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Organizational Skills and Student Achievement

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by

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Organizational Skills and Student Achievement

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Chapter 1

Introduction

When questions are raised among teachers regarding some of the most challenging issues surrounding educating our students, organizational skills are very frequently mentioned among the top of the list. As a consensus begins to form with regard to organizational aptitude of our students in general, we must ask how these same trends negatively affect the success of one sub-group, that being our students with mild disabilities that are enrolled in inclusive educational settings.

As we face this challenge, we must ask ourselves if we are providing the necessary accommodations to ensure success for this group of students with mild disabilities. Are we making the grade in terms of providing the organizational skills necessary for students with mild disabilities to succeed? When we talk about being organized in the classroom we need to include skills such as effective note taking, which allows the student to quickly access information. Additional skills include recording assignments in a calendar or agenda, having the necessary textbooks and writing utensils and generally being prepared when arriving to class.

Studies by Mast and Scruggs (2001) have investigated the effectiveness of organizational skills and other classroom interventions that have assisted students with mild disabilities to cope with the academic complexities of an inclusive setting. They suggest that deficits in the area of organizational skills can seriously inhibit a student's ability to function successfully in a general education classroom.

For students with mild disabilities, who have not mastered important organizational skills, the ability to master the content often comes with failure, especially in inclusive settings where general educators may be somewhat unequipped to accommodate such students (Gérent & Holtz, 2003). This comes at a crucial time. The practice of including students with mild disabilities into general education classrooms has increased greatly over the past fifteen years, according to Andrews (2000). At the same time, we as educators have no doubt been exposed to the educational issues that have been raised in our schools and in society as well. These issues surrounding the lack of satisfactory academic performance by our students with disabilities have been well documented in the recent past.

This comes at a time when we have all been made aware of the increasing numbers of children being classified with various emotional and learning disabilities. According to Rea (2002), an increasing number of these newly classified students will receive services within the general classrooms as an alternative to resource rooms or self-contained settings.

Problem Statement

The purpose of this study was to investigate whether exposing students with mild disabilities to strategies that reinforce organizational skills into the classroom procedures would increase student achievement. I have wondered why students with mild disabilities experience poor achievement in inclusive settings. Is it the particular disability that is hurting the students or the lack of organizational skills and methods provided by the instructor? This is a question that draws speculation surrounding the value of teaching

organizational skills such as effective listening, material management, and note taking as part of the curriculum for students in an inclusive setting. If organizational skills are as valuable to students in a secondary setting as the literature states (Hardman, Drew & Egan 2002) how will these skills have a broader effect on the student achievement with regard to test scores? Will content teachers feel they are doing all they can to meet the needs of an ever changing and diverse student population? I was motivated to conduct this study in the inclusive setting because I have some strong beliefs in terms of how to meet the needs of my students

Significance

The importance of conducting this action research had to do with my current teaching position and my prior experience. Over the past few years, I have worked as a special educator at the secondary level. I have taught in self-contained classrooms for most of those years. During this time, it was typical to encounter a classroom student body that was made up of no less than two grade levels and as many as four. In addition, the mathematics and reading levels could range from second to eighth grade. I was given the dubious task of meeting the needs of every one of my students, both academically and behaviorally. There were weeks on end where I was finding it necessary to plan and deliver up to twelve classroom preparations in all content areas. It became evident that in order to be effective, I would need to be very organized.

Part of the organizational plan that I designed and set forth for myself also included designing elaborate methods for maintaining a high degree of organization for my students as well. I found that the teaching of organizational skills helped to offset some of the disabilities my students brought to the classroom. I also found that when

those same students with mild disabilities were moved into inclusive settings they were often very successful because of the enhanced organizational skills they brought with them.

In my current position, I teach biology to one self-contained class and co-teach the same subject in two inclusive settings. Along with my teaching responsibilities, I have been given the opportunity to assist with student transition to the least restrictive learning environments. I have witnessed first hand how those transitions can be much more successful for both students and staff when appropriate measures are taken to assist with the organizational needs of students with mild disabilities. Regardless of the task whether it be in the field of education or most any other vocation, organizational skills are a needed component to ensure success in completing the task. This notion is painfully clear when viewed through the eyes of an educator. The need is further exasperated when students with mild disabilities are infused into the mix of an inclusive educational setting where issues of academic complexity and pace of instruction create further challenges.

The cornerstone of my action research centered on the implementation of a method of note taking that helped students with mild disabilities to remain organized throughout a unit of study. My study included ten students with mild disabilities that received biology instruction within an inclusive setting. Half of the students were given the note taking method and half were not. When the unit was completed all ten students were given the same unit exam. I then compared the test scores of those who received the note taking method to those who did not receive it. My hypothesis was that the students that used the note taking method would receive higher test scores then those who did not use this method.

"How can I become a more effective teacher?" This question may be asked by educators at all levels, regardless of the subject matter being taught, the school location, or the number of years of experience a particular teacher may have. Answers may come as a result of the exploration of best teaching practices or perhaps a closer look at the cross section of students educators are responsible for. Regardless of where an educator places their emphasis of this matter, I am sure most would agree that simple, convenient measures are worth a try and helping the students to be more organized would be considered one such measure.

Studies have shown that students with mild disabilities can be helped in the classroom when organizational skills are implemented. If an educator accepts this notion and is in search of ways to be more proficient in their craft then perhaps research is the next logical step, which was in fact, the reason for my study. In the following chapter, the works of many researchers and are synthesized in order to expose some of the challenges and solutions that educators have encountered.

Definition of Terms

Emotional Disability: In connection with educational programming needs, generally understood as a school related emotional problem, such as withdrawal, depression, low self-esteem, excessive anxiety, and somatic complaints impacting interpersonal skills.

Inclusion: Concept of providing educational services for all students with disabilities in their neighborhood schools in classes with age appropriate, non-disabled peers with support from special education teachers and support personnel.

Inclusion Support Services: Services provided to students with disabilities that are in classes with their non-disabled peers under the supervision of special education support personnel and general education staff.

Learning Disability: A child with average or above average potential has difficulty learning in one or more areas (such as reading or math) and exhibits a severe discrepancy between their ability and achievement.

Transition: Refers to moving from one educational setting to another.

Self-Contained: A classroom specifically for special education students only.

Chapter 2
Literature Review

Introduction

With the passage of the No Child Left Behind Act (2001), academic standards for all students have significantly increased. Never before has it been more important for students to maximize their ability to learn. Although secondary level content area teachers often assume that all students have acquired sufficient study skills by the time they reach high school, many have not. Difficulties are especially common in the areas of note-taking, test-taking, time management, and organizational skills (Polloway, Patton, & Serna, 2001).

Because these skills are an essential part of independent learning, it is important that secondary school teachers incorporate study skills in their instruction so that all students including those with mild disabilities, acquire them. This becomes even more important when we consider the fact that inclusion rates for students of all disabilities have increased over the past decade (Wert & Livingston 2002).

Public Law 94-142 recognized and supported the need for the education of students with disabilities in regular educational environments. The law states that each school district should ensure:

> …that to a maximum extent appropriate, handicapped children,
> including those in public and private institutions or other care facilities are
> educated with children who are not handicapped.
> That special classes separate schooling or removal of handicapped children from
> the regular educational environment occurs only when the nature or severity of

the handicap is such that education in regular classes with the use of supplementary aids and services can not be achieved satisfactorily(section 612(5)B of P.L.94-142).

This law made it possible for all students with disabilities to be educated to the fullest extent with their non-disabled peers. In more recent years, a renewed effort to educate students with mild disabilities in general education settings has been put into motion and has been referred to as the regular education initiative or REI (Leyser & Kirk 2004). This movement calls for a shared responsibility between general and special education students with disabilities in the typical classroom setting.

Parent and Teacher Viewpoints on Inclusive Settings

As educators we find ourselves asking questions that relate to how well our students are achieving as a result of their instructional setting. The lack of satisfactory academic performance by students with disabilities, combined with the growing demands for all students to receive an adequate public education, has resulted in a change in terms of how these students should be educated. This section of the literature will shed light on how well we are meeting the needs of students with mild disabilities in an inclusive setting.

The trend toward meeting the goal of new legislation (Individuals with Disabilities Education Act IDEA) as it relates to inclusion has resulted in opposing views on the success of inclusion models. On one hand, those opposed to inclusion suggest that special education will be less "special" and will become diluted (Andrews 2000). As a result, the very students that the laws were designed to protect may actually fail to meet the intended goal of the law. On the other hand, inclusion supporters insist that students

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that are educated with their non-disabled peers not only have a right to be there, but are achieving more than they might have in self-contained settings (Walter, Korinek, McLauglin & Williams 2000).

A fair amount of the current research relating to academic achievement of students with mild disabilities is presented from the view point of either the parents, students or the teachers providing classroom instruction. According to studies performed by Leyser and Kirk (2004), findings have shown that the majority of parents of children with disabilities support the notion of inclusion. The main reason why these parents thought that inclusion worked best for their children had to do with the possibility of enhanced social encounters between their children and their non-disabled peers. Parents were also hopeful that positive effects of inclusion on the non-disabled peers might help these students become sensitive to individual differences that they may encounter in an inclusive setting.

Parents were also concerned about the instruction that would be delivered in an inclusive setting. They wondered if general education teachers had sufficient time to address the needs of their children and if they possessed the needed skills to accommodate the disabilities they would encounter (Leyser & Kirk 2004). In general, the findings showed that some parents preferred to have their children remain in a self-contained setting, while others were convinced that an inclusive setting best met the needs of their children.

Pedrabissi (2000) claims that the level of a parent's education and occupation has an influence on their opinion with regard to the subject of inclusion. Parents with a higher

level of education and occupation reported a higher level of support for an inclusive setting as compared to parents with less education.

These findings were discovered as a result of survey questions completed by parents of various income levels and whose children were currently or formally receiving instruction to accommodate a mild learning disability. The notion that inclusive settings provide a more academically challenging experience for their children was a motivating factor for most parents surveyed. Parents with higher income levels expressed that an inclusive setting carried less negative stigmas when compared to a self-contained setting and as a result preferred inclusion for their children.

Along with parents, teachers have also expressed concerns about the best way to meet the needs of students with mild disabilities and how they can work in partnership with other teaching staff. Teachers place emphasis on the needs for collaborative professional relationships between the special education and general education staff as a predictor of academic success for students with mild disabilities. Silva and Morgado (2000) showed that the role of leadership among administrative personnel often was a conduit to fostering these relationships. Creative scheduling made it possible for common planning time among special education teachers and general education staff, and was seen as a critical component to maintaining these relationships. Teachers reported that they were better able to modify the curriculum and streamline much of the procedural requirements of the classroom when they were afforded the opportunity to work closely with all staff members, which had a direct effect on how students with mild disabilities preformed in the classroom.

Teacher preparedness

In today's classrooms, teachers are required to meet the needs of a very diverse student body. Educational professionals are faced with a plethora of challenges such as high stakes testing, co-teaching, insurmountable paperwork, parental communications, and the responsibility of addressing the needs of at-risk students with mild disabilities (Schoorman 2002). These burdens have resulted in the necessity to provide pre-teaching candidates with exposure to issues such as student characteristics, behavioral and instructional techniques, consulting skills, individualized instructional strategies (Gerent & Holt 2003).

The push toward more inclusive settings has broadened the challenges educators face. Some of the new challenges have been perpetuated by the fact that teacher education programs either prepare candidates for instruction in special education or general educational settings, but rarely in both. According to Pugach & Johnson (2002) adding to the problem is the fact that few general education teachers have been exposed to training that would equip them to meet the needs of students with disabilities in an inclusive setting. Special educators are provided with little or no training with regard to large group instruction or any significant depth of knowledge in content areas typically taught by general education teachers. Lastly, university programs that prepare administrative staff have offered little or no training in order to assist in the development of effective inclusive schools. As a result, insufficient support is afforded to teachers whose aim is to create appropriate inclusive classrooms (Gerent & Holt 2003).

As discovered by Silva and Morgado (2004), a limited number of teachers receive training to meet the needs of students with disabilities, and in turn, do not feel confident

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in their abilities to work with this population of students. Making matters worse is the reality that students with disabilities in general require specific differentiated accommodations, which many teachers are unable to supply.

.Gerent & Holtz (2003) have indicated that graduate level teaching programs, which have been designed and implemented collectively by professors from both the special and general education programs, are increasingly more successful in preparing teachers to work in an inclusive setting. This was a major finding that should have far reaching ramifications for the way teachers are being prepared to meet the needs of an ever growing population of students with mild disabilities. The main focus of this course work is to expose graduate students to many of the strategies that have been proven effective in terms of meeting the needs of students with mild disabilities, many of which have been mentioned in this literature review.

In addition to coursework, Mast & Shruggs (2005) have indicated that teaching candidates are required to participate in field assignments where they are exposed to practical applications that will assist them in meeting the needs of students in an inclusive setting. These graduate students are armed with information found in current literature that provides a theoretical framework to incorporate accommodations that have been successful in secondary classrooms.

Constructing knowledge

What does it mean to "learn"? This may appear at face value an easy question to answer, but in reality the true definition of the word varies greatly depending on who is using it and the reasons for its use. If learning is defined as memorization of a set of facts, then assessment under the general heading of standardized testing would seem to be an

appropriate fit. Conversely, perhaps learning consists of problem solving and application of such knowledge after exposure to specific curriculum. No matter where educators place importance along this continuum, the most crucial issue would seem to be how students perceive themselves as learners. .

In a recent study, Kinchin (2004) has indicated that students are much more comfortable in educational environments where they are able to construct their own knowledge. Students were provided with concept cartoons depicting different teacher-student dialogues that might be used in both a teacher centered classroom, where rote memorization was employed, and a student centered classroom, where participants could problem solve. The subjects responded overwhelmingly that they would rather receive instruction in a student centered learning environment.

Strategic note-taking, outlined by Kiemre (1999), is one practical application of a constructivist's approach to teaching, where students were asked to complete a set of notes utilizing their prior knowledge instead of copying down exactly what the teacher told them to write. When students had the opportunity to construct their own knowledge in this manner, new opportunities arose in terms of shared responses with peers. As a result, students were working collaboratively, which was also a main component within a constructivist methodology (Edwards 2004).

Students with mild disabilities experience more success within cooperative classroom environments than those who have not participated in this type of setting. Madden & Slavin (2001) examined relationships between students with learning disabilities and their non disabled peers and indicated that students with mild disabilities had fewer friends and were more frequently rejected by their classmates than are other

non-disabled students. Their work also showed that cooperative classroom environments have helped to promote positive relationships among peers. Their study utilized the classroom structures of two teachers, one who took a cooperative approach to instruction and the other who employed a traditional teacher directed instruction model. The data from this study indicated that students in cooperative setting felt a closer connection with peers and test scores improved among students in the treatment group.

Strategies that compensate

In an effort to create learning environments that enhance student achievement, educators are continually looking for methods that will assist in this process. Strategies have been designed and implemented that could make an impact in this area. The section that follows will outline some of the methods and strategies that have proven successful helping students in general and that have been further adapted to meet the needs of students with mild disabilities.

Note-taking is an important skill to have mastered by the time students move into secondary classrooms (Boyle, 2001). Gathering effective notes serves to increase their understanding of lecture materials and can be utilized as reference materials for later study. Teachers have indicated that students with mild disabilities within an inclusive setting do not take notes, rely on other students to take notes for them, or rely on special education teachers to help them with lecture materials at a later time (Katamaya, Robinson, 2000). According to Boyle (2001), students with disabilities that are left to manage note taking on their own have a great amount of difficulty in identifying what information to note. They also are often unable to write fast enough to keep up with the lecture. Research has indicated that students with mild disabilities are frequently passive

learners and note taking is one effective method to actively engage students in the learning process (Boyle & Weishaar 2000). Note taking has been utilized with some success in terms of clarifying complicated information and helping to encode such materials into long-term memory of students with mild disabilities (Boyle & Weishaar 2000).

In order to assist students with mild disabilities in terms of their note taking abilities, teachers can change the way they present materials. First, teachers can slow down their pace of instruction to allow students the time to take effective notes. In doing so students can have a better chance to decide what notes are most important. Second, teachers can cue students to record information that is very important as topics are discussed (Port 2001). Furthermore, students can be made aware of pertinent information by the use of two types of cues: emphasis cues and organizational cues. Emphasis cues are used to make students aware that important information by the use of direct statements such as, "What I am about to explain is something you need to know and should be in your notes." Teachers can also use organizational cues such as, "There are three different types of muscle tissue in the human body," prompting the students to categorize this particular topic with three recorded components.

The student with mild disabilities can also be taught to improve his or her ability to take notes effectively. It has come to the attention of many educators that students are rarely taught how to take notes (Porte, 2001). Instruction in this area can include how to use short hand in a manner they construct through abbreviation. This may help them take notes more quickly and effectively.

Teachers have also shown that students can increase their ability to record information by implementing a method called strategic note-taking (Kiemre 1999). The premise for strategic note-taking has to do with providing students with mild disabilities written cues on specially prepared note-taking paper. Students are provided the note-taking paper prior to the lecture. Written cues are supplied in order for the students to follow along with the lecture effectively and by utilizing prior knowledge as it relates to materials being presented. When using this strategy, students become more actively engaged in the lesson and in turn, increase their comprehension of the subject matter.

According to Boyle (2001), studies that employed this strategy found that students who used the method of note-taking recorded more notes than those students who did not use it. The study used teacher observations and check lists to monitor when students used the note-taking method. The author concluded that these findings were evident regardless of the subject matter covered during lectures.

Another strategy that students have been taught is the use of guided notes. This technique also employs pre-made note-taking sheets, but the notes are much more specific to the lecture materials; thus, students need little or no prior knowledge of the subject matter. Using this method, the students record their own notes under each main point that has been listed by the teacher. In a study by Hamilton, Seibert, & Gardner (2000), students with learning disabilities improved note-taking above baseline levels and performed at levels close to those of their non-disabled peers. The results of this study make clear the notion that students with mild disabilities can show increased academic achievement by the use of a note-taking strategy. The authors went on to discuss the results of questionnaires to determine the students' preference regarding the use of their

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own notes versus using guided notes. Questions were also included to gain insight as to whether the method had a positive effect on the students' self-perceptions. Data collected suggested that the students did indeed feel more successful when the method of note-taking was employed.

According to Learning Disabilities Online, a popular web based information source, there are strategies that can be infused into the general.curriculum that will assist students with mild disabilities. Instructions can be given step by step allowing time for students to ask for clarification between each step. This provides an opportunity for cooperative learning to take place, allowing students with mild disabilities the chance to problem solve with peers. Modification of test taking procedures, such as allowing students to use their own notes as a reference guide while the test is being administered, offsets many of their deficits.

Further research on the subject seeks to cast light on how educators assess the success of students in inclusive settings. According to Silva & Morgado (2004), teachers believe that instructional practices are one of the most important components to the academic success for students with mild disabilities. In order for students to perform to the best of their ability, teachers need to implement a set of instructional approaches such as suggested by Silva and Morgado (2004):

1) Modification of instruction (for example, demonstration of new skills and materials, monitoring pupils' understanding).

2) Modification of assignments (for example, dividing tasks into smaller steps).

3) Modification of instructional materials (for example, providing alternative materials or supplemental aids).

4) Modification of curriculum content (for example reducing content difficulty).

5) Enhancing students' efforts and gains (praising and encouragement).

6) Diversifying evaluation devices (using diverse measures to assess academic difficulties and progress). (p.33)

Importance of organizational skills

Organizational skills are imperative to the success of students. These skills are an important component of critical thinking and are a prerequisite to independent thinking (Kane & Joy 2002). In addition, Kane and Joy noted that students remember information more easily if it is organized rather than disorganized. As students progress in their education, organizational skills become even more important. When students advance to a secondary setting they especially need to have acquired the necessary organizational skills to in order to maintain an increased amount of materials from content area classrooms such as math, science and social studies. Some of these materials include text books for each subject, pencils paper, note books and journals, lab books and calculators, to list a few.

Once they are given instructional materials they are required to keep them in order, bring them back to class, and use them as a study guide. For some students, managing that amount of material is a daunting task. These issues are very important because students in general who experience success in secondary education tend to organize for learning (Bryan, Bursein, & Bryan 2001).

Content area teachers have reported that they do not teach basic skills, including organization, because they assume that by the time students reach secondary the setting they have the means to keep their materials in order (Mast & Shruggs 2004).

According to Olson and Platt (2004), the lack of organizational skills has an adverse effect on the academic achievement of general education students. The problem is further magnified among students with mild disabilities. In fact, many students with mild disabilities are below their same aged peers in basic academic skills, which can interfere with achievement. Problems with processing information are also typical of students with mild disabilities. According to Raymond (2000), memory problems are very common among students with mild disabilities and enhancing organizational skills for these students could help to offset some deficits. Additional examples of processing deficits are common amongst students with mild disabilities and include auditory and visual processing deficits (Kirk, Gallagher, & Anastasiow 2003).

Visual processing problems can make it difficult for students with mild disabilities to effectively grasp topics presented with the use of illustrations or demonstrations in the classroom. Auditory deficits can interfere with the students' ability to follow along during class discussions or lectures. Deficits in organizational skills are also symptomatic among students with mild disabilities (Kirk, Gallagher, & Anastasiow 2000). The lack of organizational skills often leads to problems in content area classrooms when students with mild disabilities are required to follow along with multi-step functions.

Application and Evaluation

Purpose:

The goal of this study was to determine through qualitative analysis whether a specific note-taking strategy would increase achievement in terms of test scores for students with mild disabilities.

Objective:

The purpose of this study was to gain insight into how we as educators can streamline methods of the note-taking and management of classroom materials for children with mild learning disabilities in inclusive settings. The study results would be shared with administrators and department heads in an effort to replicate the method throughout the building if it was determined that this method proved helpful to the students.

Participants:

The participants for this action research project were comprised of 10 students that were classified with a mild learning disability. Students were divided into two groups, with five students in each group. I chose to divide them into two groups in order to conduct a controlled an experiment where one group, the experimental group, received the note-taking strategy and the other group, the control group, did not receive the note-taking strategy. Each of the students who participated in the study had been classified with a learning disability for not less than three years. The students were classified with a mild learning disability after referral, assessment, and placement consistent with federal

and state regulations. All group members were in the 10th grade and attended the same school for at least three consecutive years. Each of the students began their education in self-contained classroom settings and received instruction within an inclusive setting for at least the last two years.

The students, seven males and three females, ranged in age from fifteen to seventeen years old. This ratio of males to females aligned with current demographic data with regard to those who received services for special needs in their home school district. At the time of the study, all students were receiving passing grades for all content area classes and had similar levels of basic skills. Each student was tested over the past year to determine their grade equivalency in mathematics, reading and writing. In general, group members' grade level equivalencies ranged between an average of two or three years below grade level. All students used English as their primary language.

Along with the 10 students in the study were two general education science teachers and one special education teacher. The special education teacher worked collaboratively in both of the science classrooms on a daily basis and adapted and modified all content materials for each science class in an attempt to meet the needs of the students in this study.

Procedures:

The action research took place during regular instruction in science class. Each of the two science teachers provided primary instruction on a unit of study which included human body systems. The science teachers were asked a series of interview questions before and after the study was completed (See Appendix A). Questions pertained to students' organizational skills and how these skills affected student achievement.

Students were also asked similar interview questions in the same time frame as the general education teachers (See Appendix B). The questions were analyzed during and after the study, and information was reported in the results of this study.

Of the ten students included in the experimental group, five received the method for note-taking as well a method of maintaining materials. Students received these methods as part of the class work for the course.

One component of this method included a composition type journal where all classroom information was kept. The experimental group did not receive any materials such as classroom hand-outs, homework, or any other materials typically disseminated to students in the science classes. The students were not given any testing materials other than the notebook journals. Students recorded all classroom notes, test and quiz answers, and homework in the notebook journal.

Students turned in the entire notebook after each science class which allowed the teaching staff to grade any work recorded by the student. The journals were handed back to the students prior to the start of each class. The students were allowed to use the notebooks as a reference for taking quizzes, but were not allowed to utilize them for chapter tests. Students with the note-taking journal were encouraged to use them to study for chapter tests.

The other five students in the control group used the normal note-taking method they had employed throughout the year, where by the teacher handed out materials and the students were responsible for their management. This group of students was given a unit test and results were analyzed and reported.

Throughout the study, the special education teacher continually recorded anecdotal responses of all participants of the study and the findings were reported.

At the end of the unit on body systems, all students in each of the two science classes were given a test that covered the topics from the unit. Test scores of those students that received the note-taking and materials handling method were analyzed and compared to the five students that did not receive the method.

Instruments for the study:

- ➤ Five note-taking journals
- ➤ Pre-interview questions
- ➤ Post –interview questions
- ➤ Unit tests

Results

The purpose of the study was to examine whether exposing students with mild disabilities to strategies that reinforce organizational skills would have any effect on student achievement. The results of the study included test scores and general responses from interview questions asked of participating teachers and students within the target group.

The following bar graphs represent data from a unit test on body systems.

Unit test Scores for Control Group

Students that did not receive the note-taking strategy
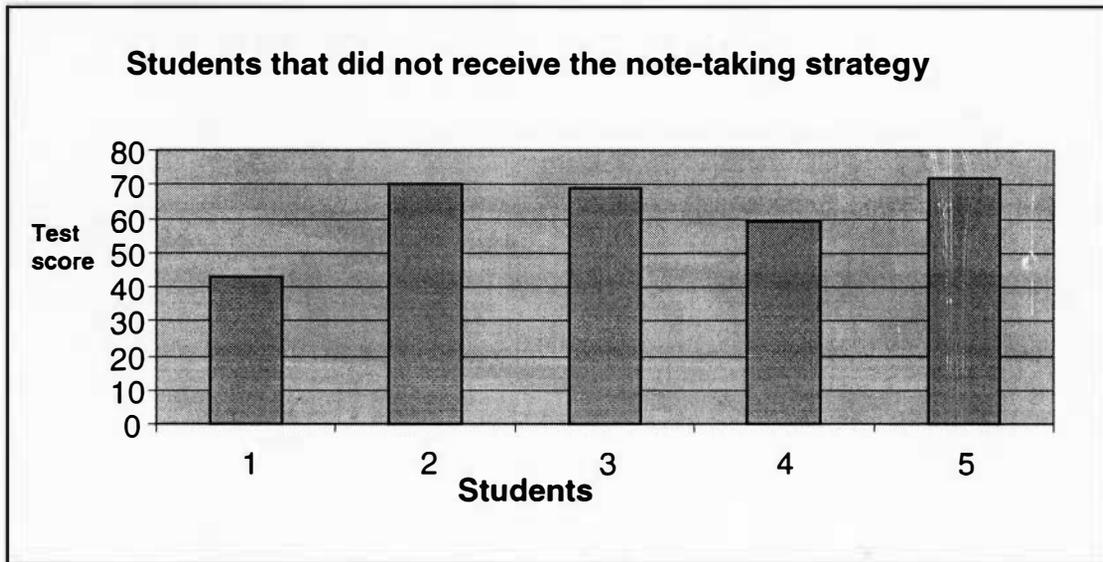
Table 1

According to Table 1 above, students one and four had scores of 43% and 59%, respectively, which are failing grades. Students two, three, and five received scores of 70%, 69%, and 72%, respectively, which are passing scores. The overall average test score for students who did not receive the note-taking strategy was 62.6%.

Unit Test scores for Experimental Group

Students that received the note-taking strategy
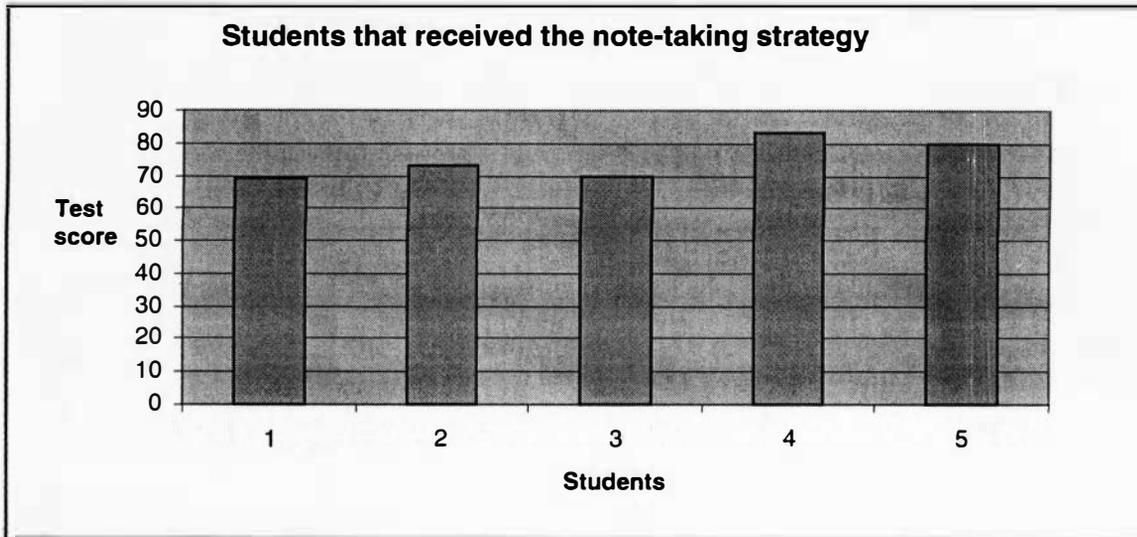
Table 2

According to Table 2 above, student one received a score of 70%, student two had a score of 73%, student three had a score of 70%, student four earned a score of 80%, and student five received an 84%. All of the scores recorded were passing grades. The average unit test score for students who received the note-taking strategy was 75.4%. an increase of 12.8% over students who did not receive the note-taking strategy.

Pre-test interview responses

When asked, the two science teachers who participated in the study identified the lack of organizational skills as a common characteristic among the students in their classes. Both teachers commented that students often lost important charts and graphs that were needed to complete both short and long term assignments. It was also mentioned that a great deal of time was wasted by students when they arrived to class unprepared and were asked to retrieve the needed materials from their lockers. As

students returned to class, they often disrupted both the teachers and students. When asked what could be done to help to alleviate the problem one teacher said, "Things might work out better if the students' notebooks remained in class just as their lab books do." The teacher was making reference to the state lab books that are required to remain in the possession of the teacher until the Regents exams are administered.

Students had responses similar to that of the teachers with regard to the subject of organization. One student reported that she felt more comfortable in elementary school because she spent most of her day in one classroom. Another student said, "I have a hard time deciding what information I should write in my notes and what I shouldn't." A second student commented, "…that happens to me all the time, I start to write what the teacher is writing; then he tells me I don't need to write that in my notes." Most students within the target group expressed concerns that related to their frustration as a result of the need to remain organized throughout the school day. Students in the target group expressed concerns regarding not being able to manage the assigned materials given throughout a typical unit. These concerns were expressed for all core subject classes.

Post-test interview responses

The general consensus of the two science teachers was that the group of students who were provided the note-taking strategy were much better prepared for their lectures. The teachers agreed that their jobs were made much easier in terms of their ability to track student progress and when grading completed materials. This conclusion came about as a result of having all materials in a single notebook that remained in the classroom. One of the teachers remarked, "I can see that by using this organizational system I could eliminate a great deal of paper exchange between myself and my

students." When asked what impact the strategy had on students with mild disabilities, both teachers said that they were shocked at the gains these students made in terms of test scores. They were also impressed by the increase in participation in class activities among students with mild disabilities as a result of have a single notebook.

The students were equally pleased with the results of the organizational strategy. Students reported that they were better prepared to learn. One student said, "I never felt like I didn't know what was going on. I loved having all my notes in one place so that I could use them during class." Another student agreed and added, "I knew just what notes to write down and what I needed to study." The students went on to discuss that they wished that they had a method for organization in their other classes and came to the conclusion that their grades had improved in the class because of the strategy. Many of the five students reported that they felt smarter in class because they could quickly and easily find the answers to questions in their own notebooks.

Chapter 5

Conclusions and Recommendations

The purpose of the study was to test whether exposing students with mild disabilities to strategies that reinforced organizational skills would have any effect on student achievement. In order to determine whether the strategy would have an effect on student achievement I provided the note-taking strategy during one unit of study. I conducted the study with a target group that consisted of 10 students with mild disabilities. Five students received the note-taking strategy while the other five students did not receive this strategy. The students were provided instruction in one of two selected science classrooms. After analyzing the results of the study, I found that students within the target group that were given the note-taking strategy had higher overall scores then those who did not receive that strategy.

Although some of the students that did not receive the note-taking strategy passed the unit test, I believe that with this strategy they might have improved their scores. More importantly I believe the students that did not receive the strategy would have felt better prepared while in the classroom and when taking the unit test.

If I were to do this study again I would decrease the overall number of students who participated in the study because it became very difficult and time consuming to compile, organize and synthesize feedback that I received from individual students.

Another change I would make with regard to this study would be to focus on the students' own perceptions of themselves as learners. I discovered through my interview process that when students felt more organized they felt like they were better students and

in fact, felt smarter. I believe that the basic design of this study could be altered to uncover reasons why students feel smart when they have an organizational tool in place.

I would also reduce the number of teachers involved in the study from two to one in order to have more control over materials that were disseminated. Having more than one teacher created additional variables during the experiment. One variable consisted of differing viewpoints with regard to material organization and management. Another variable that made it difficult to control the study was the difference in scheduling between the two teachers. The scheduling influenced the pacing of the instruction, which ultimately effected what materials were handed out and when they were handed out.

This study helped me to become a better educator. The strategy also helped me in terms of my own organization. I felt I had a very good handle on where each student was in terms of note-taking, quiz grades and content that was included in their notes. When preparing information for the students to include in their notebooks, I needed to remain very concise and only include what the students needed for the unit test.

The student's ability to organize the overwhelming amount of materials that are disseminated during a school year can be a daunting task. As an educator, I will continue to find ways to assist students to become better organized in the hope that they will live up to their full academic potential.

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In terms of non-academic needs, what are some of things that your students most challenged with?

Are your students prepared when they arrive to class?

Would your students be helped if they their notes were left in class?

Do you find that time is wasted by students trying to find where they have stored their notes?

Pre-Study Student Questions

What is the hardest part of science class?

Do you have any trouble keeping your notes organized?

Do you ever wonder about what you're supposed to write in your note books?

Do you have trouble keeping your materials organized in others classes?

Post-Study Student Questions

How do you like taking notes now that you have the composition book?

Do you use your notes to study from?

Do you feel like you're a better student in science now that you have a place for your notes?

Do you wish you could use a note book like this in all your classes?

What is the biggest change you see from the students that used the note-taking strategy?

Have there been any major changes in terms of achievement of those students that received the note-taking strategy?

What affect did the note-taking strategy have your procedures and routines in the classroom?

Were students who used the note-taking strategy better prepared to learn?

BODY SYSTEMS
Unit Test

Name:_____ Period:_____

Multiple Choice:

1. The type of tissue that covers the body, lines internal surfaces, and forms glands is
    (A.) muscle tissue
    (B.) connective tissue
    (C.) epithelial tissue
    (D.) nervous tissue

2. The process of maintaining a relatively constant internal environment despite changes in the external environment is called
    (A.) regulation
    (B.) synapse
    (C.) homeostasis
    (D.) stimulation

3. The basic units of structure and function of the nervous system are
    (A.) neurons
    (B.) axons
    (C.) neurotransmitters
    (D.) dendrites

4. The place where a nerve cell transfers an impulse to another cell is the
    (A.) synapse
    (B.) sheath
    (C.) axon
    (D.) receptor

5. Two organs are considered to be part of the same body system if the organs
    (A.) are located next to each other
    (B.) work independently of each other
    (C.) work together to carry out a life function
    (D.) are made up of cells with organelles

6. A hawk sees a field mouse and then captures it for food. In this activity, the eyes of.the hawk function as
   (A.) dendrites
   (B.) receptors
   (C.) stimuli
   (D.) neurotransmitters

7. The tough connective tissue layer surrounding bone is called
   (A.) tendon
   (B.) ligament
   (C.) periosteum
   (D.) cartilàge

8. The network of tubes running through compact bone is called the
   (A.) periosteum
   (B.) joint
   (C.) haversian canals
   (D.) bone marrow

9. Cartilage is replaced by bone during the process of
   (A.) ossification
   (B.) calcification
   (C.) ligamentation
   (D.) puberty

10. Strips of tough connective tissue that hold bones together are known as
    (A.) tendons
    (B.) smooth muscles
    (C.) striated muscles
    (D.) ligaments

11. Small sacs of synovial fluid that help reduce friction between the bones of a joint are called
    (A.) bursae
    (B.) ligaments
    (C.) tendons
    (D.) striations

12. Which group of structures best describes the circulatory system?
    (A.) arteries, veins, capillaries
    (B.) lungs, air passages, alveoli
    (C.) lungs, blood vessels, heart
    (D.) heart, blood, blood vessels

13. Blood leaving the heart for the body passes through a large blood vessel known as the
    (A.) aorta
    (B.) vena cava
    (C.) pulmonary vein
    (D.) pulmonary artery

14. Which cells are able to protect the body by engulfing foreign cells or producing antibodies?
    (A.) red blood cells
    (B.) plasma cells
    (C.) platelets
    (D.) white blood cells

15. Exchange of nutrients and wastes with the body cells takes place by diffusion through the walls of
    (A.) veins
    (B.) capillaries
    (C.) arteries
    (D.) atria

16. If equal masses of nutrients are oxidized, the larges amount of energy will be released by
    (A.) fats
    (B.) proteins
    (C.) carbohydrates
    (D.) vitamins

17. Inorganic nutrients that your body needs, usually in small amounts, are called
    (A.) vitamins
    (B.) minerals
    (C.) proteins
    (D.) lipids

18. The mechanical breakdown of food
    (A.) occurs mainly in the large intestine
    (B.) exposes a larger surface area for chemical digestion
    (C.) produces the soluble end products of digestion
    (D.) is brought about by digestive enzymes

19. An enzyme in saliva that breaks the chemical bonds in starch, releasing sugar, is
  (A.) pepsin
  (B.) chyme
  (C.) bile
  (D.) amylase

20. Most absorption of the end products of digestion into the circulatory system in humans occurs
  (A.) in the large intestine
  (B.) in the stomach
  (C.) through the lining of the esophagus
  (D.) through the villi of the small intestine

21. Glands that release hormones into the blood are part of the
  (A.) digestive system
  (B.) endocrine system
  (C.) circulatory system
  (D.) nervous system

22. Hormones produced from cholesterol are called
  (A.) protein hormones
  (B.) steroid hormones
  (C.) nonsteroid hormones
  (D.) peptide hormones

23. Hormone like substances produced by nearly all cells are known as
  (A.) thyroxines
  (B.) steroids
  (C.) prostaglandins
  (D.) androgens

24. Hormones that help regulate blood calcium levels are produced by the
  (A.) adrenal gland
  (B.) pancreas
  (C.) thymus gland
  (D.) parathyroid glands

25. The rate of body metabolism is regulated by
  (A.) PTH
  (B.) thyrosine
  (C.) aldosterone
  (D.) calcitonin