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Instructional Strategies Promoting Academic Success in Inclusive Settings at the Elementary School Level

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Instructional Strategies Promoting Academic Success in
Inclusive Settings at the Elementary School Level

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Running head: INSTRUCTIONAL STRATEGIES

Abstract

The purpose of this study was to determine the instructional strategies that promote academic success in inclusive settings at the elementary school level. This study also attempted to investigate the most effective instructional strategies perceived by regular education teachers and special education teachers. Seventy-eight subjects from the elementary school level, including thirty-nine ($n=39$) regular education teachers and thirty-nine ($n=39$) special education teachers, participated in this study. A survey research design, with a self-developed questionnaire, was used to collect data. Approximately thirty-three percent (33.33%) of the questionnaires were returned. The data were analyzed through qualitative and quantitative statistics. The relationships between grade level of teaching and self-monitoring strategy ($\chi^2=46.50$, $df=24$, $\chi^2_{cv}=36.42$, $p<.05$), grade level of teaching and team teaching ($\chi^2=45.78$, $df=30$, $\chi^2_{cv}=43.77$, $p<.05$), and teaching experience and use of computers in instruction ($\chi^2=97.29$, $df=75$, $\chi^2_{cv}=90.53$, $p<.05$) were found to be significant. All other relationships between experiential variables and teaching strategies were not significant. A limitation of this study was the generalization due to a low response rate.



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Instructional Strategies Promoting Academic Success in
Inclusive Settings at the Elementary School Level

According to Mastropieri and Scruggs (1995), when teachers use effective instructional strategies, students of all ability levels will generally learn better. Canter (1989) (cited in Johnston, Proctor, & Corey, 1995) suggested that teachers are not able to explain successfully to the students the content unless they provide a positive environment in which students understand how they are to behave. Without classroom management, there can not be a positive instructional environment. Nelson, Johnson, and Marchand-Martella (1996), stated that new strategies are necessary to meet the needs of students with emotional or behavioral disorders (EBD). For many of the students who are exhibiting EBD, problems could be related to stimuli such as events, situations or activities. If environmental factors are considered in planning educational strategies, then these strategies will have a more positive effect.

The study by Nelson, Johnson, and Marchand-Martella (1996) indicated the following results. When the instructional approach is more systematic and teacher directed, students who experience EBD will be more successful. This approach should not only be used in a self-contained classroom but also utilized in a mainstream

classroom. Effective instructional approaches should also be used alongside appropriate behavior management techniques (Nelson, Johnson, & Marchand-Martella, 1996). Bickel and Bickel (1986) recommended that special education and general education teachers can learn a great deal from recent research which will enable them to design more effective instructional programs for students who have special needs.

A recent survey indicated that teachers identified science education as a highly appropriate subject area for mainstreaming (Scruggs & Mastropieri, 1993). Mastropieri and Scruggs (1995) asserted that in order for teachers to help students understand Science, they should teach students to "SCREAM". This term refers to structure, clarity, redundancy, enthusiasm, appropriate pace, and maximized engagement. Appropriate pace is necessary, and students benefit from clear presentations that reflect and extend previous activities. A student's motivation will improve when the teacher is enthusiastic. Tutoring, cooperative learning, mnemonic strategies and self-monitoring are associated with the "SCREAM" approach.

Nearly 20 years of research has been conducted for the Team Approach to Mastery. A study by Johnston, Proctor, and Corey (1995) focused on the Christina School District in

Delaware. In TAM classrooms, students who have mild disabilities are educated with their nondisabled peers during the entire school day. This approach is now supported by the parents of students with disabilities and students without disabilities. Having students with disabilities in the regular classroom provides them a way in, rather than a way out, of general education.

The TAM approach involves seven practices that provide a structure for full inclusion. However, many can be used as a separate strategy in almost any classroom, not just in a full inclusion classroom. They are team teaching, learning centers, ego groups, direct instruction, positive approach, point cards and teacher cadres. Team teaching involves two teachers, usually one who is certified in special education and the other in general education. Together, they instruct both the students with disabilities as well as those with no disabilities. Through this approach, teachers are prepared to teach all children effectively. Ego groups are sessions at the beginning of each school day that focus on issues related to self-esteem. Positive approach refers to the staff and other students praising and supporting one another. Point cards are available for the students and give them the opportunity to earn credits during each period for appropriate behavior and

task completion. Teacher cadres involve collaborative relationships among teaching professionals (Johnston, Proctor, & Corey, 1995).

Vockell and Mihail (1993) described principles of instruction that are supported by research. They suggested guidelines for implementing computer use with these principles which may be used with all learners at all grade levels. Direct instruction, mastery learning, overlearning and automaticity, monitoring student progress, learning styles, and cooperative learning are all addressed using a specific instructional principle. When teachers are aware of these principles and apply them to their classroom, computers are valuable instruments that enforce learning with children who have exceptionalities.

Bender, Vail, and Scott (1995) investigated the types of instructional strategies teachers are providing in mainstream classrooms. First through eighth grade mainstream teachers were used in their study, thus a total of 127 teachers. Subjects were obtained from eleven schools within three school districts in Georgia. The teachers were asked to complete a self-evaluation form relating to instructional strategies used in their regular education classes. They also completed questionnaires on their attitudes toward mainstreaming. ANOVAs were used to compare

the attitudes of these teachers. The results showed that teachers who had lower positive attitudes toward mainstreaming used effective instructional strategies less often than those with more positive attitudes (Bender, Vail, & Scott, 1995). Teacher-directed approaches and student-directed approaches are used by many elementary school teachers.

Teacher-Directed Approaches

Teacher-directed instructional approaches such as Direct Instruction, Computer Assisted Instruction (CAI), Learning Styles, and Strategy Instruction are some of the effective strategies used by teachers in elementary school settings. Often these strategies are used together to help promote academic success.

Direct instruction. According to Vockell and Mihail (1993), the following is the instructional principle behind direct instruction: students learn better when their teacher explains exactly what they are expected to learn and demonstrates the steps that apply to accomplishing that academic task. Direct instruction is referred to as systematic learning. The students are able to recognize the purpose and result of each step (Vockell & Mihail, 1993).

Vockell and Mihail (1993) addressed the basic components of direct instruction. In direct instruction,

clear goals are provided to make sure students understand them. An appropriate sequence of well organized assignments is presented as well as concise explanations of the subject matter. The teacher asks frequent questions to make sure students are understanding the material. Plenty of practice opportunities are also available for the students in direct instruction.

Computers can perform direct instruction well. A computer program provides objectives, tutorials when requested, many practice opportunities, and immediate feedback. Teachers provide direct instruction alongside computers when they do not include all features of direct instruction (Vockell & Mihail, 1993). Woodward and Carnine (1993) stated that CAI is often more effective when used with teacher-directed instruction. According to Vockell and Mihail (1993), about 95% of all learners in any group will completely master the instructional objectives when enough time and help is given. Vockell and Mihail (1993) addressed three ways computers and mastery learning work together: software programs provide opportunities that meet an individual's needs, there are additional programs for those students who successfully master the objectives at a faster pace, and computers also provide certain programs that help teachers monitor student performance. Resource

teachers may want to use computers when working with students. They may also show other teachers how to use computers more effectively to help students perform at higher success rates.

Vockell and Mihail (1993) focused on the instructional principle that skills need to be addressed frequently even after initial mastery. Maintenance and generalization are two primary issues of concern to special educators when measuring success rates. Computer programs, that have repetition of a particular skill in different formats, will help prevent students from becoming bored. Vockell and Mihail (1993) focused on this instructional principle about monitoring student progress: when students' progress is monitored frequently, the students, parents, teachers, and administrators are able to identify strengths and weaknesses more accurately. This principle applies to learning as well as instruction and often leads to better student performance. Computers are an excellent way to monitor student's progress. Teachers also use database programs to record information (Vockell & Mihail, 1993).

CAI. Over the past ten years, the use of educational software has increased in the school systems. A great deal of the newer software is suited for a larger span of learners (Okolo, Bahr, & Rieth, 1993). Many challenges for

the teacher come with the use of computers for instructional purposes in the classroom [Council For Exceptional Children (CEC), 1995]. Researchers have developed guidelines for selecting programs that support specific instructional principles. Okolo, Bahr, and Rieth (1993) reviewed Computer Assisted Instruction (CAI) over the last ten years for use with students with mild disabilities. They suggested selecting CAI based on features such as clarity and uncluttered screens, consistent screens, appropriate sequencing and pacing, nondistractive and colorful graphics, frequent feedback systems, practice opportunity, and an appropriate instructional model for the skill.

A series of studies by Carnine (1987) were conducted at the University of Oregon. Certain instructional design principles were applied to CAI. The following principles were examined: the size of teaching sets, the number of items taught in one lesson; cumulative review, presentation of skills in subsequent lessons that have been taught recently; explicit strategy teaching, specific rules for problem solving; discrimination practice, different types of problems; elaborated correction, and steps provided to solve a problem instead of telling the student the correct answer. Carnine (1987) recommended shorter lists for increasing memory. He also believed simulation will improve review and

practice while the transfer of knowledge will improve with elaborated feedback. Also, tasks that combine mathematical and verbal reasoning need direct instruction. Research studies help teachers select and use CAI in a way that increases its instructional effectiveness.

Using computers in the classroom assists in teaching subject matter to all students. However, computers promote learning most effectively when making a specific contribution to a particular instructional strategy (Vockell & Mihail, 1993).

Learning styles. Vockell and Mihail (1993) also explained the instructional principle for learning styles. According to these authors, different children prefer different styles of learning, and many children learn more effectively when they are able to use a learning style with which they feel most comfortable. A major strength a computer possesses is its ability to present the same information in various ways. When the presentations are attractive and enjoyable, students are more likely to learn. Teachers may want to let their students choose the program. If a student is having a problem, the teacher is able to determine if it is the subject matter or the type of presentation (Vockell & Mihail, 1993). For students with disabilities, their individual learning styles need to be

addressed in a general education classroom. Learning centers focus on individual learning styles and enable the students to work in small groups to develop skills in writing, thinking, attention to task, and eye-hand coordination (Johnston, Proctor, & Corey, 1995).

Mnemonic strategies. Many students who have mild disabilities often have trouble retrieving unfamiliar verbal labels. Mnemonic strategies have been very helpful for this reason. This strategy involves pairing unfamiliar terminology with similar and familiar key words. The key word is associated with the definition (Mastropieri & Scruggs, 1995). Scruggs and Mastropieri (1992) conducted an experimental study with 20 students having mild disabilities. These subjects included students from sixth through eighth grades. The students were separated into two groups and were given either traditional instruction or mnemonic instruction. Post-test results revealed that students who received mnemonic instruction scored higher on content acquisition and maintenance of science content. These researchers concluded that there is an overwhelming support for using mnemonic instruction rather than using traditional methods.

Student-Directed Approaches

Student-directed instructional approaches such as Cooperative Learning, Peer Tutoring, and Self-Monitoring are some of the effective instructional strategies implemented by elementary school teachers. They are also used to promote academic success.

Cooperative learning. According to Vockell and Mihail (1993), students often learn better in a cooperative environment. This environment stresses that the success of one student contributes to the entire group. Some students may feel inadequate in a competitive environment. Having small groups working together at the computer provides discussion of possible strategies (Vockell & Mihail, 1993). Research has shown that small group cooperative learning, associated with CAI, produces higher achievement than individual use. Okolo, Bahr and Rieth (1993) stated that group computer use also contributes to positive social behaviors.

Reblin (1994) conducted a pilot study on a first grade inclusion program for language learning disabled students. The study included two schools in which the resource-room teacher and speech-language pathologist were in the general education classroom eight hours every week with the classroom teacher. The purpose of this program was to

provide these students with a successful learning environment through appropriate strategies, modifications, and interventions. The data analysis indicated academic achievement and an increase in social and pragmatic skills as a result of this inclusion program. By implementing small group exercises and modifying the curriculum, every student received the individual help they needed. Teachers stated that the staff must be cooperative, have adequate training, sufficient planning time, and a low teacher/student ratio.

Peer tutoring. Mastropieri and Scruggs (1995) suggested that one way to help students with disabilities overcome their difficulties is to assign individual students as tutors. In inclusive settings, one student acts as the teacher or tutor providing assistance to another student also referred to as the tutee (Fisher, Shumaker, & Deshler, 1995). This practice also helps provide redundancy to those students who need extra help (Mastropieri & Scruggs, 1995). According to Jenkins and Jenkins (1985), those who developed this technique believe it can only be effective if the teacher interacts with the students and keeps them focused. The tutee's progress should be frequently evaluated and the sessions need to be scheduled on a regular basis.

Okolo, Bahr, and Rieth (1993) stressed that software programs help structure peer tutoring. These programs assist the tutors in providing instruction, prompts, and feedback as well as helping students work in groups at the computer.

Self-monitoring. Mainstream or inclusive classrooms require more independent work than special education classes. Self-monitoring is one way to help students work more independently. Students receive sheets which contain a list of tasks that are to be completed in the order given. A check mark is put beside the task when completed. The teachers can reward their students for monitoring their own progress (Mastropieri & Scruggs, 1995). Self-monitoring is also used as a behavior management technique which contributes to a more positive learning environment.

Inclusion

Torgeson (1982) mentioned that many professionals agree students with learning disabilities need to be effectively integrated into the general education classes. McIntosh et al. (1993) conducted a study using 60 general education classes, including grades k-12, having within them students with learning disabilities. The purpose of this study was to observe general education teachers throughout the elementary, middle and high school grade levels. The

subjects came from one southeastern school district. The authors examined the teachers' behaviors towards students with and without disabilities as well as interactions among students and between student and teacher. These researchers found few differences in teachers' behaviors and classroom practices among students with and without disabilities.

According to Fuchs and Fuchs (1994), instructional programs in inclusive settings for students with mild disabilities have recently received a great deal of attention (cited in Bender, Vail, & Scott, 1995). Mainstreaming generally refers to the placement in regular education classes with only some time spent outside in a resource classroom. According to the National Association of State Boards of Education (1992), inclusion generally refers to ending all separate special education placements for every student (cited in Bender, Vail, & Scott, 1995). However, according to Bender, Vail, and Scott (1995) inclusion is full term placement in mainstream general education classes with appropriate special education support. One of the most important issues related to the integration of students with disabilities in the general education classroom is the effect it has on students' learning and social interactions with peers (Baker, Wang, & Walberg, 1995).

A number of researchers (cited in Fisher, Schumaker, & Deshler, 1995) have indicated that determining the appropriate educational needs of students who have mild disabilities, within general education settings, can be a challenge for teachers. Many professionals have not received adequate training implementing instructional strategies with exceptional children; therefore, they are unable to provide support to those students with special needs (Fisher, Shumaker, & Deshler, 1995).

Statement of Purpose

The purpose of this study was to investigate instructional strategies that are perceived by teachers as the most effective in an inclusive setting. Teacher attitudes toward inclusion, as well as their teaching experiences, have a major impact on which strategies they feel are effective in their classroom. More specifically the following questions were addressed:

1. What are the most frequently used instructional strategies?
2. Is there a relationship between demographic variables such as total years of teaching experience, grade level, or type of teacher and the preferred instructional strategies?
3. Are there instructional strategies that are perceived by teachers to be more effective than others?

4. Is there a relationship between the level of the teacher's comfort in using an instructional strategy and the perceived effectiveness of the instructional strategy?
5. Is there a difference among teachers in using instructional strategies based on the type of setting?

Method

Design and Subjects

A survey research design was used in this study. The subjects in this study were selected from four different counties in Virginia. The counties were selected using a convenience sampling method. A list of elementary schools from these counties were obtained from the Department of Education, and six schools from these counties were included in this study. Thirty-nine (n=39) special education teachers and thirty-nine (n=39) regular education teachers participated in this study. Thus, the total number of subjects in this study were seventy-eight (N=78).

Instrument

A self-developed questionnaire, containing two sections, was used for this study. The first section included demographic variables such as gender, grade level, and type of teacher. The second section pertained to instructional strategies. This section included questions that were answered on a five point Likert scale: 1=Never, 2=Rarely, 3=Sometimes, 4=Often, and 5=Always. At the end of this section, there were five open-ended questions relating to the instructional strategies subjects feel are the most effective in their classroom, those that they feel the most comfortable implementing in their classroom, those that they

feel are not effective in their classroom, and their overall opinion on inclusion. A pilot study was conducted to ensure the clarity and validity of the questionnaire. The pilot study was conducted among twenty-one graduate students in an education class from Longwood College.

Procedure

A cover letter and a copy of the questionnaire were sent to the superintendent of each county. These, along with the methods explaining the purpose of this study, were sent to the Human Resource Committee of the school board for approval in one of the counties. This was a requirement for this particular county. Anonymity and confidentiality of the participation of the subjects were ensured.

Upon obtaining school division approval, the questionnaire together with a cover letter explaining the purpose of this study were sent to the principals of each school. The principals were asked to distribute the cover letter, the questionnaire, and a self-addressed stamped envelope to the regular education teachers on a random basis and to all of the special education teachers within his or her school. The subjects were asked to complete and return the questionnaire to the researcher within ten days. Two weeks later, reminder notices were sent to the subjects explaining the importance of this study.

Analysis of Data

Quantitative statistics as well as qualitative analyses were used to analyze the data. Descriptive statistics were used to determine teacher perceptions of the most effective instructional strategies. Relationships and differences among demographic variables and instructional strategies were analyzed using a chi-square.

Results

Seventy-eight (N=78) subjects at the elementary school level were sent surveys. These subjects included thirty-nine (n=39) regular education teachers and thirty-nine (n=39) special education teachers. A total of twenty-six (33.33%) questionnaires were returned. Among the twenty-six questionnaires returned, there were fourteen (53.85%) regular education teachers and twelve (46.15%) special education teachers. However, only eleven questionnaires completed by special education teachers were scorable because one questionnaire was more than 90% incomplete.

All subjects (100%) were female. Among the twenty-five questionnaires analyzed, 56% were regular education teachers and 44% were special education teachers. Thirty-six percent of the teachers taught kindergarten through second grade, 28% taught third through fifth grade and 36% taught more than one grade level. Thus, the mean grade level was 4.4. Forty-eight percent of the teachers had two to nine years of teaching experience and 48% had ten to twenty-five years of teaching experience. Four percent did not respond to this question. The mean of the total years of teaching experience was 10.96 years. For total years of teaching in the present setting, 40% had been teaching for one to four

years, 36% for five to eight years, and 20% for nine to nineteen years. The mean for number of years teaching in the present setting was 5.96 years. Only six (42.86%) of the fourteen regular education teachers analyzed were in inclusive settings and only four (36.36%) of the eleven special education teachers were in inclusive settings.

The most frequently used strategies among regular and special education teachers were determined using mean ratings of the Likert scale items (See Table 1). The mean ratings were calculated for the entire sample on the eight instructional strategies. The mean ratings for the eight instructional strategies were also calculated for the regular and special education teachers.

Overall Results

The two most frequently used strategies among the entire sample were "Different Instructional Activities" ($\bar{X}=4.52$) and "Direct Instruction" ($\bar{X}=4.32$). The two least frequently used strategies were "Team Teaching" ($\bar{X}=3.12$) and "Self-Monitoring" ($\bar{X}=2.80$).

Regular Education Teachers

The two most frequently used strategies among the regular education teachers were "Different Instructional Activities" ($\bar{X}=4.29$) and "Direct Instruction" ($\bar{X}=4.29$). The two least frequently used strategies were "Team Teaching" ($\bar{X}=3.29$) and "Self-Monitoring" ($\bar{X}=3.07$).

Special Education Teachers

"Different Instructional Activities" ($\bar{X}=4.82$), "Direct Instruction" ($\bar{X}=4.36$), and "Mnemonic Strategies" ($\bar{X}=4.36$) were the most frequently used strategies among the special education teachers. "Team Teaching" ($\bar{X}=2.91$) and "Self-Monitoring" ($\bar{X}=2.45$) were the least frequently used strategies.

Relationship between Teaching Strategies and Experiential Variables

A chi-square test was used to determine if there was a significant relationship between the self-monitoring strategy and the grade level of teaching. A significant relationship ($\chi^2=46.50$, $df=24$, $\chi^2_{cv}=36.42$, $p<.05$) was found (See Table 2). A significant relationship ($\chi^2=45.78$, $df=30$, $\chi^2_{cv}=43.77$, $p<.05$) between team teaching and grade level of teaching was also found (See Table 3). In addition, the relationship between the use of computers and teaching

experience was found to be significant ($\chi^2=97.29$, $df=75$, $\chi^2_{cv}=90.53$, $p<.05$). (See Table 4).

Although the chi-square test indicated significant relationships, none of the contingency table cells had more than five expected frequencies. This would have resulted in the rejection of the hypotheses. All other hypotheses such as the relationship between computer usage and grade level, direct instruction and teaching experience, and mnemonic strategies and type of teacher were not significant. According to the teachers' responses, qualitative analyses were used to determine the instructional strategies teachers perceived to be the most effective in their classroom as well as the relationship between the level of the teachers' comfort in using an instructional strategy and the perceived effectiveness of the instructional strategy. Direct instruction and small group cooperative learning were stated more often as the most effective strategies among the teachers surveyed. Eleven (44%) of the teachers surveyed indicated that the same instructional strategies they felt the most comfortable implementing were also the instructional strategies they felt to be the most effective in their classroom. However, ten (40%) teachers varied in their responses. Four (16%) of the teachers did not complete this part of the questionnaire.

Discussion

The actual mean ratings for the eight instructional strategies differed between the entire sample, regular education teachers and the special education teachers. However, those instructional strategies used most and least frequently were the same among each group.

Although Computer Assisted Instruction (CAI) was used quite often among these teachers surveyed, they did not state CAI as being effective very often when asked to list the three most effective instructional strategies used in their classroom. Team teaching was not used as frequently as other strategies. This may be due to the small number (n=10) of teachers in inclusive settings. Self-monitoring was not implemented very often by the teachers surveyed. Many teachers stated this strategy enables the students to stay off task.

Chi-square test of homogeneity showed significant differences in relationships between self-monitoring and the grade level of teaching, team teaching and the grade level of teaching, and the use of computers and total years of teaching experience. The rejection of hypotheses indicated the following:

1. Self-monitoring strategies used by teachers in different grade levels were not the same. The researcher can

interpret the following: those teachers who taught more than one grade level used self-monitoring more frequently (see Table 2).

2. The implementation of team teaching differed among teachers in different grade levels. The researcher can interpret the following: those teachers who taught more than one grade level used team teaching less often (see Table 3).

3. The use of computer assisted instructions (CAI) were different depending on teaching experience. The researcher can interpret the following: those teachers who had been teaching for seven years used computers more often than the other teachers (see Table 4).

By computing the standardized residuals (R) for each of the cells, the researcher could have determined the grade levels and types of experience that contributed to the statistically significant χ^2 value (Hinkle, Wiersma, & Jurs, 1994; Loether & McTavish, 1993). However, this computation was not carried out because the researcher was aware of the limitations of the use of the χ^2 statistic. For example, almost all contingency table cells had less than five frequencies or no frequencies at all.

Limitations of the Study

The counties were not randomly selected, therefore, the sample may not be representative of all schools. In addition, few schools actually participated in this study so a small sample size was used. Due to the small sample size, generalization of the findings may not be possible. Most of the teachers surveyed were not in an inclusive setting; therefore, an accurate conclusion could not be made on which strategies promoted academic success in an inclusive setting. A chi-square test of homogeneity was used to test the relationship between experiential variables and teaching strategies. Although these hypotheses were rejected, the findings were not generalizable as almost all the cells had less than five frequencies. Thus, the credibility of the significant difference was questionable.

Recommendations

Using a larger sample size will help researchers generalize their findings. When using a chi-square test of independence, if more than 20% of the cells have expected frequencies less than five, it is advisable to combine adjacent rows or columns without creating a distortion of data. If the sample size is larger, then a parametric test should be used rather than a nonparametric test (Hinkle, Wiersma, & Jurs, 1994; Loether & McTavish, 1993). In

addition, the special education teachers were not asked what type of disabilities they were currently teaching (i.e. students with learning disabilities, students with emotional disturbances). This could make a difference in which strategies the teachers perceived to be the most effective in various situations.

Inclusion is still a new concept in the educational system. The definition of inclusion varies among states, school districts and among schools in the same county. As inclusion becomes more popular and well known, a study similar to this would be highly effective to determine strategies that are making a positive contribution to an inclusive setting.

References

- Baker, E. T., Wang, M. C., & Walberg, H. J. (1995). The effects of inclusion on learning. Educational Leadership, 33-35.
- Bender, W. N., Vail, C. O., & Scott, K. (1995). Teachers' attitudes toward increased mainstreaming: Implementing effective instruction for students with learning disabilities. Journal of Learning Disabilities, 28 (2), 87-94.
- Bickel, W. E., & Bickel, D. D. (1986). Effective schools, classrooms, and instruction: Implications for special education. Exceptional Children, 52 (6), 489-500.
- Carnine, D. W. (1987). Final report. Computer assisted instruction in higher order skills for mildly handicapped students: Programmatic research on design principles. Eugene: University of Oregon. (ERIC Document Reproduction Service No. ED 324 833)
- Council For Exceptional Children (1995). Instructional design of computer-assisted instruction for use with students who have mild disabilities. Teaching Exceptional Children, 27 (3), 77-79.

Fisher, J. B., Schumaker, J. B., & Deshler, D. D. (1995). Searching for validated inclusive practices: A review of the literature. Focus on Exceptional Children, 28 (4), 1-20.

Hinkle, D. E., Wiersma, W., & Jurs, S. G. (1994). Applied statistics for the behavioral sciences (3rd ed.). New Jersey: Houghton Mifflin Co.

Jenkins, J. R., & Jenkins, L. M. (1985). Peer tutoring in elementary and secondary programs. Focus on Exceptional Children, 17 (6), 1-12.

Johnston, D., Proctor, W., & Corey, S. (1995). Not a way out: A way in. Educational Leadership, 52 (4), 46-49.

Loether, H. J., & McTavish, D. G. (1993). Descriptive and inferential statistics: An introduction (4th ed.). Boston: Allyn and Bacon.

Mastropieri, M. A., & Scruggs, T. E. (1995). Teaching science to students with disabilities in general education settings: Practical and proven strategies. Teaching Exceptional Children, 27 (4), 10-13.

McIntosh, R., Vaughn, S., Schumm, J. S., Haager, D., & Lee, O. (1993). Observations of students with learning disabilities in general education classrooms. Exceptional Children, 60 (3), 249-261.

Nelson, J. R., Johnson, A., & Marchand-Martella, N. (1996). Effects of direct instruction, cooperative learning, and independent learning practices on the classroom behavior of students with behavioral disorders: A comparative analysis. Journal of Emotional And Behavioral Disorders, 4 (1), 53-62.

Okolo, C. M., Bahr, C., & Rieth, H. (1993). A retrospective view of computer-based instruction. Journal of Special Education Technology, 12 (1), 1-27. (ERIC Document Reproduction Service No. EJ 474 333)

Reblin, P. A. (1994). A first- grade inclusion model that trains classroom teachers to modify and develop curriculum for language-learning disabled students (Practicum Report, Nova Southeastern University). (ERIC Document Reproduction Service No. ED 374 605)

Scruggs, T. E., & Mastropieri, M. A. (1992). Classroom applications of mnemonic instruction: Acquisition, maintenance, and generalization. Exceptional Children, 58, 219-229.

Scruggs, T. E., & Mastropieri, M. A. (1993). Current approaches to science education: Implications for mainstream instruction of students with disabilities. Remedial and Special Education, 14 (1), 15-24.

Torgeson, J. K. (1982). The learning disabled child as an inactive learner: Educational implications. Topics in Learning and Learning Disabilities, 5, 45-52.

Vockell, E. L., & Mihail, T. (1993). Behind computerized instruction for students with exceptionalities. Teaching Exceptional Children, 25 (3), 39-43.

Woodward, J., & Carnine, D. (1993). Uses of technology for mathematics assessment and instruction: Reflection on a decade of innovation. Journal of Special Education Technology, 12 (1), 38-48. (ERIC Document
Reproduction Service No. EJ 474 335)

Appendix A

Letter to Superintendent

Dear _____:

I am a graduate student at Longwood College pursuing a Masters degree in Special Education. My degree requirements include completing a thesis. I am conducting a study on the instructional strategies that are promoting academic success in inclusive settings at the elementary school level. The subjects chosen include regular education and special education elementary school teachers. This study is primarily concerned with determining the instructional strategies regular education teachers and special education teachers perceive as the most effective in their classroom.

Teachers' perceptions of the most effective strategies used in their classrooms will be beneficial for individuals who are pursuing a career in education. The enclosed instrument will be pilot tested at Longwood College among graduate students. The self-developed questionnaire should take no longer than 15 minutes to complete.

It would be very much appreciated if you could grant me permission to conduct this study in your county. Teachers participation is completely voluntary and anonymity will be maintained. The responses will be held in strictest confidence. Four different counties will be asked to participate in this study. The names of the counties used will not be revealed. I will follow-up this letter with a phone call approximately one week after mailing to ensure the letter was received and to answer any questions you may have. Please return the attached permission form with your response by _____.

I will be more than happy to send you a copy of the results if you wish. Thank you for your cooperation, and I will be waiting to hear from you soon.

Sincerely yours,

Deborah White
Graduate Student

Appendix B
Permission Slip

I _____ grant/ do not grant
permission (circle response) to Deborah White to conduct
research in the _____ school district.

Please return this permission sheet by _____
in the self-addressed stamped envelope provided.

Appendix C

Letter to Principal

Dear _____:

I am a graduate student at Longwood College pursuing a Masters degree in Special Education. My degree requirements include completing a thesis. I am conducting a study on the instructional strategies that are promoting academic success in inclusive settings at the elementary school level. The subjects chosen include regular education and special education elementary school teachers. This study is primarily concerned with determining the instructional strategies regular education teachers and special education teachers perceive as the most effective in their classroom.

Teachers' perceptions of the most effective strategies used in their classrooms will be beneficial for individuals who are pursuing a career in education. The enclosed instrument has been pilot tested at Longwood College among graduate students. The self-developed questionnaire should take no longer than 15 minutes to complete.

Your school has been selected to participate in this study. I have obtained permission from the Superintendent of your county. I would like to ask you to kindly distribute ___ questionnaires to your regular education teachers (randomly selected) and ___ questionnaires to your special education teachers. Teachers should complete the questionnaire by _____ and return it in the self-addressed stamped envelope provided. Further phases of the study can not be carried out until I receive completed questionnaires from the respondents. Teachers participation is completely voluntary and anonymity will be maintained. The responses will be held in strictest confidence.

I will be more than happy to send you a copy of the results if you wish. Thank you for your cooperation.

Sincerely yours,

Deborah White
Graduate Student

Appendix D
Letter to Subject

Dear Subject:

I am a graduate student at Longwood College pursuing a Masters degree in Special Education. My degree requirements include completing a thesis. I am conducting a study on the instructional strategies that are promoting academic success in inclusive settings at the elementary school level. The subjects chosen include regular education and special education elementary school teachers. This study is primarily concerned with determining the instructional strategies regular education teachers and special education teachers perceive as the most effective in their classroom.

Teachers' perceptions of the most effective strategies used in their classrooms will be beneficial for individuals who are pursuing a career in education. The enclosed instrument has been pilot tested at Longwood College among graduate students. I have revised it in order to obtain all necessary data while requiring the subject's minimum amount of time. The self-developed questionnaire should take no longer than 15 minutes to complete.

Your school has been selected to participate in this study. I would appreciate it very much if you would please complete the enclosed questionnaire by _____ and return it in the self-addressed stamped envelope. Further phases of the study can not be carried out until I receive the completed questionnaire. Your participation is completely voluntary and anonymity will be maintained. Your responses will be held in strictest confidence. Please feel free to call me if you have any questions concerning this study at (804) 392-9367.

I will be more than happy to send you a copy of the results if you wish. Thank you for your cooperation and interest in this study.

Sincerely yours,

Deborah White
Graduate Student

Appendix E
Instructional Strategies Questionnaire

Instructional Strategies Questionnaire

Part I: Demographic Information

Please check those answers that apply to you. **Please use the following as definitions when responding to question 6 or 7:**

*Inclusive setting for a **regular** education teacher applies to those teachers who have mainstreamed special education students in their classroom for at least 75% of the day.
 *Inclusive setting for a **special** education teacher applies to those teachers who are in a regular education classroom(s) for at least 75% of the day.

1. Gender:
 - Male _____
 - Female _____

2. What are you currently teaching?
 - a. Regular Education: Grade Level _____
 - b. Special Education: Grade Level(s) _____
 - c. Other (please specify) _____

3. Total years of teaching experience: _____

4. Total years of teaching experience in present setting: _____

5. Major areas of licensure (check all that apply)
 - a. **Special Education:**
 - LD (learning disabilities) _____
 - ED (emotional disturbances) _____
 - MR (mental retardation) _____
 - SPH (severely or profoundly handicapped) _____
 - Other (please specify) _____
 - b. **Regular Education:**
 - NK-8 _____
 - Other (please specify) _____
 - c. **Other** (please specify) _____

6. *Type of setting for **regular** education teachers
- a. Inclusive setting _____
 - b. Regular education classroom (no special educ. students) _____
 - c. Other (please specify) _____
7. *Type of setting for **special** education teachers
- a. Inclusive setting _____
 - b. Self-contained special education classroom _____
 - c. Resource classroom for the entire day _____
 - d. Other (please specify) _____

Part II.

Directions: Please read the following questions and identify the most appropriate answer that applies to your classroom. The possible responses are as follows: Never(N)=1, Rarely(R)=2, Sometimes(S)=3, Often(O)=4, and Always(A)=5.

* Definitions for these terminology can be found at the end of the questionnaire.

	N	R	S	O	A
1. Students in my class have access to computers in my classroom.	1	2	3	4	5
2. Students use Computer Assisted Instructions (CAI) for subject matter in my classroom. (ie: reading, math, or spelling)	1	2	3	4	5
3. Peer tutoring is used in my classroom.	1	2	3	4	5
4. Small group cooperative learning is utilized among my students.	1	2	3	4	5
5. Mnemonic strategies are implemented in my classroom. (ie: pairing new, unfamiliar words with similar, key words)	1	2	3	4	5

- 6. *Self-Monitoring is used with my students. 1 2 3 4 5
- 7. *Team teaching is practiced in my classroom. 1 2 3 4 5
- 8. *Direct instruction is used as an instructional strategy in my classroom. 1 2 3 4 5
- 9. Different instructional activities are used according to the individual student's learning styles or needs. (ie: learning centers) 1 2 3 4 5
- 10. Are there any other strategies you use regularly in your classroom? If so, please specify.

- 11. List three instructional strategies that you use most often and find to be the most effective in your classroom, please give a brief explanation. **(Rank Order)**

- 1. _____
- 2. _____
- 3. _____

- 12. List three instructional strategies you feel the most comfortable implementing in your classroom, please give a brief explanation. **(Rank Order)**

- 1. _____
- 2. _____
- 3. _____

13. List any instructional strategies that are **not** effective in your classroom, please give a brief explanation.

14. Overall, please explain how you feel about inclusive settings.

* **Team teaching** involves two teachers, usually one is certified in special education and the other in general education. Together, they instruct students with and without disabilities.

* **Direct instruction** is when the teacher explains to the students exactly what they are expected to learn and demonstrates the steps that apply to accomplishing that academic task.

* **Self-Monitoring** is when students monitor their own progress.
(e.g.: put check mark beside task when completed)

Appendix F

Principal Reminder Notice

Dear _____:

Thank you for distributing the questionnaires to teachers within your school. I hope your school year is going well.

It would be greatly appreciated if you could please distribute the enclosed reminders to those teachers who received an instructional strategies questionnaire. Further phases of my study can not be conducted until I receive more feedback from the subjects. I have had a low return rate so far, and their responses are crucial to my study. The respondents need to complete the questionnaire by October 9, 1996 if at all possible. Their responses will be held in strictest confidence and anonymity will be maintained. More questionnaires and self-addressed stamped envelopes can be sent upon request.

Please feel free to contact me if you have any questions or concerns. I would like to thank you again for your cooperation and interest in this study.

Sincerely,

Deborah White

Appendix G
Subject Reminder Notice

Dear Subject:

It would be greatly appreciated if you could please complete the instructional strategies questionnaire that was sent to you with a cover letter dated _____. I have had a low response rate so far, and your feedback is essential to this study. Further phases of this study can not be conducted until I receive more completed questionnaires.

I have revised the questionnaire to take as little time as possible and should take no longer than 15 minutes to complete. Your responses will be held in strictest confidence and anonymity will be maintained.

Please complete the questionnaire by October 9, 1996. If you need another questionnaire, self-addressed stamped envelope or if you have any questions please contact me.

I would like to thank you again for your cooperation and interest in this study.

Sincerely,

Deborah White
Graduate Student
Longwood College

* Please disregard this notice if you have already returned the questionnaire.

Table 1
Mean Ratings of Instructional Strategies Used By Regular
and Special Education Teachers

Table 1

Mean Ratings Of Instructional Strategies Used By Regular and Special Education Teachers (Ranked By Total Sample Mean Ratings)

Strategies	Overall (N=25)	RegEd (n=14)	Sped (n=11)
Different Instructional Activities	4.52 (.71)	4.29 (.83)	4.82 (.40)
Direct Instruction	4.32 (.69)	4.29 (.73)	4.36 (.67)
Mnemonic Strategies	4.00 (1.12)	3.71 (.83)	4.36 (1.36)
Small Group Cooperative Learning	3.84 (.94)	4.00 (.68)	3.64 (1.21)
Computer Assisted Instruction	3.80 (1.83)	4.00 (1.11)	3.55 (2.50)
Peer Tutoring	3.68 (1.22)	3.64 (1.01)	3.73 (1.49)
Team Teaching	3.12 (1.88)	3.29 (2.09)	2.91 (1.64)
Self-Monitoring	2.80 (1.47)	3.07 (1.82)	2.45 (.82)

* SD In Parentheses

- * 1=Never
- 2=Rarely
- 3=Sometimes
- 4=Often
- 5=Always

Table 2

Relationship Between Self-Monitoring Strategy and Grade
Level of Teaching (Frequencies and Percentages for
Self-Monitoring and Grade Level of Teaching)

Table 2

Frequencies and Percentages for Self-Monitoring and Grade Level of Teaching

Grade Level	<u>N</u>		<u>R</u>		<u>S</u>		<u>O</u>		<u>NR</u>	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
K	0	.4	1	1.6	4	2.6	0	.2	0	.2
1	0	.2	3	1.0	0	1.6	0	.1	0	.1
2	0	.1	0	.3	0	.5	0	.0	1	.0
3	0	.2	1	1.0	1	1.6	1	.1	0	.1
4	0	.2	1	1.0	2	1.6	0	.1	0	.1
5	0	.1	1	.3	0	.5	0	.0	0	.0
>1	2	.7	1	2.9	6	4.7	0	.4	0	.4

$\chi^2(24)=46.50, p<.05$

* >1= Those Teachers Who Taught More Than One Grade Level

- * N=Never
- R=Rarely
- S=Sometimes
- O=Often
- NR=No Response

Table 3

Relationship Between Team Teaching and Grade Level of Teaching (Frequencies and Percentages for Team Teaching and Grade Level of Teaching)

Table 3

Frequencies and Percentages for Team Teaching and Grade Level of Teaching

Grade Level	<u>N</u>		<u>R</u>		<u>S</u>		<u>O</u>		<u>A</u>		<u>NR</u>	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
K	0	1.2	1	.8	2	1.0	2	1.0	0	.8	0	.2
1	1	.7	0	.5	1	.6	1	.6	0	.5	0	.1
2	0	.2	0	.2	0	.2	0	.2	0	.2	1	.0
3	1	.7	1	.5	0	.6	0	.6	1	.5	0	.1
4	1	.7	0	.5	0	.6	2	.6	0	.5	0	.1
5	0	.2	0	.2	0	.2	0	.2	1	.2	0	.0
>1	3	2.2	2	1.4	2	1.8	0	1.8	2	1.4	0	.4

$\chi^2(30)=45.78, p<.05$

* >1= Those Teachers Who Taught More Than One Grade Level

- * N=Never
- R=Rarely
- S=Sometimes
- O=Often
- A=Always
- NR=No Response

Table 4

Relationship Between The Use of Computers and Total Years of Teaching Experience (Frequencies and Percentages for Computer Use and Total Years of Teaching Experience)

Table 4

Frequencies and Percentages for Computer Use and Total Years of Teaching Experience

Years Exp.	<u>N</u>		<u>R</u>		<u>S</u>		<u>O</u>		<u>A</u>		<u>NA</u>	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
00	0	.2	0	.0	0	.2	0	.4	0	.2	1	.1
2	0	.2	0	.0	0	.2	1	.4	0	.2	0	.1
3	0	.2	0	.0	0	.2	1	.4	0	.2	0	.1
4	0	.2	0	.0	0	.2	0	.4	0	.2	1	.1
5	0	.3	0	.1	1	.3	0	.7	1	.4	0	.2
7	2	.8	0	.2	0	.8	3	1.8	0	1.0	0	.4
8	0	.2	0	.0	1	.2	0	.4	0	.2	0	.1
9	1	.2	0	.0	0	.2	0	.4	0	.2	0	.1
10	0	.3	0	.1	0	.3	0	.7	2	.4	0	.2
11	0	.2	0	.0	0	.2	1	.4	0	.2	0	.1
13	0	.2	1	.0	0	.2	0	.4	0	.2	0	.1
14	0	.3	0	.1	0	.3	2	.7	0	.4	0	.2
18	1	.3	0	.1	0	.3	0	.7	1	.4	0	.2
22	0	.2	0	.0	0	.2	1	.4	0	.2	0	.1
24	0	.3	0	.1	1	.3	0	.7	1	.4	0	.2
25	0	.2	0	.0	1	.2	0	.4	0	.2	0	.1

$\chi^2(75)=97.29, p<.05$ * 00= No Response to Total Years of Teaching Experience
 * NA= Not Applicable