Twenty-one participants were randomly assigned to the lecture-control group and 21 were randomly assigned to the study group. The names of all the preservice teachers who agreed to participate in this study were put into a box and drawn with the first name being placed in the study group and the second name being placed in the lecture-control group.

All participants then completed the 50-item knowledge-based pre-test and the 25-item pre-attitude survey concerning inclusion (see Appendices C & D). Two
participants were selected randomly from the study group and from the lecture group to participate in the pre-study interview. This interview was concerned with their knowledge about inclusion and their attitude toward inclusion. The interviews were conducted by the facilitator and took place in a classroom on the UNLV campus.

**Phase Two**

The special education expert from UNLV addressed all participants, both members of the study group and the lecture group, at an afternoon presentation during phase two of the study. The presentation was held at UNLV and lasted for one hour. The presentation addressed special education law, definitions, and collaboration ideas concerned with inclusionary practice. All participants were provided with three inclusion articles at the end of the inservice. This was the only formal meeting of the lecture-control group that dealt specifically with inclusion for the six-week intervention phase of the study.

**Phase Three**

Phase three began with both the study group and the inservice-control group members completing the knowledge-based posttest and the post-attitude inclusion survey. These posttests served as both a posttest to the inclusion training and a pretest to the intervention phase of the study. The second pre-test/posttest was intended to check for any increase in knowledge after the Guest Lecturer spoke.

Phase three involved the intervention phase of the study in which the study group began their six, weekly meetings to share and discuss the inclusion information they gathered. The facilitator met with the study groups for the first weekly meeting and provided examples of forms that the groups could use to
organize meetings and report findings (see Appendices H and I). The facilitator also provided information concerning the structure of study groups, the benefits of study groups, and answered any questions the groups had concerning the functioning of the study group.

The twenty-one participants of the study group divided themselves into smaller groups of no more than seven. There were three groups. The facilitator was available in the room throughout the six-week period to answer logistical questions, but did not provide specific information concerning inclusion. The facilitator walked around the room and sat with the study groups to listen to their discussions.

The study groups filled out a study group report form once a week at the conclusion of each group meeting. The form was given to the facilitator of the study on a weekly basis (see Appendix I). These forms were not analyzed in the study, but served as a communication device between the group and the facilitator. The forms also provided tangible evidence of group activities during the weekly meetings.

The lecture-control group met weekly during the six weeks. During the hour that the study group met, the lecture-control group listened to a guest speaker who discussed a variety of topics (e.g. occupational therapy, gifted education, and secondary education). The only information concerning inclusion provided to the lecture-control group after the guest lecture was the three articles passed out by the inclusion expert at the conclusion of his lecture.

Phase Four

In phase four of the study, all 42 participants completed the 50-item knowledge-based posttest and the 25-item post-attitude survey concerning inclusion.
Twenty-five percent of the knowledge-based posttests and the post-attitude surveys were selected randomly and rescored by a special education graduate student to ensure inter-rater agreement. This phase was conducted at the conclusion of week six of the study.

The four participants from the study group and from the inservice group who participated in the pre-interview were re-interviewed concerning their knowledge of inclusion and attitudes toward inclusion at the conclusion of the six-week intervention. The interviews were conducted by the facilitator and took place in a classroom on the UNLV campus.

Treatment of Data

Quantitative Data

Prior to analyzing the knowledge-based test data and the attitude survey data collected in this study, descriptive statistics were used to calculate and compare the means and the standard deviations for the knowledge-based tests for the lecture group and the study group and to calculate the mean and the standard deviation for the surveys for the lecture group and the study group. The mean and standard deviations were compared across tests and surveys for each group. This was done to classify and summarize the data.

Data from the knowledge-based pre-tests and knowledge-based posttests were analyzed to answer the following question:

1. Does the type of pre-professional development have an effect on preservice teachers' acquired knowledge concerning inclusion?
Analysis: Scores on the knowledge-based pretest (test 1) for the two groups were analyzed by means of an analysis of variance (ANOVA) to ascertain if there were any significant pre-intervention knowledge difference between the two groups prior to the inservice. Alpha level was set at the .05 level.

Analysis: Scores on the knowledge-based pretest (test 1) and knowledge-based posttest (test 2) for the lecture group and study group were analyzed by means of an analysis of covariance (ANCOVA) to ascertain if there were any significant knowledge differences between the lecture group and the study groups after the presentation by the guest lecturer. Alpha level was set at the .05 level.

Analysis: Scores on the knowledge-based posttest (test 2) and the knowledge-based posttest (test 3) for the lecture group and study group were analyzed by means of an analysis of covariance (ANCOVA) to ascertain if there were any significant knowledge differences between the lecture group and the study groups after the intervention phase. Alpha level was set at the .05 level.

Analysis: In an attempt to ascertain reliability of the knowledge-based test questions an item analysis was performed. The item analysis was performed to ascertain if individual test questions were reliable. Test question reliability would be indicated by equal numbers of students selecting each of the multiple choice answers.

The surveys were analyzed to answer the question:

2. Does the type of pre-professional development have an effect on preservice teachers' attitudes toward inclusion?
Analysis: Data from the attitude surveys for the two groups were analyzed by means of an analysis of variance (ANOVA) to ascertain if there was a significant pre-intervention attitude difference between the two intervention groups prior to the inservice. Alpha level was set at the .05 level.

Analysis: Data from the pre-attitude survey (survey 1) and post-attitude survey (survey 2) for the lecture group and the study group were analyzed by using an analysis of covariance (ANCOVA) to ascertain if there were any significant attitude differences between the lecture group and study group after the presentation by the guest lecturer. Alpha level was set at the .05 level.

Analysis: Data from the post-attitude survey (survey 2) and post-attitude survey (survey 3) for the lecture group and the study group were analyzed by using an analysis of covariance (ANCOVA) to ascertain if there were any significant attitude differences between the lecture group and study group after the intervention phase. Alpha level was set at the .05 level.

Analysis: In an attempt to ascertain reliability in the survey questions, an item analysis was performed. This item analysis was performed to ascertain if individual survey questions were reliable. If a survey question was reliable, the number of participants selecting a particular number on the five-point Likert scale would be similar. For example, equal number of participants would select numbers one through number five.

Analysis: A Pearson correlation was performed to test for a relationship between the variables of knowledge and attitude. Alpha level was set at .05.
Qualitative Data.

The four participants, two from the study group and two from the inservice-control group, were interviewed by the facilitator during a 50-minute time period. The interviews were tape-recorded. After the interviews, the facilitator transcribed the interviews, reviewed the transcription, and identified salient pieces of data that were important to the study. The transcribed notes were divided into categorical areas, themes, and patterns. The categories, themes, and patterns were coded. As information was coded various theories (e.g., emergent understandings) were explored. This allowed the facilitator to search for explanations for the responses provided in the interviews.

The coding of information involves the reduction of data into "chunks of information" (Marshall & Rossman, 1999, p. 152) that are more easily managed and interpreted. It was predicted that potential categories or themes would be: (a) willingness to collaborate with others, (b) willingness to work with students with disabilities, (c) willingness to modify instructional practices for students with disabilities, and (d) willingness to allow another teacher to work in the classroom.
CHAPTER FOUR

RESULTS

This study was conducted to investigate the use of study groups as an alternative method for the instruction of preservice teachers. The study groups were compared with a traditional lecture group. In this study, the study group and the lecture group participated in an pre-attitude survey (survey 1), knowledge-based pretest (test 1), a presentation by an inclusion expert, another attitude survey (survey 2), knowledge-based posttest (test 2), a post-attitude survey (survey 3), and a knowledge-based posttest (test 3). The study groups investigated the topic of inclusion of students with disabilities for six weeks while the lecture group received a series of lectures by special education graduate students concerning a variety of topics (e.g. occupational therapy, early childhood special education, gifted education). Additionally, two students from the study groups and two students from the lecture group were selected to participate in pre- and post- interviews concerning knowledge about inclusion and attitudes toward the inclusion of students with disabilities.
Quantitative Results

Inter-rater Agreement

Students in both the study group and lecture group were administered a knowledge-based pretest (test 1) prior to the presentation by the inclusion expert. This was followed by a knowledge-based posttest (test 2) after the lecture which served as the pretest to the intervention phase, and a knowledge-based posttest (test 3).

In order to ensure these instruments were scored correctly, inter-rater agreement checks were conducted. The facilitator scored all knowledge-based tests. Twenty-five percent of both pretests and 25% of the posttests were re-scored by a special education graduate student. Interval agreement (i.e., \( \frac{\text{A} + \text{D}}{\text{A} + \text{D}} \times 100 = \text{Percent of Agreement} \)) was calculated using the point by point method (Tawny & Gast, 1984). The inter-rater agreement scores were 100%. Individual and overall agreement scores are presented in Table 2.

Knowledge-based Test

Prior to analyzing the data, descriptive statistics were used to calculate the mean and the standard deviation for each knowledge-based test (see Appendix C) for the lecture group and the study group. The mean and the standard deviations were compared across tests for each group. A summary of results is presented in Table 3. The data from the knowledge-based pretest (test 1), knowledge-based posttest (test 2), and knowledge-based posttest (test 3) were analyzed to answer the following question:
Table 2

**Inter-rater Agreement for Knowledge Tests**

<table>
<thead>
<tr>
<th>Source</th>
<th>Graduate Student</th>
<th>Facilitator</th>
<th>Percent of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>50/50</td>
<td>50/50</td>
<td>$50 + 50 \times 100 = 100%$</td>
</tr>
<tr>
<td>Posttest/Pretest</td>
<td>50/50</td>
<td>50/50</td>
<td>$50 + 50 \times 100 = 100%$</td>
</tr>
<tr>
<td>Posttest</td>
<td>50/50</td>
<td>50/50</td>
<td>$50 + 50 \times 100 = 100%$</td>
</tr>
</tbody>
</table>

Overall Inter-rater Agreement 100\%
<table>
<thead>
<tr>
<th>Group</th>
<th>Knowledge-based Test 1</th>
<th>Knowledge-based Test 2</th>
<th>Knowledge-based Test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean %</td>
<td>SD</td>
<td>Mean %</td>
</tr>
<tr>
<td>Lecture</td>
<td>79.38</td>
<td>6.77</td>
<td>78.28</td>
</tr>
<tr>
<td>Study</td>
<td>78.66</td>
<td>6.70</td>
<td>80.19</td>
</tr>
<tr>
<td>Total</td>
<td>79.02</td>
<td>6.66</td>
<td>79.23</td>
</tr>
</tbody>
</table>
Does the type of pre-professional development have an effect on preservice teachers’ acquired knowledge concerning inclusion?

Data were analyzed using an one-way analysis of variance (ANOVA) to ascertain if there was a significant pre-intervention knowledge difference between the two groups prior to the presentation by the inclusion expert. Alpha level was set at .05.

A summary of results are presented in Table 4. Results of the ANOVA indicated there were no significant differences between the pretest scores of the students in the study group and students in the lecture group \( [F (1, 40) = .118; p = .733] \). This was to be expected, as the students had not received instruction concerning areas specifically covered in the test. However, the scores for both groups were high (see Table 3).

In order to ascertain if there was a significant knowledge difference between the lecture group and the study groups after the presentation by the guest lecturer data were analyzed using an analysis of covariance (ANCOVA). Alpha level was set at the .05 level. Results of the ANCOVA indicate that there was no statistically significant relationship between the lecture group and study group’s adjusted mean knowledge-based posttest (test 2) scores with the knowledge-based pretest (test 1) as the covariate \( [F (1, 39) = 10.01; p = .003] \). The results of the effects between groups are presented in Table 5.

In order to ascertain if there was a significant knowledge difference between the lecture group and the study groups after the intervention phase of the study, data were analyzed using an analysis of covariance (ANCOVA). Alpha level was set at the .05 level. Results of the ANCOVA indicate that there was no statistically
### Table 4

**Summary of Analysis of Variance in Knowledge-based Pretest (Test 1) Scores**

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>5.357</td>
<td>5.357</td>
<td>.118</td>
<td>.733</td>
</tr>
<tr>
<td>Within Groups</td>
<td>40</td>
<td>1815.619</td>
<td>45.390</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>1820.976</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at the $p < .05$ level.

### Table 5

**Summary of Analysis of Covariance (ANCOVA) Between Groups on Test 2 with Test 1 as the Covariate**

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariate</td>
<td>1</td>
<td>202.96</td>
<td>202.96</td>
<td>10.01</td>
<td>.003*</td>
</tr>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>48.10</td>
<td>48.10</td>
<td>2.37</td>
<td>.132</td>
</tr>
<tr>
<td>Within Groups</td>
<td>39</td>
<td>790.55</td>
<td>790.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>41</td>
<td>1031.61</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at the $p < .05$ level.
significant relationship between the lecture group and the study group’s adjusted mean knowledge-based posttest (test 3) scores with the knowledge-based pretest. Results are summarized in Table 6.

An item analysis was performed on the knowledge-based pretest (test 1), knowledge-based posttest (test 2), and knowledge-based posttest (test 3). This was performed to ascertain the reliability for each test. The reliability for the knowledge-based pretest (test 1) was $\alpha = .639$. The reliability for the knowledge-based posttest (test 2) was $\alpha = .533$. The reliability for the knowledge-based posttest (test 3) was $\alpha = .348$. Over time, the reliability of the test became less. Table 7 contains a summary of the item analysis for all knowledge-based tests.

**Attitude Survey**

Prior to analyzing the data collected in this study, descriptive statistics were used to calculate the mean and the standard deviation for the attitude survey (see Appendix D) for the lecture group and the study group. Means and standard deviations were compared across surveys for each group. A summary of results is presented in Table 8.

Data from the three surveys were analyzed to answer the following question:

Does the type of pre-professional development have an effect on preservice teachers’ attitudes toward inclusion?

The survey was based on a five-point Likert scale. Participants were asked to respond to statements concerned with the inclusion of students with disabilities. Five on the scale corresponded with strongly agree, three corresponded with neither disagree or agree, and one corresponded with strongly disagree. Data from the pre-attitude survey (survey 1) were analyzed using an one-way analysis of variance (ANOVA) to ascertain if there was a significant pre-intervention attitude difference.
### Table 6

**Summary of Analysis of Covariance (ANCOVA) Between Groups on Test 3 with Test 1 as a Covariate**

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariate</td>
<td>1</td>
<td>71.91</td>
<td>71.91</td>
<td>2.37</td>
<td>.132</td>
</tr>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>29.05</td>
<td>29.05</td>
<td>.958</td>
<td>.334</td>
</tr>
<tr>
<td>Within Groups</td>
<td>39</td>
<td>1183.32</td>
<td>30.34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>41</td>
<td>1279.61</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the p < .05 level.

### Table 7

**Summary of Item Analysis of Knowledge-based Test 1, Test 2, Test 3**

<table>
<thead>
<tr>
<th>Test</th>
<th>Knowledge-based Test 1</th>
<th>Knowledge-based Test 2</th>
<th>Knowledge-based Test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item N</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Participants N</td>
<td>42</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Mean</td>
<td>39.2</td>
<td>39.3</td>
<td>40.5</td>
</tr>
<tr>
<td>Variance</td>
<td>18.5</td>
<td>13.0</td>
<td>8.05</td>
</tr>
<tr>
<td>SD</td>
<td>4.3</td>
<td>3.6</td>
<td>2.8</td>
</tr>
<tr>
<td>Reliability</td>
<td>.639</td>
<td>.533</td>
<td>.348</td>
</tr>
<tr>
<td>Mean P</td>
<td>.786</td>
<td>.787</td>
<td>.811</td>
</tr>
</tbody>
</table>
Table 8

**Descriptive Statistics for Surveys**

<table>
<thead>
<tr>
<th>Group</th>
<th>Attitude Survey 1</th>
<th></th>
<th>Attitude Survey 2</th>
<th></th>
<th>Attitude Survey 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Mean</strong></td>
<td><strong>SD</strong></td>
<td><strong>Mean</strong></td>
<td><strong>SD</strong></td>
<td><strong>Mean</strong></td>
<td><strong>SD</strong></td>
</tr>
<tr>
<td>Lecture</td>
<td>3.38</td>
<td>.298</td>
<td>3.85</td>
<td>.352</td>
<td>3.81</td>
<td>.319</td>
</tr>
<tr>
<td>Study</td>
<td>3.22</td>
<td>.134</td>
<td>3.92</td>
<td>.184</td>
<td>3.87</td>
<td>.206</td>
</tr>
<tr>
<td>Total</td>
<td>3.30</td>
<td>.241</td>
<td>3.88</td>
<td>.280</td>
<td>3.84</td>
<td>.267</td>
</tr>
</tbody>
</table>
between the two groups prior to the presentation by the inclusion expert. Alpha level was set at .05. A summary of results are presented in Table 9. Results of the ANOVA indicated there was a significant difference between the pre-attitude survey (survey 1) scores of the students in the study group and students in the lecture group [F (1, 40) = 4.78; p = .035]. The mean for the lecture group was 3.38 and the mean for the study group was 3.22 (see Table 8).

Analysis: Data from the pre-attitude survey (survey 1) and the post-attitude survey (survey 2) were analyzed by means of an analysis of covariance (ANCOVA) to ascertain if there were any significant attitude differences between the lecture and study groups after the presentation by the guest lecturer. Alpha level was set at .05. Results of the ANCOVA indicated there was no statistically significant relationship between the lecture and study group's adjusted mean post-attitude survey (survey 2) attitude data with pre-attitude survey (survey 1) as the covariate. Pre-attitude survey (survey 1) was not a statistically significant covariate [F (1, 39) = .063; p = .803] at the p < .05 level. Although the Levene's Test of Equality of Error Variances showed no equality of error variances because of the equal sample sizes in the lecture group and study group, the ANCOVA could still be performed. Table 10 summarizes these results.

Analysis: Data from the post-attitude survey (survey 2) and the second post attitude survey (survey 3) were analyzed using an analysis of covariance (ANCOVA) to ascertain if there was a significant attitude difference between the lecture and study groups after the intervention phase. Alpha level was set at .05. Table 11 presents the results of the ANCOVA. The ANCOVA indicated there was not a statistically significant relationship between the lecture group and study...
Table 9

Summary of Analysis of Variance in Pre-attitude survey (Survey 1) Scores

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>.256</td>
<td>.256</td>
<td>4.78</td>
<td>.035*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>40</td>
<td>2.14</td>
<td>5.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>2.39</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the p < .05 level.

Table 10

Summary of Analysis of Covariance of Attitude Data Between Groups on Survey 2 with Survey 1 as a Covariate

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariate</td>
<td>1</td>
<td>.005</td>
<td>.005</td>
<td>.063</td>
<td>.803</td>
</tr>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>.060</td>
<td>.060</td>
<td>.741</td>
<td>.395</td>
</tr>
<tr>
<td>Within Groups</td>
<td>39</td>
<td>3.16</td>
<td>.081</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>41</td>
<td>3.22</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Significant at the p < .05
Table 11

Summary of Analysis of Covariance of Attitude Data Between Groups on Survey 3 with Survey 1 as a Covariate

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariate</td>
<td>1</td>
<td>.485</td>
<td>.485</td>
<td>7.86</td>
<td>.008*</td>
</tr>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>.186</td>
<td>.186</td>
<td>3.02</td>
<td>.090</td>
</tr>
<tr>
<td>Within Groups</td>
<td>39</td>
<td>2.40</td>
<td>.061</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>41</td>
<td>2.93</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at the p < .05 level.
group's adjusted mean scores on post-attitude survey (survey 2) with post-attitude survey (survey 3) as the covariate \[ F(1,39) = 7.86; \ p = .008].

An item analysis was performed on the pre-attitude survey (survey 1), post-attitude survey (survey 2), and the second post-attitude survey (survey 3) to ascertain the reliability for each survey. Results of the item analysis are presented in Table 12. The reliability of survey 1 was \( \alpha = .436 \). The reliability of survey 2 was \( \alpha = .609 \). The reliability of survey 3 was \( \alpha = .489 \).

A Pearson correlation was performed to test for a relationship between the variables of knowledge and attitude. Table 13 describes a summary of the correlation between the three knowledge-based tests and the three attitude surveys. At the .01 level there was a low positive correlation between test 1 and test 2 \( (r = .432) \). There was a low negative correlation between test 1 and survey 1 \( (r = -.425) \). There was also a low positive correlation between survey 1 and survey 3 \( (r = .343) \).

Qualitative Results

Four students participated in the open-ended interview portion of this study. Two students were randomly selected from the lecture group and two students were randomly selected from the study groups. The students were interviewed prior to the intervention and again at the conclusion of this study. Each participant was asked similar questions during both interview sessions.
Table 12

Summary of Item Analysis of Survey 1, Survey 2, and Survey 3

<table>
<thead>
<tr>
<th>Test</th>
<th>Knowledge-based Test 1</th>
<th>Knowledge-based Test 2</th>
<th>Knowledge-based Test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item N</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Participants N</td>
<td>42</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Mean</td>
<td>3.29</td>
<td>3.89</td>
<td>3.84</td>
</tr>
<tr>
<td>Variance</td>
<td>.052</td>
<td>.077</td>
<td>.070</td>
</tr>
<tr>
<td>SD</td>
<td>.229</td>
<td>.277</td>
<td>.264</td>
</tr>
<tr>
<td>Reliability</td>
<td>.436</td>
<td>.609</td>
<td>.489</td>
</tr>
<tr>
<td>Mean P</td>
<td>.244</td>
<td>.308</td>
<td>.2</td>
</tr>
</tbody>
</table>

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### Table 13

**Pearson Correlation**

<table>
<thead>
<tr>
<th>Source</th>
<th>Test 1</th>
<th>Test 2</th>
<th>Test 3</th>
<th>Survey 1</th>
<th>Survey 2</th>
<th>Survey 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson</td>
<td>1.000</td>
<td>.432**</td>
<td>.229</td>
<td>-.425**</td>
<td>.068</td>
<td>-.216</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.004</td>
<td>.144</td>
<td>.005</td>
<td>.670</td>
<td>.170</td>
<td></td>
</tr>
<tr>
<td>Test 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson</td>
<td>.184</td>
<td>-.266</td>
<td>.166</td>
<td></td>
<td>.044</td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.244</td>
<td>.089</td>
<td>.293</td>
<td>.783</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson</td>
<td>.174</td>
<td>.156</td>
<td>.159</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.270</td>
<td>.323</td>
<td>.315</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Survey 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson</td>
<td>-.005</td>
<td>.343*</td>
<td>.975</td>
<td>.026</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.033</td>
<td>.835</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Survey 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson</td>
<td>.033</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Correlation is significant at the $p < 0.01$ level (2-tailed)**

**Correlation is significant at the $p < 0.05$ level (2-tailed)**

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The information collected from the interviews was coded and placed into information chunks (Marshall & Rossman, 1999). These chunks were then sorted into categorical themes. As predicted, four themes emerged from the interviews: (a) willingness to collaborate with others, (b) willingness to work with students with disabilities, (c) willingness to modify instructional practices for students with disabilities, and (d) willingness to allow another teacher to work in the classroom. Complete transcripts of the interviews are contained in Appendix J.

After the interviews were sorted into categorical themes, each pre-intervention interview was analyzed according to the number of times the theme appeared in the interview. Table 14 contains the results of the pre-intervention interviews. Table 15 contains the results of the post-intervention interviews. Table 16 contains the summary of responses for each participant during the pre-intervention interviews. Table 17 contains the summary of responses for each participant during the post-intervention interviews.

The members of the study group became more confident in expressing their opinions concerning the inclusion of students with disabilities after participating in the study group. The lecture group remained hesitant during both interviews and stated similar answers each time.
Table 14

Results of Pre-intervention Interviews

<table>
<thead>
<tr>
<th>Participant</th>
<th>Statement</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.M.</td>
<td>I’m not really sure how I would handle it because I’m kind of uncomfortable with it, a special ed. child</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>If I were to do that I probably would want an assistant just to help me</td>
<td>willingness to allow another to work in classroom</td>
</tr>
<tr>
<td></td>
<td>I probably know what things I have to do to accommodate the child’s needs.</td>
<td>willingness to modify instructional practices</td>
</tr>
<tr>
<td></td>
<td>Students who have disabilities and who are gifted, just a combination of different kinds of students that have different needs.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>I believe both students with disabilities are permitted to be there as well as the students who aren’t disabled because I feel that the students who aren’t disabled or don’t have disabilities can relate to students that have disabilities and those that are disabled are able to experience what the other students who aren’t disabled are feeling.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>I think all teachers can benefit from it as long as they are willing and understand what inclusion really is, they will benefit from it because they learn how to accommodate working with students.</td>
<td>willingness to modify instruction</td>
</tr>
<tr>
<td></td>
<td>What I have learned from this class, I really don’t know a lot about special education yet. I think students with very severe disabilities might not benefit, yeah benefit.</td>
<td>willingness to work with students with disabilities</td>
</tr>
</tbody>
</table>

(table continues)
<table>
<thead>
<tr>
<th>Participant</th>
<th>Statement</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.M.</td>
<td>Yeah, like an example would be autism. They need more help.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>Not a lot, just whatever I have learned in this class.</td>
<td>willingness to modify instructional practices for students with disabilities</td>
</tr>
<tr>
<td></td>
<td>No, no training, like my other class that I’m taking which is cultural and diversity. We learn basically what I already leaned in this class.</td>
<td>willingness to modify instructional practices for students with disabilities</td>
</tr>
<tr>
<td></td>
<td>I believe that teachers should take classes or have a workshop where they learn about it (inclusion).</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>I prefer learning lecture style, then later breaking into groups. That way you get feedback from other students or teachers about what they think inclusion is about.</td>
<td>willingness to collaborate</td>
</tr>
<tr>
<td>E.E.</td>
<td>I think it will be a challenge, but it’ll be something I want to do. I went to private school.</td>
<td>willingness to collaborate with others</td>
</tr>
<tr>
<td></td>
<td>I’ve never been in a classroom with special education students. I would like to see how I can change or do things for these students and how I can make a difference to them I guess.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>Yes, yes, thoroughly. (referring to a good working relationship with special education teachers)</td>
<td>willingness to allow another teacher to work in room (table continues)</td>
</tr>
<tr>
<td>Participant</td>
<td>Statement</td>
<td>Category</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>E.E.</td>
<td>I would like a lot of separation between the kids, space-wise. If I get a big classroom, like you said, not a lot of distraction in the room, not a lot of distractions, but a lot of team work.</td>
<td>willingness to modify instructional practices</td>
</tr>
<tr>
<td></td>
<td>Everyone benefits from it (inclusion). The students do work. Students from the resource room, they actually get to be with the regular students and learn social skills and the regular students get to know about these students, how they act, and learn how to deal with it.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>Teachers that are open to it (inclusion). Teachers who don’t say these are the rules. It would be hard on the kids if the teacher wasn’t willing to adapt to the needs. Like if they couldn’t read the chapter. A teacher that is overall flexible.</td>
<td>willingness to modify instructional practices</td>
</tr>
<tr>
<td></td>
<td>No. Anyone that would need to be in a hospital, very severe (wouldn’t benefit from inclusion)</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>None. ESP 444 class is all the training I’ve had. We talked about it briefly in 201, briefly.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>I was in a classroom where there wasn’t anyone that had special needs that I noticed. I want to observe a class where they have special needs.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>I could observe how they actually adapt to tests and homework, and see the adaptations the teachers made and see how they benefit from it. I really didn’t get to see many observations before. Maybe in my practicum.</td>
<td>willingness to modify instructional practices</td>
</tr>
<tr>
<td>Participant</td>
<td>Statement</td>
<td>Category</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>E.E.</td>
<td>How we talked about yesterday, you know like having teams go into the school and and show how they can do it, hands on, having someone that knows how to do it teaching the teachers like different steps that they could go about. Having someone look over their shoulder.</td>
<td>willingness to collaborate with others</td>
</tr>
<tr>
<td></td>
<td>Group learning. (How do you learn best?)</td>
<td>willingness to modify instructional practices</td>
</tr>
<tr>
<td></td>
<td>I like to get the information and then talk about it. Have a discussion about what has been taught and people say how they feel about and you see views that you really wouldn’t see by having the teacher talk.</td>
<td>willingness to modify instructional practices</td>
</tr>
<tr>
<td></td>
<td>Yes, exactly. (Is that the way you will teach?)</td>
<td>willingness to modify instructional practices</td>
</tr>
<tr>
<td>D.L.</td>
<td>I should collaborate with them, get together, see what special education teacher and I can work out together to help the student.</td>
<td>willingness to collaborate with others</td>
</tr>
<tr>
<td></td>
<td>Educational psychology and your class (ESP 444). I work in an elementary school.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>Look like? The surroundings? Make sure they were sitting by kids that were very well behaved. I’d know they were helpful and would help out the student. I’d make sure they paid attention to what we are discussing. I’d take away distractions, like kids who are potential problems and make them a helper.</td>
<td>willingness to modify instructional practices</td>
</tr>
</tbody>
</table>

(table continues)
D.L.  It depends on what the children have, learning disability or maybe, it would depend. I don’t know. I think it would depend

I think pretty much all of them. Some kids like autistic kids, I don’t know if that would help them. There is like role models. They have other 4 year-olds that don’t have disabilities. I don’t know. I think it would make them...a problem, too much stress on them. I think learning disabilities, or blind or hearing impaired (can’t be included).

An educated one. I know some teachers at my school, they don’t like having, last year there was this teacher (who) was so mean to them (special ed. students). They have to be patient teachers. Those teachers who went to school and had good teachers to learn from. What kind of teacher? Like special ed. teachers. They should be really attentive, really know your stuff.

I think all of them benefit, but I think it is most stressful than others, like autistic kids or special disabilities, that’s cool. There is this one girl at my school. She is physically handicapped, totally loves class. There is nothing wrong with that, but I think for serious, serious, that’s kind of a problem (inclusion). I think if it is physical it’s not a big deal.

If everyone had updated classes or maybe probably be better if their routine teaching would be easier, but like one teacher and 25 kids, that’s really hard (to include a student with mental retardation).

Yes, trying to like make education good for the non-disabled kids. I think it would be hard.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Statement</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.L.</td>
<td>It depends on what the children have, learning disability or maybe, it would depend. I don’t know. I think it would depend</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>I think pretty much all of them. Some kids like autistic kids, I don’t know if that would help them. There is like role models. They have other 4 year-olds that don’t have disabilities. I don’t know. I think it would make them...a problem, too much stress on them. I think learning disabilities, or blind or hearing impaired (can’t be included).</td>
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</tr>
<tr>
<td></td>
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<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>I think all of them benefit, but I think it is most stressful than others, like autistic kids or special disabilities, that’s cool. There is this one girl at my school. She is physically handicapped, totally loves class. There is nothing wrong with that, but I think for serious, serious, that’s kind of a problem (inclusion). I think if it is physical it’s not a big deal.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>If everyone had updated classes or maybe probably be better if their routine teaching would be easier, but like one teacher and 25 kids, that’s really hard (to include a student with mental retardation).</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>Yes, trying to like make education good for the non-disabled kids. I think it would be hard.</td>
<td>willingness to work with students with disabilities</td>
</tr>
</tbody>
</table>

(table continues)
<table>
<thead>
<tr>
<th>Participant</th>
<th>Statement</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.L.</td>
<td>Not really (had training). I am a teacher's aid. I learned a lot in your class and Educational Psychology is kind of the same thing as your class (ESP 444). I think a lot of magazines and a lot of stuff in the teachers' lounge. I don't know, maybe go to teacher inservices, get together and discuss. I am pretty social, so I would like to be on my own and study by myself. It depends on the subject, basically, chemistry or something is my way. I would need examples. English class or your class, then lectures are fine. I like it in a class. I like to learn with other people, but when it comes time for the test I cannot study with other people because it is social. I think when they are really young and don't do seat work. They don't really...depending on the age a lot like grade 4 is good with older kids like I don't want to teacher junior high. I think that I like elementary school. I don't know. First grade seems alright. It really depends on the group. I don't like isolated seat work that's not...when I was growing up it was like you would sit by yourself and you wouldn't even want to ask anyone questions or anything because you felt like you know. You would have other kids help each other and sometimes would have to monitor them. You have responsible kids in every group, at least a couple of kids.</td>
<td>willingness to collaborate with others willingness to modify instructional practices willingness to collaborate with others willingness to modify instructional practices</td>
</tr>
<tr>
<td>M.B.</td>
<td>They will come into the classroom with the kid so they would be included. I've seen it done where the special ed. teachers come in with the kids to be included and usually the littler ones come in and they're there to help, you know.</td>
<td>willingness to allow another teacher in the classroom (table continues)</td>
</tr>
<tr>
<td>Participant</td>
<td>Statement</td>
<td>Category</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>M.B.</td>
<td>Well there better be an aid in there helping, depending on their ability. I don't know that I would have kids with disabilities. Maybe learning disabilities, and maybe some that are louder, like emotional problems. Someone there that's with them full time and try to have common ground too. When they're being disruptive and I think it would probably be. I'm not a person where the classroom has to be quiet. I like hands-on and noise.</td>
<td>willingness to collaborate with others</td>
</tr>
<tr>
<td></td>
<td>You mean the disability, any disability, pretty much any of them (benefit from being in general classroom). I don't really know the disabilities. The goal is to be productive. They must share and do the basic things.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>Teacher who is experienced and educated in that (inclusion), like general education teachers have one class and it's set and we're supposed to be equipped to teach a child with a disability and the special education teachers have had more education in that. I am fine with a special education teacher coming in.</td>
<td>willingness to allow another teacher to work in the classroom</td>
</tr>
<tr>
<td></td>
<td>Maybe those that can't move or who are totally disabled, that can't even talk. Other than that almost any child (could be included).</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>Only this class. No (other trainings).</td>
<td>willingness to modify instruction</td>
</tr>
<tr>
<td></td>
<td>Like have meetings to talk with them. If I were in charge I would go around the classroom and help teachers. Any help the teacher can get is needed, grateful to have.</td>
<td>willingness to allow another teacher In the class</td>
</tr>
<tr>
<td></td>
<td>Other people, in a group, hands-on. Yes, I hope (preferred way to learn and teach).</td>
<td>willingness to modify instructional practices for students with disabilities</td>
</tr>
</tbody>
</table>
Table 15

Post Interviews

<table>
<thead>
<tr>
<th>Participant</th>
<th>Statement</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.M</td>
<td>Well, like after taking this class and understanding more about children with disabilities, I would have an easier time with them. Especially if I would have an aid or other services available to me. It would be easier to work with them. I would ask the special education teacher questions. Special education students interacting with other students. I would put them in groups, so they can all work together. Students that don't really have severe disabilities, like the ones that don't need an aid to sit right next to them. Like those that can work with students on classroom things. No, really, I just think a teacher has to be willing to accept those students. If they aren't willing to work with students like that then they aren't really going to get anything out of it (benefiting from inclusion). No. Not really. Except maybe those students that have really severe disabilities, and they would probably benefit from it, but not as much as someone that is not as severe. Just this class (training for inclusion). I think teachers should have classes throughout the year. Not a lot, just once every two weeks, just to help them and give more ideas to make their class better. With other people (prefer to learn). Group work and hands-on.</td>
<td>willingness to collaborate with others</td>
</tr>
<tr>
<td></td>
<td></td>
<td>willingness to modify instructional practices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>willingness to modify instructional practices for students with w/ disabilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>willingness to collaborate with others</td>
</tr>
</tbody>
</table>

(table continues)
<table>
<thead>
<tr>
<th>Participant</th>
<th>Statement</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.E.</td>
<td>I plan to work with them collaboratively. I feel better equipped to work one-on-one with students that have problems, but I would go to them (special ed. teachers) for help.</td>
<td>willingness to collaborate with others</td>
</tr>
<tr>
<td></td>
<td>I, uh, think it will look like a normal, regular classroom. Kids laughing and working hard.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>No, not really (drawbacks to inclusion). From our discussions I think that any student that can interact with other students. Any student that wants to be around other people, and who wouldn’t want that.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>All teachers (benefit from inclusion).</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>Well, I guess just those who are not willing to interact with other students (wouldn’t benefit from inclusion).</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>Just this class. In another class we talked about dealing with students with disabilities just a little. So not much at all.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>Providing, like we discussed, providing teachers with enough resources so that they know how to do it, and showing them other things that they can do and where they can go, so that they can get help.</td>
<td>willingness to collaborate with others</td>
</tr>
<tr>
<td></td>
<td>I like to learn in a group. I like discussions. Yes (I will teach that way).</td>
<td>willingness to collaborate with others</td>
</tr>
<tr>
<td>D.L.</td>
<td>Working together, collaboration. Working together to find out what is going on in The special ed. room and what is going on in my room to see what we can do to work together more. Just to collaborate.</td>
<td>willingness to collaborate with others</td>
</tr>
<tr>
<td>Participant</td>
<td>Statement</td>
<td>Category</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>D.L.</td>
<td>I would probably have certain boys and girls sitting next to certain kids that need help. not a distracting environment, not too distracting. Everybody (benefits from inclusion). The teacher should like group work. Not direct instruction, because everybody doesn’t learn the same way. Somebody with a disability might need more help. A teacher’s aide could help. Maybe autistic. Maybe Down’s Syndrome, no, depending on how severe it is. I am a teacher’s aide, but I don’t have anyone in my room that I see as really in need, but by observation I get training. Educational Psychology gave me some exposure to ideas about students with disabilities. I’d like to know how to handle situations. Like the kid you were talking about that just walks into walls. To know how to handle kids like him. Also to make the other children understand what is going on, so they can help that kid. I would like more experiences or classes where they explain that more. I do better with direct instruction I think. I have to study by myself. I prefer learning on my own versus the group. By myself. Yeah. I’d rather be by myself. It is fine to do the group thing, but if I really need to gather information, I like to do it by myself.</td>
<td>willingness to work with students with disabilities willingness to modify instructional practices for students with Disabilities willingness to work with students with disabilities willingness to work with students with disabilities willingness to work with students with disabilities willingness to collaborate with others willingness to collaborate with others</td>
</tr>
<tr>
<td>Participant</td>
<td>Statement</td>
<td>Category</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>M.B.</td>
<td>By talking with them about how to include students with disabilities in the classroom, and help the kids that are in need and have a teacher come in and work with the students with disabilities in the classroom, and help me out too. I have no training.</td>
<td>willingness to collaborate with others</td>
</tr>
<tr>
<td></td>
<td>Well in my classroom, kids would be... I like hands-on activities and the kids with disabilities can do that, depending on the disability. It would be a normal classroom.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>Teacher? Yeah, teachers can benefit from inclusion, depending on their experience level.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>It depends. It depends on the personality of the teacher.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>No. Depending if the parents want them to go to a special education class for their disability.</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>No (other training besides ESP 444). A class that is hands-on, that takes you forward to learn about kids with disabilities (training for teachers).</td>
<td>willingness to work with students with disabilities</td>
</tr>
<tr>
<td></td>
<td>Hand-on, definitely with others. With others (preferred method of learning).</td>
<td>willingness to collaborate with others</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Percent of Total</th>
<th>Total Responses</th>
<th>E.E.</th>
<th>M.B. Study Group</th>
<th>Percent of Total</th>
<th>Total Responses</th>
<th>S.M. Lecture Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.6%</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>19%</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>31.8%</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>50%</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>36.4%</td>
<td>8</td>
<td>6</td>
<td>2</td>
<td>27%</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>18.2%</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>4%</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Summary of the Results of the Pre-Intervention Interviews

Table 16
<table>
<thead>
<tr>
<th>Participant Pre-Intervention Interview</th>
<th>Willingness to collaborate with others</th>
<th>Willingness to work with students with</th>
<th>Willingness to modify instruction</th>
<th>Willingness to allow another teacher in the Lecture Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.M.</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>D.L.</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total Responses</td>
<td>7</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Percent of Total Responses</td>
<td>38.9%</td>
<td>27.7%</td>
<td>16.7%</td>
<td>16.7%</td>
</tr>
<tr>
<td>Study Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.B.</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>E.E.</td>
<td>3</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Responses</td>
<td>5</td>
<td>13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Percent of Total Responses</td>
<td>27.7%</td>
<td>72.3%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
CHAPTER FIVE

DISCUSSION

The education of preservice teachers, as we know it today, did not begin until the 19th century (Urban, 1990). Teachers were first educated in normal schools where the focus was on high academic achievement and not on pedagogy. It was not until the 20th century that the practice of teaching was intertwined with the science associated with teaching (Dewey, 1904). Teachers became recognized as professionals with the important patriotic duty of educating future Americans. The public became supportive of this effort after the launch of Sputnik in 1957 and federal money was directed toward teacher education.

In recent years, preservice teacher education has become focused on the exploration of new instructional methods that are more interactive in nature. The goal is to create a learning environment that no longer relies exclusively on lectures to disseminate information (Sarason, 1999). This active learning process is seen as one method to introduce preservice teachers to research-based instruction so that they become comfortable finding, examining, and discussing classroom instruction that has evolved from the research (Carnine, 1997). Educator study groups are one method that may be used to actively engage preservice teachers in the learning process.
While the use of study groups in preservice teacher education has not been the focus of many research-based articles in education, the few studies that have been conducted are encouraging. The data appear to indicate that preservice teachers benefit from the social interaction that the study groups afford. The students learn to work in a collegial manner with other students as well as to respond constructively to diverse perspectives (Ellis, 1993). The students also learn the best methods to apply to the discussion of research covered or coursework completed, and integrate them into their own life experiences. This leads to an exploration of beliefs held and, overtime, a reconceptualization of these beliefs (Goodman, 1986). This reconceptualization involves the preservice teacher in the discussion of material and/or experiences as well as in the application of information to real-life situations (McDonald, 1986).

Within the study group, preservice teachers are provided with an effective tool for future professional development, daily classroom activities, and the opportunity to share in the discovery and use of research-based information (McDonald, 1986). These potential benefits, both personal and professional, are key reasons for further research concerning the use of educator study groups in preservice teacher education.

This study was designed to contribute both quantitative and qualitative information concerning the use of study groups in preservice teacher education. The study was designed to explore the use of preservice teacher study groups as an alternative to traditional class lectures. The research questions asked in this study were:

1. Does the type of pre-professional development have an effect on the preservice teachers' acquired knowledge concerning inclusion?
1. Does the type of pre-professional development have an effect on preservice teachers’ attitudes toward inclusion?

The quantitative and qualitative methods of data collection involved the use of knowledge-based tests, attitude surveys, and one-on-one interviews with the students. The study group and the lecture group participated in a pre-attitude survey (survey 1), a knowledge-based pretest (test 1), a presentation by an inclusion expert, a post-attitude survey (survey 2), a knowledge-based posttest (test 2), a post-attitude survey (survey 3), and a knowledge-based posttest (test 3). The intervention portion of the study involved the study groups investigating the topic of the inclusion of students with disabilities for six weeks. During this same time period, the lecture group received a series of lectures provided by special education graduate students concerning a variety of topics (e.g. occupational therapy, early childhood special education, gifted education). Two students from the study groups and two students from the lecture group were chosen to participate in pre- and post- interviews concerning knowledge about inclusion and attitudes toward the inclusion of students with disabilities.

Knowledge-based Test Scores

A knowledge-based pretest (test 1) was given to all participants at the beginning of the study. This was done to determine if there was any difference in the knowledge about inclusion of students with disabilities between the students in the lecture group and study group. The scores on the knowledge-based pretest (test 1) indicated there was no significant difference between the pretest scores of students in the lecture group or students in the study group. This indicates that at the beginning of this study the knowledge base of the students concerning inclusion...
was very similar. However, the pretest scores for both groups were high. The high scores may have occurred due to one of the limitations of this study. The students were participating in a course that focused on the inclusion of students with disabilities and had already participated in approximately six weeks of instruction when they took the knowledge-based pretest (test 1). Thus, the students already had been exposed to the topic of inclusion prior to the beginning of this study.

Following the knowledge-based pretest (test 1), all forty-two students attended a lecture provided by the guest lecturer. A knowledge-based posttest (test 2) was administered immediately following the lecture to ascertain if there was a significant difference in test scores between the groups after the lecture. These test scores were analyzed using an analysis of covariance (ANCOVA). This analysis was selected to control for prior knowledge. There was no statistically significant relationship between the scores of the lecture group and the study group on the knowledge-based posttest (test 2). This finding was expected because there had been no difference on the knowledge-based pretest scores (test 1) of the two groups of students and at this point in the study all students, regardless of group, had received the same instruction.

Students then were divided into the two groups for the 6-week intervention phase of the study. The data analyzed for the intervention phase were the scores from the knowledge-based pretest/posttest (test 2) that was administered after the guest lecture and served as a pretest for the intervention phase and the knowledge-based posttest (test 3) that was administered at the completion of the 6-week time period. The data were analyzed using an analysis of covariance (ANCOVA). There was no statistically significant relationship between the lecture group scores and the
study group scores. However, the final mean score of the study group was higher than the mean score of the lecture group on the posttest (test 3).

For the knowledge-based tests, the knowledge-based pretest (test 1) was the covariate for analysis of knowledge-based posttest (test 2) and knowledge-based posttest (test 3). This controlled for prior knowledge. The results indicate that prior knowledge does not contribute to the variance in knowledge-based posttest (test 3) scores. The results of the analysis would have been the same if knowledge-based pretest (test 1) had not been the covariate.

These data should be viewed in relation to the item analysis conducted on the test items contained in the knowledge-based test used in this study. When the reliability of the test was calculated, it was found that the reliability of the test decreased over time. This decrease was most pronounced between the knowledge-based pretest/posttest (test 2) and the knowledge-based posttest (test 3). This decrease in reliability of the test might have occurred because student familiarity with the test increased each time that it was administered. Because of the lack of reliability found with the knowledge-based test used in this study, it is difficult to say exactly what these results indicate. At the very best, they indicate that the two instructional methods (lecture and study group) are similarly effective in increasing the inclusion knowledge of preservice teacher educators. At the very least, they indicate that further investigation is warranted using a reliable instrument.

Attitude Survey Results

A pre-attitude survey (survey 1) was given to the participants to determine if a change in attitude toward inclusion occurred over the course of the study. Participants were asked to respond to questions concerned with the inclusion of
students with disabilities. An attitude survey was given at the beginning of study, prior to any intervention. Analysis indicated that there was a significant difference between the lecture and study group. The lecture group began the study with a more positive attitude toward the inclusion of students with disabilities.

After the presentation by the guest lecturer, the attitude survey (survey 2) was re-administered to the lecture and the study group to ascertain if there was a significant change in attitudes immediately following the lecture. These survey results were analyzed using an analysis of covariance (ANCOVA). This analysis was selected to control for the difference in attitude that existed between the two groups. The results indicated that there was no statistically significant relationship between the lecture group and the study group. This would seem to indicate that the guest lecture somewhat equalized the attitudes of the two groups prior to the intervention phase of the study. The presentation by the guest lecturer may have helped the groups become more similar in attitude.

Following the six week intervention phase of the study, the results from the post-attitude survey (survey 2) and attitude survey (survey 3) were analyzed to see if significant differences existed between the lecture group and the study group attitudes. The data were analyzed using an analysis of covariance (ANCOVA). There was no statistically significant relationship between the lecture group and the study group attitudes.

This lack of difference between the two groups may be due to the direct nature of the lecture format. A lecture, by its very nature, is focused and direct. It is structured so that participants come away from it with a certain amount of knowledge or believing a certain thought to be true. The doctoral students
presenting the lectures may have also discussed the topic of inclusion to an extent similar to the study groups' discussions. The study group, by its very nature, is less directed. Study groups evolve over time and, as such, may take longer for direction and focus to occur. Thus, the lecture may simply have a more immediate influence on attitudes than does a study group. This was illustrated by the immediate change in the attitudes of the study group participants, in a positive direction, immediately following the guest lecture. It appears that the lecture, as an intervention, has a more immediate influence on attitudes and that over time, regardless of intervention group, the influence remains fairly stable.

Data were correlated to ascertain if there was any correlation between attitude and knowledge in this study. Three correlations were found. The knowledge-based pretest (test 1) and the knowledge-based posttest (test 2) were positively correlated. This indicates that participant scores on the first test indicated how they would score on the second test. This corroborates the reliability found in the item analysis of test items that was conducted. The item analysis indicated that the reliability between the knowledge-based pretest (test 1) and the knowledge-based posttest (test 2) was higher than the reliability between both tests and knowledge-based posttest (test 3).

The second correlation was a negative one between the knowledge-based pretest (test 1) and the pre-attitude survey (survey 1). This indicates that how a student performed on the knowledge-based pretest (test 1) would not be an indication of their attitudes on the pre-attitude survey (survey 1). This would be expected because there was a significant difference in attitudes between the lecture and study groups, with the lecture group starting with a more positive attitude.
However, there was not a knowledge difference between the two groups on the knowledge-based pre-test (test 1). A participant could have a low test score, but a positive attitude about inclusion. This may have taken place because of the timing of the study. All participants had received six weeks of instruction about topics related to inclusion. They may have begun to form a positive opinion about inclusion, but did not have the detailed knowledge to show a corresponding knowledge-based pre-test (test 1) score.

The third correlation that was significant was between the pre-attitude survey (survey 1) and the post-attitude survey (survey 3). This indicates that participant responses on the first survey correlated with their responses on the last survey they completed. This correlation also reflects the reliability of the attitude survey administered in this study. It indicates that how the participants responded on the first survey could be used to predict their responses on the last survey. Also, the reliability between the surveys was highest between the pre-attitude survey (survey 1) and the post-attitude survey (survey 3).

Interviews

Two students from the lecture group and two students from the study group participated in open-ended interviews prior to the beginning of the study and at the conclusion of the study. The students were asked the same questions concerning the inclusion of students with disabilities in both interviews.

The number of responses in each identified category was recorded as percentages. These percentages indicate a change in the number of responses for each category from the pre-interview to post-interview. During the pre-interview, the responses from the lecture group participants were associated most often with
category concerned with willingness to work with students with disabilities. During the post-intervention interview, the majority of their responses corresponded most often with the category concerned with their willingness to collaborate with others. During the pre-interview, the responses from the study group participants corresponded most often with the category identified as willingness to modify instruction. During the post-intervention interview, the majority of the responses from the study group participants were associated with the category of willingness to work with students with disabilities.

Overall, the lecture group participants provided responses that fit into all categories during both interviews. However, their responses did not differ from the beginning of the study to the end of the study. It appeared that their responses were based on information they possessed prior to the guest lecture and changed very little as a result of their attendance at the guest lecture. The beliefs they expressed were very similar in both interviews.

Conversely, from their pre-intervention interview and their post-intervention interview, the study group exhibited a substantial increase in the number of responses in the category of willingness to work with students with disabilities. A reason for this increase may be the emphasis that evolved during their study group meetings that focused on the inclusion of students with all types of disabilities (e.g., regardless of severity of the disability, regardless of the number of modifications to be made). In the post-intervention interview, the study group participants appeared to be more comfortable discussing this aspect of inclusion than did their lecture group peers.
During the pre-intervention interviews participants from both the lecture group and the study group were hesitant to respond to the questions. They all appeared to be unsure about expressing their opinions and often hesitated to answer questions. They all repeatedly asked about the quality of their answers. All students also indicated that though they were unsure, they were eager to have experiences with students with disabilities.

While not indicated on any other measure of this study (e.g., knowledge-based tests or attitude surveys), the confidence level of the students from the study group was noticeably greater during the post-intervention interview. They were sure about their answers and were more clear and direct about what they wanted to say. They expressed examples from their study group sessions and information shared within the study group.

In contrast, the lecture participants were still unsure and wavering during the post-intervention interview. They used few examples and hesitated often when giving a response. While not negative, the students appeared as if they lacked confidence in their answers in the post-intervention interview.

Conclusions

Three conclusions can be drawn from this study. These conclusions must be viewed in light of the limitations of this study.

1. The use of preservice teacher study groups may be as effective as a traditional lecture in increasing preservice teachers' knowledge concerning inclusion.
2. The use of preservice teacher study groups may be as effective as a traditional lecture in changing the attitudes of preservice teachers toward the concept of inclusion.

Recommendations for Further Study

Research concerning the use of preservice teacher study groups is just beginning. The current research indicates that preservice teacher study groups hold promise for the promotion of collegiality, generalization of research into classroom-based practice, and incorporation of active learning into preservice education. Results of this study, while very preliminary in nature, appear to indicate that further investigation of preservice teacher study groups is warranted. Based on data collected in this study, the interviews conducted with the students, and on observations of the students as they worked in their study groups, areas are suggested for further research.

1. Research is needed to examine the use of preservice teacher study groups in a variety of course types (e.g., theory courses, methods courses). In this manner the types of courses most appropriate for the inclusion of study groups may be determined

2. Research is needed to examine the most appropriate time in a semester to introduce study groups into a course. For instance, would study groups be more effective/efficient at the beginning of a semester, in the middle of a semester, or at the end of a semester?
3. Research is needed to examine the use of preservice teacher study groups with differing levels of students. This would provide information to identify whether or not study groups are best suited in lower level coursework (e.g., with sophomore students) or in more advanced coursework (e.g., with seniors).

4. Research is needed to examine the use of preservice teacher study groups over time. This would help determine if more experience in a study group results in a more positive attitude concerning the topic of study.

5. Research is needed to examine the use of preservice teacher study groups over time. This would help determine if more experience in a study group results in increased knowledge acquisition for a student.

6. Research is needed to examine the use of study groups over the course of successive semesters. This would provide information concerning the use and generalization of study group strategies over an extended period of time.

7. Research is needed to explore the use of study groups in field-based courses (e.g., student teaching). This would provide information concerning the direct application of study group learning into the classroom environment.

8. Follow-up research of study group participants is needed. This would provide information concerning the generalization of study group work into the actual classroom of the participant once the participant has graduated.

9. Research concerning the functioning of the study group is needed. For instance, what materials, forms, directions can be provided to increase the ability of the study group to function productively.
10. Research is needed concerning the characteristics of well-functioning study groups and of study groups that do not function efficiently or effectively. This could provide direction to a facilitator as to the best methods by which to constitute a study group in order to ensure a well functioning group.

11. Research is needed to examine the use of study groups with graduate students who are already employed as educators. This might provide information concerning graduate education, but also may help to identify characteristics of employed teachers that might need to be considered in preservice education study groups.
REFERENCES


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APPENDIX A

TEACHER DEMOGRAPHIC QUESTIONNAIRE
Pre-service Teacher Demographic Questionnaire

Name_____________________________________________________________________

Circle or fill in the appropriate answer.

Gender Male Female Age_________

Level of education
Freshman Sophomore Junior Senior Bachelor's +16 +32

What are the degrees you currently hold or are currently working on?
_____________________________________________________________________

List the grade levels that you have had pre-service experience with
_____________________________________________________________________

Have you ever worked in special education? Yes No How many years?_______

Have you ever worked with students with disabilities? Yes No

How many years?_______ Number of years working in an inclusive setting_______

List your professional or pre-professional memberships
_____________________________________________________________________

List the date and title of the current university courses you are taking
_____________________________________________________________________

List the date and title of the last teacher training course taken
_____________________________________________________________________
APPENDIX B

INFORMED CONSENT
To: Students of ESP 444, The Special Education Student in the General Classroom
From: Leah Herner, Graduate Student, UNLV Department of Special Education

As preservice teachers studying at UNLV, you are invited to participate in my research: Educator Study Groups: An Exploration of an Alternative Method of Professional Development. This research involves your participation in one of two forms of preservice teacher development. You will randomly be assigned to an inservice-control group or a preservice teacher study group. Each group will have different requirements. The study group will meet once a week for six weeks to investigate the topic of inclusion. Specific instructions and materials will be given to your group at the beginning of the study. The inservice-control group will meet formally one time during the study, and will listen to guest speakers during the remainder of each ESP 444 class time.

Both groups will participate in evaluations throughout the course of the study. The data from your pre and post knowledge-based tests and pre and post attitude surveys will be analyzed. Four participants will be selected randomly to participate in in-depth interviews. Upon completion of the study the recordings of the interviews will be transcribed and then the tapes will be destroyed.

The benefits to you involve potentially learning more about the topic of inclusion. It will also give you the experience of staff development before your actual employment as teachers begins.

There is no compensation for participation in this study. However, I assure you that all information and data collected will be kept strictly confidential and that you will not be identified by name. Your participation in this study is voluntary.
You may withdraw from participation at any time. If you agree to participate, you will receive a copy of this letter.

Should you have any questions, do not hesitate to contact me at:

Leah Herner  
900 Cottage Grove Ave.  
Las Vegas, NV 89109  
(702) 799-5660 herner@nevada.edu  
or  
UNLV, Department of Special Education  
(702) 895-3205  
or  
Office of Sponsored Programs  
(702) 895-1357

Date   Name

_____ I __________________________ agree to participate in the Educator Study Group project. Signature______________________________________________

_____ I, Leah Herner, agree to the protocol explained in the consent form.  
Signature______________________________________________
Knowledge-based Inclusion Test

Multiple choice section.

Please print the letter that is the best answer for each question.

_____1. Inclusion is a form of ________.
   A. Segregation
   B. Integration
   C. Curriculum design
   D. Exclusion

_____2. The ________ must be part of developing a student’s IEP.
   A. P.E. teacher
   B. Social worker
   C. Superintendent
   D. Parent/Guardian

_____3. The _____________ must be part of the IEP process.
   A. General education teacher
   B. Student
   C. Counselor
   D. Personal aid

_____4. _____________ rights are guaranteed under the law.
   A. Public law
   B. Due process
   C. Teacher’s
   D. Classroom
5. According to IDEA (1997), the least restrictive environment is the extent to which the student is involved in the curriculum of the______________.

   A. Resource room
   B. Multi-purpose room
   C. General education classroom
   D. Special school

6. An I.E.P. stands for _____________

   A. Individualized Educator Plan
   B. Independent Education Plan
   C. Individualized Education Plan
   D. Independent Education Program

7. According to the NASBE Study Group on Special Education (1990) the ___________ should lead the development of educational goals and policies for all students with disabilities.

   A. State board of education
   B. Parents
   C. Teachers
   D. District

8. Students with ______ account for the highest number of students placed in special education.

   A. Mental retardation
   B. Other health impairments
   C. Learning disabilities
   D. Autism
9. According to Giangerco and Putnam (1991) full inclusion means that ______ of children with disabilities are educated in supported, heterogeneous, and age-appropriate classrooms.
   A. 50%
   B. 25%
   C. 100%
   D. 75%

10. Students with disabilities are excluded from national testing in ______ numbers.
   A. Small
   B. Large
   C. Very small
   D. Average

11. According to NASBE Study Group on Special Education (1990), districts receive ______ if they label and place more students for special education programs.
   A. More services
   B. Less money
   C. The same amount of money
   D. More money

12. ______ is the Individuals with Disabilities Education Act
   A. EHA
   B. IEP
   C. IDEA
   D. P.L.149
13. Under IDEA ______ is available to students who need the related service.
   A. Physical therapy
   B. Speech therapy
   C. Occupational therapy
   D. All of these

14. According to NASBE Study Group on Special Education (1990), ______ of students in special education graduate with a diploma or certificate of graduation.
   A. 57%
   B. 37%
   C. 77%
   B. 17

15. The term related service means
   A. Transportation
   B. Physical therapy
   C. Speech therapy
   D. All of these

16. Support for students with disabilities happens in the _________.
   A. Resource room
   B. General education classroom
   C. Hospital
   D. All of these
17. ADA (1990) includes a provision that ____________.
   A. Parents must provide transportation
   B. Communities must provide transportation
   C. Paraprofessionals must provide transportation
   D. Special education teachers must provide transportation

18. __________ refers to an educational approach in which the general and special educators work together simultaneously teaching students in the same classroom.
   A. Team teaching
   B. Collaborative consultation
   C. P.L. 94-142
   D. Turn teaching

19. __________ called for educational placement in the "least restrictive" environment.
   A. Team teaching
   B. Cooperative teaching
   C. P.L. 94-142
   D. Turn teaching
20. According to Giangreco and Putnam (1991) a student who is placed in a school outside their community:

A. May have family involvement compromised
B. Has full access to extracurricular activities
C. Has ample opportunity to interact with school peers from his/her community
D. Has the opportunity to build social interactions with members of his/her community

21. The beginning step in helping a student with a suspected disability is:

A. Screening
B. Diagnostic
C. Prereferral team discussion
D. Telling the student that he/she has a problem

22. Items that are at a student’s reading level and of high interest are:

A. Science materials
B. Controlled materials
C. KWL
D. Post-tests

23. ________techniques include students watching themselves to make sure they have performed targeted behaviors.

A. Self-concept
B. Self-monitoring
C. Self-marking
D. Self-punishment
24. Which of these is not a testing adaptation before a test.
   A. Study guides
   B. More time for the test
   C. Practice test
   D. Individual tutoring

25. High-incidence disabilities include all the following except
   A. Speech impairment
   B. Language impairment
   C. Emotional disability
   D. Cerebral palsy

True or false
Mark T for true and F for false.

26. Mainstreaming means the same thing as inclusion.

27. Research shows that successful inclusion practices just don't happen, they take a great deal of planning and support.

28. Direct instruction must be provided to a student who has a disability.

29. Students with disabilities have a right to services beyond elementary school.

30. According to Giangreco and Putnam (1991) educating students with disabilities in the same schools they would attend if not handicapped is not supported by law.

31. An I.E.P. meeting takes place twice a year.

32. An I.E.P. meeting must be convened if the team decides to make any program changes to a student’s plan.
33. An I.E.P. focuses only on academic skills.

34. As a student with a disability gets older he/she will definitely spend less time in the general education setting.

35. The person most likely to bring a child with a suspected disability to a team for help is the general education teacher.

36. MDT means multi-developmental team.

37. A child with a special education label is reevaluated once every 2 years.

38. An example of a high-incidence disability is learning disabled.

39. Any insult to the brain caused by an external forces or events is a traumatic brain injury impairment.

40. According to McDonnell and Hardman (1989) inclusion parallels racial desegregation because it mandates a change with social and educational implications.

41. Collaboration between teachers has indicated an increase in the effectiveness of pre-referral intervention strategies.

42. LRE stands for Least Restrictive Environment.

43. Due process is a provision of P.L. 94-142.

44. Another name for an instructional assistant is a practicum teacher.

45. Diana v. State Board of Education (1970) required the state of California to provide transportation to students with disabilities.

46. Brown v. Board of Education (1954) has been used to ensure equal rights for students with disabilities.

47. Physical therapy is not considered a related service.
48. A key provision of P.L. 94-142 (1975) is that no child may be excluded from public education because of a disability.

49. At least three general education teachers must participate as members of the IEP team.

50. Children with disabilities may be serviced by a school district as early as age 3.
APPENDIX D

ATTITUDE SURVEY
Survey about Inclusion

Please circle the number that most closely resembles your attitude.

5 – strongly agree  4 – agree  3 – neither agree or disagree
2 – disagree  1 – strongly disagree

1. Students with disabilities belong in a 5 4 3 2 1
general education classroom.

2. Students with disabilities should have 5 4 3 2 1
access to the same environments as
students without disabilities.

3. The least restrictive environment for all 5 4 3 2 1
students is the general education classroom.

4. The resource room can provide better 5 4 3 2 1
services for a child with a disability.

5. It is easy for students with a special 5 4 3 2 1
education label to exit special education.

6. All school standards should be lowered for 5 4 3 2 1
students with special needs.

7. Working with a team to organize a 5 4 3 2 1
student’s curriculum is the best approach.

8. I feel comfortable working with students 5 4 3 2 1
with disabilities.

9. All students with disabilities should be 5 4 3 2 1
excluded from standardized curriculum testing.
10. I feel comfortable working with a special education teacher.

11. Pre-service teachers are adequately trained to work with students with disabilities.

12. There is a need for better collaboration between teachers.

13. All teachers should receive training to work with all types of students.

14. Adequate inservice is available about successful inclusion techniques.

15. Participation in collaborative education should be voluntary.

16. Students with disabilities in an inclusive setting will not develop survival skills.

17. Teachers working in collaboration should look at the required curriculum first.

18. Some skills listed in a student’s I.E.P. must be taught outside the general education classroom.

19. Intervention teams enable all teachers to meet the needs of students with difficulties.

20. Educators follow specific steps in the collaborative consultation process.
21. Including students with disabilities is part of the general educator's job.

22. I feel comfortable participating in the I.E.P. process.

23. I feel that too much emphasis is placed on the rights of students with disabilities.

24. The inclusion of students with disabilities is an educational fad.

25. Including students with disabilities in the general education environment takes away resources from general education students.

26. List the categories of disabilities that you believe are suitable for inclusion in the general education classroom.

27. List the categories of disabilities that you do not believe are suitable for inclusion in the general education classroom.
APPENDIX E

INTERVIEW QUESTIONS

120
Interview Questions

Question 1  How do you envision working with special education teachers in your classroom?

Question 2  What would an inclusive classroom look and sound like?

Question 3  What types of students benefit from inclusion?

Question 4  What types of teachers benefit from inclusion?

Question 5  What types of students do not benefit from inclusion?

Question 6  Explain the types of training and or education you have had concerning students with disabilities and/or inclusion.

Question 7  What do you believe would be the best method to inform teachers concerning students with disabilities and/or inclusion?

Question 8  How do you prefer to learn new information? With others? Alone?
APPENDIX F

TIMELINE OF THE STUDY
Timeline of the study

**Week One**
Both lecture-control group and study group will complete:
Knowledge-based pre-test
Pre-attitude survey
Demographic survey
Pre-intervention interviews of two randomly selected participants from each group

**Week Two**
Lecture presentation by inclusion expert to both groups
Knowledge-based posttest
Post-attitude survey

**Week Three**
Meeting with study group
Dispersion of proper forms to the study group
Lecture-control group does not meet, but has a guest speaker

**Week Four to Eight**
Study group meets weekly
Lecture-control group does not meet, but has a guest speaker

**Week Nine**
Both groups will complete:
Knowledge-based post-test
Post-attitude survey
Post-intervention interviews with the same four participants
### Diagram of the study

<table>
<thead>
<tr>
<th>Group</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study group</td>
<td>*Knowledge-based pretest</td>
<td>Lecture presentation by inclusion expert UNLV</td>
<td>*Knowledge-based posttest</td>
<td>*Knowledge-based posttest</td>
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<tr>
<td></td>
<td>*Pre-attitude survey</td>
<td></td>
<td>*Post-attitude survey</td>
<td>*Post-attitude survey</td>
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<tr>
<td></td>
<td>*Pre-intervention interviews</td>
<td></td>
<td>Students meet for six weeks in their study groups</td>
<td>*Post-intervention visits</td>
</tr>
<tr>
<td></td>
<td>*Demographic data collected</td>
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<tr>
<td>Lecture-control</td>
<td>*Knowledge-based pretest</td>
<td>Lecture presentation by inclusion expert UNLV</td>
<td>*Knowledge-based posttest</td>
<td>*Knowledge-based posttest</td>
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<td>group</td>
<td>*Pre-attitude survey</td>
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<td>*Post-attitude survey</td>
<td>*Post-attitude survey</td>
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<td>*Demographic data collected</td>
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</table>
Individual Study Group Progress Report

Study group topic__________________________________________________________

Member name____________________________________________________________

Title of the article, book, or research item I am examining:
_____________________________________________________________________

Important group member’s ideas about this research
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

Important points I want to present
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

My level of knowledge has/has not increased due to this research information.

Ways I could use this information for school or classroom reform:
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
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UMI
Educator Study Group Weekly Report

Group members:

________________________________________________________________________

________________________________________________________________________

Study group topic:____________________________________________________________________

Research information we are studying this week____________________________________________________________________

________________________________________________________________________

Does the group feel that the information should be shared with the staff? If so, what parts?

________________________________________________________________________

How would you utilize this information in the classroom?

________________________________________________________________________

________________________________________________________________________

Comments or concerns from group members:

________________________________________________________________________

________________________________________________________________________
11/8/99  S.M.

1. How do you envision working with special education teachers when you do work in the classroom? How do you picture working with special education teachers when you do have a classroom?
   
   **Answer:** I'm not really sure how I would handle it because I'm kind of uncomfortable with it; working with a special ed. child. If I were to do that I probably would want an assistant just to help me. I probably already know what things I would have to do to accommodate the child's needs.

2. What do you think an inclusion classroom would look and sound like, if I said, "OK, you're going to have an inclusion class, what do you think that would look and sound like?"
   
   **Answer:** Students who have disabilities and who are gifted, just a combination of different kinds of students that have different needs.

3. What kind of students do you think benefit from inclusion?
   
   **Answer:** I believe both students with disabilities should be permitted to be there, as well as the students who aren't disabled, because I feel that the students who aren't disabled or don't have disabilities can relate to students that have disabilities, and those that are disabled are able to experience what the other students who aren't disabled are feeling.

4. What types of teachers do you think benefit from inclusion?
   
   **Answer:** I think all teachers can benefit from it as long as they are willing and understand what inclusion really is, and they will benefit from it because they learn how to accommodate working with students.
5. What kind of students don’t benefit from inclusion? I should say, are there any types of disabilities that you think wouldn’t benefit from inclusion?
   **Answer:** What I have learned from this class, I really don’t know a lot about special education yet, I think students with very severe disabilities might not benefit, yeah benefit.

6. By very severe you mean like in a wheelchair or very mentally impaired?
   **Answer:** Yeah, like an example would be autism. They need more help.

7. What types of training or education have you had about inclusion?
   **Answer:** Not a lot, just whatever I have learned this class.

8. You haven’t had any other class where they have talked about inclusion?
   **Answer:** No, no training, like my other class that I’m taking which is cultural and diversity, we learn basically what I already learned in this class.

9. What do you believe would be the best way to inform other teachers concerning students with disabilities?
   **Answer:** I believe that teachers should take classes or have a workshop where they learn about it.

10. How do you prefer to learn new information? Meaning do you prefer lectures or talking to others, alone, television, or a tape or something? How do you prefer to learn?
    **Answer:** I prefer learning lecture style, then later breaking into groups. That way you get feedback from other students or teachers about what they think inclusion is about.
1. I know you are a preservice teacher, but how do you envision when you get in the regular classroom, working with special education teachers?

**Answer:** I think it will be a challenge but it'll be something I want to do. I went to private school. I've never been in a classroom with special education students. I would like to see how I can change or do things for these students and how I can make a difference to them, I guess.

2. You envision having a good working relationship with the special education teachers?

**Answer:** Yes, yes, thoroughly.

3. If you had an inclusion classroom, what do you think it would look and sound like?

**Answer:** I would like a lot of separation between the kids, space-wise. If I get a big classroom. Like you said, not a lot of distraction in the room, not a lot of distractions, but a lot of team work.

4. Do you think it would be exceptionally quiet, noisy, or the amount of noise you normally expect from a classroom?

**Answer:** Not too quiet, not too noisy.

5. What kinds of students do you think benefit from inclusion?

**Answer:** Everyone benefits from it. The students who can do the work, and students from the resource room. They actually get to be with the regular students and learn social skills and the regular students get to know about these students, how they act, learn how to deal with it.
6. What kind of teachers do you think benefit from inclusion where if there is a benefit to be had, what kind of teachers do you think do a good job with inclusion?

**Answer:** Teachers that are open to it. Teachers who don’t say, “These are the rules.” It would be hard on the kids if the teacher wasn’t willing to adapt to the needs. Like if they couldn’t read the chapter. A teacher that is overall flexible.

7. Is there any type of student that you think doesn’t benefit from inclusion?

**Answer:** No. Anyone that would need to be in the hospital, very severe.

8. What kind of training have you had at all about dealing with students with special needs?

**Answer:** None. 444 class is all the training I’ve had. We talked about it briefly in 201, briefly.

9. What kind of training, what grade?

**Answer:** I’m a senior

10. So hopefully teaching next fall.

**Answer:** I have my student teaching in the fall.

11. What kind of further training would you like?

**Answer:** I was in a classroom where there wasn’t anyone that had special needs that I noticed. I want to observe a class where they have special needs. I could observe how they actually adapt to tests and homework and see the adaptations the teachers made and see how they benefit from it. I really didn’t get to see many observations before. Maybe in my practicum.
12. What do you think is the best method to inform the teachers about inclusion? If you had to tell other teachers, how do you think would be the best way to tell them about inclusionary practices.

**Answer:** How we talked about yesterday, you know like having teams go into the school and show how they can do it, hands on, having someone that knows how to do it teaching the teachers like the different steps that they could go about. Having someone look over their shoulder.

13. How do you prefer to learn if you had a choice, as a student, do you prefer to learn in a group, lecture style, alone, what is your best method of learning?

**Answer:** Group learning.

14. Group discussion or like a lecture thing where they present information and then you talk about it in a large group or do you like the smaller groups and have discussion?

**Answer:** I like to get the information and then talk about it. Have a discussion about what has been taught and people say how they feel about it and you see views that you really wouldn’t see by having the teacher talk.

15. The way you want to learn is that how you are going to teach?

**Answer:** Yes, exactly.
1. How do you envision working with special education teachers when you become a teacher yourself?

Answer: I should collaborate with them, get together, see what the special education teacher and I can work out together to help the student.

2. I know you are preservice, so how far along are you? Technically what year.

Answer: Almost a Junior.

3. So are you taking methods classes yet or practicum classes? ......

Answer: Educational Psychology and your class.

4. You haven't done a lot of observation in classroom yet?

Answer: I work in an elementary school.

5. If they were going to tell you, you were going to have an inclusion classroom what do you think it would look like and sound like?

Answer: Look like? The surroundings? Make sure they were sitting by kids that were very well behaved, I'd know they were helpful and would help out the student. I'd make sure they paid attention to what we are discussing about. I'd take away distractions like kids who tease them. Makes sure I take them aside and, you know, how you take kids who are potential problems and make them a helper.

6. Do you think it would sound like a normal class?

Answer: It depends on what the children have, learning disability or maybe, it would depend. I don't know. I think it would depend.
7. **What kind of students could benefit from inclusion?**

**Answer:** I think pretty much all of them, some kids, like autistic kids, I don't know if that would help them. There is like role models. They have other 4 year olds that don't have any disabilities. I don't know. I think it would make them...a problem, too much stress on them. I think learning disabilities, or blind, or hearing impaired

8. **Going along those same lines what kind of teachers benefit, do you think, benefit or get something out of inclusion? If it helps, which one has an easier time with inclusion? What type of teacher do you think has an easier time with inclusion?**

**Answer:** An educated one. I know some teachers at my school, they don't like having... Last year there was this teacher who was so mean to them (special ed. students). They have to be patient teachers, those teachers who went to school and had good teachers to learn from. What kind of teachers? Like special ed. teachers. They should be really attentive, really know your stuff.

9. **Is there any type of student that you think doesn't get anything out of inclusion, that doesn't benefit from inclusion?**

**Answer:** I think all of them benefit, but I think it's more stressful on others, like autistic kids or those with special disabilities. That's cool. There is this one girl at my school. She is physically handicapped, totally loves class. There is nothing wrong with that, but I think for serious that's kind of a problem.
10. Like serious you mean, if they had like severe physical and mental problems?

**Answer:** I think if it's physical it's not a big deal.

11. So if they had a mental retardation where you don't think they would benefit too much?

**Answer:** If everyone had updated classes, or maybe it would probably be better if their routine teaching would be easier, but like one teacher and 25 kids that's really hard.

12. So it would be hard because of the size of the class?

**Answer:** Yes, trying to like make education good for the non-disabled kids, I think it would be hard.

13. Had you had any specific training in how to work with children with special needs or special education students?

**Answer:** Not really, I am a teacher's aid.

14. Did you receive any training being a teacher's aid about how to work with students with special needs? Did they give you any courses or even somebody talking to you?

**Answer:** Not really.

15. Not anything specific that you have to go and do?

**Answer:** No.

16. So in your class work, your courses so far did not really mention, in UNLV they haven’t mentioned anything in your courses about special education that you have taken so far?
Answer: I learned a lot in your class and Educational Psychology is kind of the same thing as your class.

17. You’re not sure yet where it’s going to lead you?

Answer: Yes

18. You think maybe down the road you might get some more information? What do you think if you’re out and you’re practicing teaching, what do you think is the best way, method, to inform other teachers about inclusion?

Answer: I think a lot of magazines and a lot of stuff in the teachers lounge. I don’t know. Maybe go to teacher inservices and get together and discuss.

19. You think overall it would be a good idea for teachers to get together and discuss?

Answer: Yes.

20. So how do you prefer to learn? What I mean by that is do you like working with a group of other people, or a small group, or study this by yourself? What is the best way for you?

Answer: I am pretty social, so I would like to be on my own and study by myself.

21. That’s the best way for you to learn something? Do you like lecture form or do you like it by example, overall....?

Answer: It depends on the subject basically, chemistry or something is my way. I would need examples. English class or your class then lectures are fine.
22. You don’t like group work because it’s too easy to talk to people. It’s better to go and study by yourself?

Answer: I like it in a class to learn with other people, but when it comes time for the test I cannot study with other people because it’s social.

23. So when you become a teacher is that the kind of thing you’re going to do with your students; give them time to work on their own or you’re going to give them a chance to work in groups?

Answer: I think when they are really young and seat work, they don’t really need a lot ...... depending on the age. A lot like grade 4 is good with older kids. Like I don’t want to teach junior high. I think that I like elementary school. I don’t know, 1st grade seems alright. It really depends on the group. I don’t like the isolated seat work that’s not...... When I was growing up it was like you would sit by yourself and you wouldn’t even want to ask anyone any questions or anything because you felt like you know. You would have other kids help each other and sometimes would have to monitor them. You have responsible kids in every group at least a couple of kids.
1. When you get to be a teacher, how do you envision working with other special ed. teachers? Like if you’re the regular teacher how do you think your going to work with the special ed. teacher?

Answer: They will come into the classroom with the kids so they would be included. I’ve seen it done where the special ed. teachers come in with the kids included, and usually the littler ones come in and they’re there to help, you know.

2. So what do you think if the principal said OK you’re going to have an inclusive classroom, what do you think it would look like and sound like and be like?

Answer: Well there better be an aid in there helping, depending on their ability. I don’t know that I would have kids with disabilities. Maybe learning disabilities, and maybe some that are louder, like with emotional problems. Someone there that’s with them full time and try to have common ground too when their being disruptive and I think it would probably be o.k. I’m not a person where the classroom has to be quiet, I like hands-on and noise.

3. What kind of students, you answered this question before, what kind of students do you think benefit from inclusive?

Answer: You mean the disability? Any disability, pretty much any of them. I don’t really know the disabilities. The goal is to be productive, they must share and do the basic things.
4. What kind of teachers benefit from inclusion or have an easier time with inclusion?

**Answer:** A teacher who is experienced and educated in that, like a general education teacher has one class and it’s set and we’re supposed to be equipped to teach a child with a disability and the special education teachers have had more education in that. I am fine with a special education teacher coming in.

5. Is there a type of student that doesn’t benefit from inclusion?

**Answer:** Maybe those that can’t move or who are totally disabled, that can’t even talk. Other than that almost any child.

6. You just mentioned it before but specifically have you had any other training on how to deal with kids with special needs other than this class?

**Answer:** Only this class.

7. Do you expect to that you are going to have any other training?

**Answer:** No.

8. What do you think, if your job was to inform the other teachers on your staff, what do you think the best method would be to tell all the teachers on your staff about inclusion?

**Answer:** I don’t understand.

9. Like the things you are learning in this class or things that you are going to be reading about how to include students, what do you think is the best way to tell other practicing teachers about that?

**Answer:** Like have meetings to talk to them?

10. That could be one of the ways. Are there any other ideas you would have if you were in charge of telling the teachers?
Answer: If I were in charge I could go around the classroom and help teachers. Any help the teacher can get is needed and grateful to have.

11. How do you prefer to learn? Do you prefer to learn in lecture style like we have, or with other people in a group, or by yourself? What is your favorite method?

Answer: Other people, in a group, hands-on.

12. So if you were in a group, hands-on is your preferred way to work?

Answer: Yes

13. Do you think that’s the way you’re going to teach when you have the opportunity?

Answer: I hope.
E. E. SECOND INTERVIEW:

1. Now that we are all done, How do you envision working with special education teachers in your classroom?
   
   Answer: I plan to work with them collaboratively. I feel better equipped to work one-on-one with students that have problems, but I would go the them (special ed. teachers) for help.

2. What do you think an inclusive classroom will look and sound like?
   
   Answer: I, uh, think it will look like a normal, regular classroom. Kids laughing and working hard.

3. Do you see any drawbacks to inclusion?
   
   Answer: No, not really.

4. What kind of students benefit from inclusion or have an easier time with inclusion?
   
   Answer: From our discussions I think that any student that can interact with other students. Any student that wants to be around other people, and who wouldn’t want that?

5. What type of teachers benefit from inclusion?
   
   Answer: All teachers.

6. Is there any students that you think do not benefit from inclusion?
   
   Answer: Well, I guess just those who are not willing to interact with other students.

7. What education or prior training have you had besides this class?
Answer: Just this class. In another class we talked about dealing with
students with disabilities just a little. So not much at all.

8. What do you think is the best method to inform other teachers about
inclusion?

Answer: Providing, like we discussed, providing teachers with enough
resources so that they know how to do it, and showing them other things that
they can do and where they can go, so that they can get help.

9. How do you prefer to learn new information?

Answer: I like to learn in a group. I like discussions

10. Is that the way you are going to teach?

Answer: Yea.
M. B. SECOND INTERVIEW

1. How do you envision working with special education teachers in your class?

   **Answer:** By talking with them about how to include students with disabilities in the classroom, and help the kids that are in need. And have a teacher come in and work with the students with disabilities in the classroom, and help me out too. I have no training.

2. What do you think an inclusive classroom looks and sounds like?

   **Answer:** Well in my classroom kids would be, I like hands-on activities, and the kids with disabilities can do that, depending on the disability. It would be a normal classroom.

3. What types of students do you think would benefit from inclusion?

   **Answer:** All types except the ones, and I don’t know all the names, that can’t see or hear, or traumatic brain injury. It depends on the student’s impairment. If they want to come into my classroom, I will welcome them. I’ll try my best.

4. What type of teachers benefit from inclusion?

   **Answer:** Teachers? Yeah teachers can benefit from inclusion depending on their experience level.

5. You say you want to be a hands-on teacher, do you think that type of teacher benefits from including all kids?

   **Answer:** It depends. It depends on the personality of the teacher.
6. Is there any type of student that doesn’t benefit from inclusion?

**Answer:** No. Depending if the parents want them to go to a special school for their disability.

7. Have you ever had any other type of training other than this class?

**Answer:** No.

8. What do you think the best method is to train teachers?

**Answer:** A class that is hands-on and that takes you forward to learn about kids with disabilities.

9. How do you prefer to learn?

**Answer:** Hands-on, definitely with others.

10. With others or by yourself?

**Answer:** With others.
D.L. SECOND INTERVIEW

1. How do you envision working with special education teachers in your classroom?

   Answer: Working together, collaboration. Working together to find out what is going on in the special ed. room and what is going on in the my room to see what we can do to work together more. Just to collaborate.

2. What do you think an inclusive classroom looks and sounds like?

   Answer: I would probably have certain boys and girls sitting next to certain kids that need help. Not a distractive environment, not too distracting.

3. What types of students do you think would benefit from inclusion?

   Answer: Everybody.

4. What type of teachers benefit from inclusion?

   Answer: The teacher should like group work. Not direct instruction, because everybody doesn't learn the same way. Somebody with a disability might need more help. A teacher's aide could help.

5. What type of student doesn't benefit from inclusion?

   Answer: Maybe autistic. Maybe Down's Syndrome, no, depending on how severe it is.

6. What type of training have you had other than this class?

   Answer: I am a teacher's aide, but I don't have anyone in my room that I see as really in need, but by observation I get training.. Educational Psychology gave me some exposure to ideas about students with disabilities.

7. What do you thing the best method is to train teachers about student disabilities?
Answer: I’d like to know how to handle situations. Like the kid you were talking about that just walks into the walls. To know how to handle kids like him. Also to make the other children understand what is going on, so they can help that kid. I would like more experiences or classes where they explain that more.

8. How do you prefer to learn?

Answer: I do better with direct instruction I think. I have to study by myself. I prefer learning on my own versus the group.

9. With others or by yourself?

Answer: By myself. Yeah I’d rather be by myself. It is fine to do the group thing, but if I really need to gather information, I like to do it by myself.
S. M. SECOND INTERVIEW:

1. How do you envision special education teachers in your class?
   Answer: Well, like after taking this class and understanding more about children with disabilities, I would have an easier time with them. Especially if I would have an aid or other services available to me it would be easier to work with them. I would ask the special education teacher questions.

2. What do you think an inclusive classroom looks and sounds like?
   Answer: Special education students interacting with other students. I would put them in groups, so they can all work together.

3. What types of students do you think would benefit from inclusion?
   Answer: Students that don’t have really severe disabilities, like the ones that don’t need an aid to sit right next to them. Like those that can work with students on classroom things.

4. What type of teachers benefit from inclusion?
   Answer: No really I just think a teacher has to be willing to accept those students. If they aren’t willing to work with students like that then they aren’t really going to get anything out of it.

5. Is there any type of student that doesn’t benefit from inclusion?
   Answer: No. Not really. Except maybe those students that have really severe disabilities, and they would probably benefit from it, but not as much as someone that is not as severe.

6. Have you ever had any other type of training other than this class?
   Answer: Just this class.
7. What do you think the best method is to train teachers?

Answer: I think teachers should have classes throughout the year. Not a lot, just once every two weeks, just to help them and give more ideas to make their class better.

8. How do you prefer to learn?

Answer: With other people. Group work and hands-on.
VITA

Graduate College
University of Nevada, Las Vegas

Leah M. Hemer

Home Address:
6347 Gold Canyon Drive
Las Vegas, Nevada 89156

Degrees:
Bachelor of Science, Education, 1990
Bowling Green State University, Ohio

Master of Education, Administration, 1993
University of Nevada, Las Vegas

Publications:

Dissertation Title: Educator Study Groups: An Exploration of An Alternative Method of Preservice Teacher Development

Dissertation Examination Committee:
Chairperson, Dr. Kyle Higgins, Ph.D.
Committee Person, Dr. Susan Miller, Ph.D.
Committee Person, Dr. Tom Pierce, Ph.D.
Graduate Faculty Representative, Dr. Kevin Crehan, Ph.D.