Strategies to Enhance Student Learning

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Introduction

In a perfect world all students would enter the classroom with enthusiasm and eagerness to learn. In the real world, however the increasing number of unmotivated students is a constant concern for today’s educators. Students with disabilities not only display various learning difficulties, but also exhibit motivational difficulties, which contribute to their academic problems.

Teachers in today’s classrooms struggle with teaching students with a wide range of educational needs. Therefore, the idea that a one size fits all education is appropriate no longer applies in today’s schools. A variety of strategies and knowledge of appropriate accommodations is necessary for educators to meet the needs of the vast diversity of students instructed within their classrooms each year. In order to be aware of current educational strategies, teachers need to be open to new ideas or methods. In addition, it is essential to recognize students as individuals so that their education allows them to be successful as learners.

As special educators, we not only see the need for individually educating students, but we are required by law to teach our students as individuals. Individual education plans enable us to help teach each of our students. Because of these plans, we are reminded how important it is to use a variety of strategies to help our student’s meet their goals. We need to research strategies often as we strive to educate our students as individuals. The following paper explains numerous strategies to successfully educate students with varying abilities.
Motivational Strategies

Motivation to succeed is a key factor in academic achievement for all students. However, students who have trouble in school remain affected by this factor. Okolo and Bahr (1995) reported that motivating students is a challenging task due to years of failure and defeat felt by these students. Students need motivation to succeed in school. Without encouraging teachers, where will the unmotivated student end up? There are many strategies to enhance motivation, but we need an environment to promote it.

In an article by Brooks titled *Fostering Motivation, Hope, and Resilience in Children with Learning Disabilities*, he writes, “Effective educators recognize that before they attempt to teach a child academic skills or content, their first task is to create a safe and secure environment” (p.15). He goes on to explain that students will be more motivated to learn when particular needs are met. Three needs he wrote about are to feel welcome, to feel a sense of autonomy and self-determination, and to feel competent.

Teacher student conferences are a great way to convey a welcoming, trusting environment with students. These conferences not only motivate the students, but also the teacher. Ricci (2001) wrote about the following four objectives to teacher-student conferences:

- Allow teachers to personalize instruction;
- Focus discussion on the quality of student work;
- Guide teachers when planning new instruction; and
- Hold students accountable for their own learning.

Students need to feel that they are successful and they need to know that they
have strengths. Brooks (2001) suggested that teachers help their students feel more competent by lessening their fear of failure. Teachers can ask students what they enjoy doing and what they think they do well. Teachers need to find ways to display these strengths in their classrooms.

A non-threatening, positive classroom environment that encourages risk taking is instrumental in encouraging motivation. Fulk and Grymes (1994) gave some guidelines for encouraging motivation. First, provide feedback to students that is frequent, clear, and constructive. Second, recognize students as they successfully achieve goals. Third, encourage students to initiate praise for one another to incorporate peer recognition as well as teacher recognition.

Students are more likely to be motivated when they realize they are accomplishing something. A good way to show students this is by setting goals that can be met frequently. Okolo and Bahr (1995) explained the importance of student set goals versus teacher set goals. Allowing the student to set his or her own goals encourages self-efficacy and better performance. In addition, the goals set should be short-term goals because this enhances student motivation. Students should be encouraged to record and graph their progress, which allows the student to see the progress and positive outcomes of their effort.

Teacher instruction plays an important role in the area of student motivation. Fulk and Grymes (1994) suggested that teachers pay close attention to lesson introduction, lesson presentation style, clear directions, realistic expectations, and relevance. Even with the most carefully taught lesson, failure can be prevalent. “Refrain from criticism or calling attention to poor performance. When failure occurs in spite of
reasonable expenditures of effort, help students to accept that failure is a natural part of learning a difficult skill.” (p. 31)

Teachers must be responsible for implementing motivation strategies in the classroom. One of the most important factors in school motivation is the student's relationship with teachers. When students believe they have the support of their teachers, they have a greater motivation to do well in school.

When a teacher has created an environment that fosters motivation, it is then up to the student to make the change. Brim and Whitaker (2000) report that to be motivated, students must change their beliefs and must realize how change can benefit them. When students understand why it is important to change, they can create meaning that helps them desire change. “Students who understand themselves and their needs can advocate for themselves and are motivated to succeed.” (p. 60)

Reading Strategies

Reading is a problem-solving process that students engage in to pursue meaning (Clark, 2004). It is a foundtional skill in all children’s academic careers; whether they become strong or weak readers has a considerable bearing on their success in school and beyond (Fuchus et al, 2002). Since the category of learning disabilities was established, the identification of students with disabilities has increased 200% (Vaughn, Linan-Thompson, & Hickman, 2003). Students with reading disabilities comprise 10-20% of the total population (Gibbs, 2004). Even though, inclusion has opened the door to the general education classroom for many students with disabilities, unfortunately they often do not join the literacy curriculum within the classroom (Gately, 2004). They do not experience the intensive literacy instruction necessary for them to become literate. Yet,
national and state mandates call for increased accountability of the general curriculum for all students, therefore attention must be paid to early literacy skills so teachers are able to foster their development in students with disabilities.

General educators and special educators face district and state mandates that all students read fluently and independently by the end of third grade (Wanzek, Bursuck, & Dickson, 2003). One intervention advocated by reading experts across America is the three-tier model (Gibbs, 2004). This model is implemented in three tier focused on early intervention and prevention of reading difficulties. The first tier consists of a core reading program that targets those students who are at risk of having potential reading difficulties. The second tier is comprised of supplemental instruction, which allows students additional small group instruction to target identified deficits. The third tier focuses on intensive reading instruction. It is explicit, intensive, and designed to meet the students identified needs. Children who begin their educational career as poor readers do have the opportunity enhance their skills to average reading levels 90% to 95% of the time with intervention provided before the age of nine.

Research indicates that phonological awareness accounts for the significant differences between good readers and poor readers (Wanzek, Bursuck, & Dickson, 2003). In addition, students who enter school without the ability to analyze the sound structure in words are at risk for having difficulties with reading. Therefore, word recognition is a challenge for students and many devote considerable attention to activating, coordinating and applying their developing knowledge of word construction (Clark, 2004). Coaching is a method that will assist students with word recognition. It will provide the students with more guidance than simply telling the students to "sound it
out.” During the coaching process, if the students need assistance then the teacher intervenes with their development of strategies. Using two broad types of teacher interventions will allow students to strengthen their understanding of word recognition. One type is general cues intended to prompt students to think about their knowledge of word recognition strategies and how to apply them when facing an unknown word. General cues are not intended to point the student in any direction, on the other hand, they allow the student to think out the solution. Cues to prompt to specific action is another method that students may utilize when decoding text. These cues guide students by providing them with more detailed information on how to decode challenging words. They provide the students with graphophonic knowledge, word-part identification strategies and contextual supports.

Some students with reading disabilities are not able to acquire individual sound knowledge or combine sounds together to create words. However, if the students are able to grasp the concept of word before beginning to learn sound awareness then they may be able to transfer their knowledge of words into letter and sound recognition (Gately, 2004). One form of aiding in the development of word is using early-leveled books. Students use finger pointing as they read books that contain repetitious text. This allows students to memorize and match their voice to the text, which assists in their understanding of words. Students who are impulsive may need additional verbal, visual, and physical strategies to master this task.

Another method, used to assist students who are having difficulty learning to read, is a modified language experience approach. This approach allows students to connect with reading by using their oral language skills to create text. The student’s
words are written into sentence format and changes to their language are kept to a minimum. The teacher initially reads the student generated story to the class, but eventually the students have the opportunity to read the text chorally as a class. The student who authored the story eventually reads the story independently while finger-pointing (Gately, 2004). An additional method used to create word recognition is using pictures to make connections to text.

Specialized reading programs exist that target the needs of students with reading disabilities. They emphasize phonological and graphophonemic skills (Gibbs, 2004). These programs are multisensory, intensive, systematic, sequential, and process oriented. Instruction begins by initially introducing simple concepts and gradually building up to more difficult knowledge of words (Wanzek, Bursuck, & Dickson, 2003). An example of a specialized reading program is the Wilson Reading Program (Wilson, 2002). Its intent is to remediate students with reading difficulties by teaching them how to put sounds together to create words. In addition, it teaches students how to segment and blend-acquired sounds. It further allows them to interact with the material not only auditorily and visually but they also get to manipulate the materials with their hands. Mastery remains essential for progression through the program and ensures that students are able to perform the concept during the lesson and apply it to outside reading tasks.

Students with reading difficulties may easily decode material, however they are unable to comprehend the meaning behind the text (Valencia & Riddle Buly, 2004). Instruction provided in phonological awareness and decoding alone are not sufficient if students are asked to make sense of different genres and apply understanding of material for a variety purposes (Dougherty Stahl, 2004). Comprehension is vital component of
the reading process. When a reader is able to comprehend text, it allows them to access material that they may not encounter from personal experience. Examples of reading strategies intended to enhance reading comprehension are activating prior knowledge, predicting, organizing, questioning, summarizing, and creating mental images (Dougherty Stahl, 2004). Students who utilize these strategies are more likely to understand material and recall it for future use. Introducing these concepts using teacher modeling and think-alouds are a couple ways to demonstrate the implementation of these comprehension strategies (Valencia & Riddle Buly, 2004). The teacher models each strategy individually until the students are able to understand and apply them in various settings. Students then facilitate discussion utilizing the strategies modeled previously by the teacher. In addition to the introduction of strategies, it is important to build a background for the reading material and allow students to develop an understanding of new words, concepts and figurative language.

One strategy proven successful in enhancing student understanding of reading material is allowing students to create their own questions relating to text. Student generated questions are concrete, therefore easy for the students to use and apply (Dougherty Stahl, 2004). One method of student-generated questions consists of students generating four types of questions (Valencia & Riddle Buly, 2004). The first level of questioning is the “right there answers,” which are located within in a single sentence within the text. The second level of questioning is “putting it together” or “think and search answers” which allows students to find information across sections of the text. The third level requires the reader to infer meaning because the response is not directly stated within the text. The final level is “on my own answers”, which relies on the
readers’ experience and knowledge to answer questions. Another method of student generated questions consists of students learning to use signal words such as who, what, where, when, and how (Dougherty Stahl, 2004).

Literature webbing is an additional strategy used to enhance student comprehension. This strategy uses pictures to predict what the students think is going to occur in the story before reading. The class sequences pictures to create a web to demonstrate their predictions (Dougherty Stahl, 2004). After listening to the teacher read the story, the students reread their predicted events and determine if they were accurate. The students make corrections to the web if necessary. Then the students have opportunities to read the book to the teacher and to further add information to the web through discussion.

Writing Strategies

Students with learning disabilities often struggle with poor written expression skills even if they are good readers (Williams, 2002). These difficulties are the result of basic text production skills, lack of knowledge about writing, planning, and revising (Stanford & Siders, 2001). Students further struggle with not only trying to sequence ideas associated with a give topic but also the requirements of different writing formats (Williams, 2002). Many students with disabilities feel overwhelmed with the writing process (Richards, 1999). Many students with disabilities do not form letters automatically and need to concentrate on the process of forming and spacing words (Richards; Stanford & Siders, 2001). Many students with disabilities often have difficulty spelling which interferes with the flow of their paper (Richards, 1999). Ultimately, students with disabilities experience frustration with writing because no
matter how much effort and time spent on their writing piece it does not turn out the way they intended (Richards; Stanford & Siders, 2001).

Students will be more motivated to write if assignments are meaningful and allow students to connect to the assignment (Richards, 1999). Students need multiple opportunities to write to increase their confidence and desire to write. One way to effectively motivate students is to use instructional strategies that provide a social context to apply writing skills. (Sanford & Siders, 2001). Another method is to provide students with a variety of writing modes, which will enhance writing production and allow students to develop as writers. One mode that teachers may use to strengthen student-writing skills is to allow students to write e-pal letters to other students. Pen pal letters allow students to write to an actual audience. It further allows students to make writing an authentic experience with purpose.

Students with writing difficulties may need guidance in completing the writing process (Richards, 1999). Beginning and completing the writing process is a struggle for many students with special needs. However, using a checklist or acronym such as the word p-o-w-e-r will provide students a guide to complete the process. The “p” stands for planning the paper and the “o” stands for organizing thoughts and ideas. Graphic organizers and webbing are key tools that students may use to plan and sequence their writing pieces. They should be clear and straightforward, therefore allowing students to organize their writing without distractibility (Baxendell, 2003). The “w” stands for writing the draft and the “e” stands for editing your work (Richards, 1999). An editing checklist will allow the students a guide to complete the editing process. The “r” stands for revising the draft and creating a final copy. If students have opportunities to write
and receive positive feedback on their writing pieces ultimately they will be successful writers.

Mathematical Strategies

The fundamental principle in helping a child with a disability in mathematics is to work with the child to define his or her strengths. As these strengths are acknowledged, one uses them to reconfigure what is difficult.

Mathematics learning disabilities do not often occur with clarity and simplicity. Rather, they can be a combination of difficulties that may include language processing problems, visual spatial confusion, memory and sequence difficulties, and/or high anxiety. With the awareness that math understanding is actively constructed by each learner, we can intervene in this process to advocate for or provide experience with manipulatives, time for exploration, discussion where the "right" answer is irrelevant, careful and accurate language, access to helpful technologies, and understanding and support.

Just because a certain math skill is taught in a previous grade does not necessarily mean that the skill is learned. Steele (2002) encourages educators to “review prerequisites. This review of skills related to new learning is important for all students because math is hierarchical. Such review is even more important for students who have memory deficits because they quickly forget previously mastered skills or they may have significant gaps in their knowledge” (p.141). Getting student’s input during instruction can help teachers determine what may need to be reviewed. It is pointless to teach a skill and assume that all students are ready for that skill. It may be beneficial to work with a
small group of students that are struggling with the same skill. However, be sure to encourage discussion during this remediation.

Verbal math problem solving poses difficulty with many students. The difficulty is compounded for those who have difficulty with language and number processing disabilities. Montague and Bos (2001) explained an eight-step strategy designed to enable students to read, understand, carry out and check verbal math problems. The eight steps are as follows:

1. Read the problem aloud. Ask the teacher to pronounce or define any word you do not know.

2. Paraphrase the problem aloud. State important information giving close attention to the numbers in the problem. Repeat the question part aloud.

3. Visualize the problem. Graphically display the information or draw a representation of the problem.

4. State the problem. Complete the following statements aloud. I have... I want to find... Underline the important information in the problem.

5. Hypothesize. Complete the following statements aloud. If I... Then... How many steps will I use to find the answer?


7. Calculate and label your answer.

8. Self-check your answer. Refer to the problem and check every step to determine accuracy of operations selected.
In a research study performed by Montague and Bos (2001), the previous strategy was an effective tool used to remediate students. It was stressed in the research that adequate time be used to practice the strategy and that continued practice be performed once the strategy is in place.

Another effective math problem-solving strategy is graphic representation. According to Jitendra (2002) effective word problem-solving requires the learner to “create a representation of the problem that mediates solution” (p. 34). Graphic representation allows students to organize information in the problem by the use of schematic diagrams. The student can better translate the problem and then find the solution. The external representation diagrams may serve to reduce learner’s cognitive processing load and make available mental resources for engaging in problem analysis and solution. There are two key aspects to this strategy. First, the student must identify the separate features of each problem type. Does the problem involve a change, grouping or a comparison? Second, the student will organize and represent the information needed to solve the problem using schematic diagrams. It is helpful to provide the student with a self-instructional sheet listing the steps along with an example story problem and the solution.

All students learn, process, and produce differently. One way to improve the understanding of numbers and operations is to encourage children to develop computational procedures that are meaningful to them. Carroll and Porter (1997) explain invented strategies as procedures that promote the use of mathematics as a meaningful activity. By encouraging students to invent and use their own procedure, “teachers allow
them to use a method that makes them focus not simply on practicing computation but also in developing strategies for which computational approach to use” (p. 372)

To get started with invented strategies, the following steps are encouraged by Carroll and Porter (1997):

1. Allow students time to explore their own methods in low stress situations.
2. Have manipulatives available to support children’s thinking.
3. Have children build fact strategies as well as fact knowledge.
4. Present problems in meaningful context.
5. Encourage children to share strategies.

Students can do more than share strategies; they can teach one another. Calhoon and Fuchs (2003) explained the method of Peer-Assisted Learning Strategies (PALS). PALS was developed based upon a class-wide peer tutoring created at Juniper Gardens. PALS allows students to be paired according to skill level and then practice deficit math skills. Research shows an increase in math skills for both tutors and tutees.

When teaching math, educators need to ensure that the teaching and learning process is student centered and directed. To accomplish this goal, Bosch and Bowers (1992) advocate these “C” steps. First, convince the student of the value of math. Second, connect math topics with life experiences. Then, conduct an adventurous math tour. Next, convert a boring classroom into an exciting unit. Correlate math with other content areas is another step. Then, combine mathematics instruction with real-world problems. Another step is correcting a student’s math errors immediately. Finally couple your teaching with varied instructional strategies and commit yourself to ensure the success of every student.
Math and writing can truly go hand in hand. Teachers can learn a lot about students and students can learn a lot about math from student writing about their math experiences. Burns (2004) reported the following:

Writing in math class supports learning because it requires students to organize, clarify, and reflect on their ideas—all useful processes for making sense of mathematics. In addition, when students write, their papers provide a window into their understandings, their misconceptions, and their feelings about the content they are learning. (p. 31)

An easy way to obtain math writing is to have students keep a math log about daily math assignments. Students can also do math operations in this log so while the teacher is reading about the operation; they can also see the student’s calculations. Encourage students to share their log with the whole class or in small groups so others can benefit from their writings. Another writing assignment could be for students to write the definitions to math terms or use the terms in a sentence. This will help student to learn useful math vocabulary.

Kenyon (2000) stressed the importance of math test taking accommodations for students with learning disabilities. These adjustments are the following: extended time, private test areas, enlarged-type test questions, specially lined paper, color-coded math equations, calculators, and oral tests. How can the true abilities of these students be seen without using accommodations that they may need?

Science

Practically all of the current educational reform literature calls for science instruction to be inquiry based. The idea behind using inquiry-based instruction is that
while students are engaged in activities they will gain knowledge, and skills, which, eventually leads them to acquire a deeper understanding of the fundamental ideas in science. (Palincsar, 2002)

The understanding of science requires students to learn a vast collection of facts, and process skills. Inquiry education allows students to think creatively and expand their ability to be flexible. Flexible thinking is required in order to entertain a variety of approaches to problem solving. (Meador, 2003) Students learn the skills to solve real life problems. Teachers play a significant role in assisting children to identify their beliefs. They give students time to think over the evidence, which supports or disproves their understanding of material (Crockett, 2004).

How is an inquiry-based environment different from the traditional learning environment? Maroney (2003) states that an inquiry classroom is different from a traditional classroom in a number of ways. In that traditional classroom everyone is doing the same thing in the same way and in the inquiry-based classroom students construct information. Students are encouraged to follow different paths of investigation (Maroney, 2003). Moreover, students’ findings are not teacher directed. An inquiry teachers rarely makes evaluative statements that interfere with the inquiry learning process (Meador, 2003). An inquiry atmosphere allows students to be free to change their views and the direction of their investigation. This type of atmosphere provides a good learning environment for younger children. Younger students learn best in classrooms where they are actively involved and feel ownership with the educational process (Smith, 2003). In an inquiry-based classroom, the students select a question, define the problem, conduct experiments, and investigate different results. These results provide students with
the evidence needed to support or refute their findings. The teachers’ role is to allow
children to make choices and offer open-ended activities so that they can experiment,
explore, and construct meaning. The teacher is the facilitator responsible for providing
the right equipment and supplies needed to create an inquiry based learning environment,
which provides students with enough stimulation to kindle a sense of wonder and inviting
questions (Meador, 2003).

Interventions for students with disabilities (e.g., attention problems) concern the
pacing of the inquiry activities conducting the experiments, and journal writing. Other
pacing issues of another kind are involved with the presentation aspect of the inquiry
process. Interventions include giving the class roles (e.g., paying attention to the
relationship between data). Another intervention is for the class to be in agreement on
the purpose for the presentation phase of the learning process (Palincsar, 2002). A
reading intervention for students with a disability includes the use of visual imagery.
Using imagery when learning new material permits children to transform what they have
learned into their personal knowledge base by employing significant images (e.g., visual)
(Jackson, 2002).

Classrooms operate as a community of inquiry with students often working in
small groups (Palincsar, 2002). The classrooms’ atmosphere is open, safe and supportive
where students feel comfortable sharing their thoughts or opinions. Active discussions
allow students to examine their ideas by exploring them aloud. During these discussions,
teachers are able to identify areas where students’ misconceptions still exist.

Brainstorming is a classroom strategy, which allows students to explore their
own ideas and those of their fellow classmates. Crockett (2004) offers an inquiry activity
which allows students to work in small groups. Next, they write down all the answers to
a given question. Then, students move to the next table and a new question. The group
reads what the previous group wrote on the paper and then adds their own ideas. Each
group returns to their original table to read and review all of the ideas written down
during the brainstorming sessions. Ideas are summarized for classroom discussion. A
supportive environment provides gains for the student. Among these gains are the ability
to try new ideas, explore more than one alternative, evaluate their own work, discover
that even negative or incorrect findings contribute useful information (Palincsar, 2002).

Journal writing

Palincsar (2002) states that journal writing allows both the teacher and the student
to check their understanding of the scientific process. A classroom intervention such as
posting of a glossary of terms that contains vocabulary specific to the area of study will
allow students further grasp the concept being taught in the lesson. The glossary can be
adjusted to the needs of the students. Another accommodation is the use of a scribe (e.g.,
the teacher or a peer). Student’s ideas are written down in their own words. Students are
able to return to their journal and expand their ideas once the process has begun.
Alternate ways to represent the student’s findings could include drawings with labels,
graphs, and tables.

An element of an inquiry-based classroom is that social interaction is permitted
and even encouraged during activities. This allows students to confront differences in
thinking and generate new ideas. Students are able to compare results, defined their
viewpoints, and collaborate to identify what evidence is needed to reach a solution. Next,
students use what they have learned to effectively further their future lines of inquiry. As
a result of inquiry-based learning, both general and special education students discover how good their ideas are, learn to trust in their own abilities, and feel a greater degree of success. When preparing for the lesson teachers should consider the personalities of each student within the pairs or small groups. The teacher may present mini lessons on how to be a good partner and what to do if you are having a bad day (Palincsar, 2002).

This type of instruction’s ultimate objective is for students to become self-learners, to be curious, to dare to ask questions, experiment, and make discoveries for themselves (Cherath, 2004). Thus, increasing understanding of scientific principles, promoting critical thinking and answering the question of how science relates to everyday life. Teachers are able to promote learning when they consider students’ diverse individual needs, including language and culture (Lee, 2003). Efforts need to be made to bridge the breach between a student’s home culture and the classroom learning environment, therefore teachers need to prepare lessons with precise instruction.

Rephrasing takes the ideas children have expressed and states the same ideas in a different way. This makes sure any contribution will be understood by all and affirms that each student’s ideas are important. It also makes the student’s ideas accessible to the rest of the class. Thus, allowing children challenged with language-related problems to be participating members. All students learn to ask questions and develop an understanding of scientific inquiry methods (Palincsar, 2002).

It is shown that authentic and meaningful activities during science instruction provide students with a way to construct meaning. Meaning is constructed by relating the inquiry tasks and topics of class discussion to their experiences at home (Lee, 2003).
Students may be unfamiliar with basic scientific tools of measurement or equipment (e.g., scales and magnifying glasses, microscope).

**Technology**

The Internet provides a way for teachers to extend and enrich the teaching methods of the past. Combs (2004) states that the web provides teachers with a way for expanding their past teaching instruction by enriching students’ educational experiences. Technology supports offer another way to engage in academic tasks allowing instruction to be more relevant and meaningful to the student’s everyday life (Lee, 2003). An area that the Web assists with learning is in the use of animation and simulations. This technology enables students to take an abstract concept and make it concrete by creating a visual. (e.g., model of the atom). Students are given a better understanding of structures by clicking and rotating the figure in the manner desired (Combs, 2004).

There are ways to increase inquiry learning and creative thinking in the classroom. Initiate creative thinking within the classroom with a laboratory learning center, which provides opportunities to observe, investigate, and experiment. Hands-on inquiry activities usually are self-correcting (Cherath, 2004). Students explore interesting articles from nature (e.g., rocks and insects) or investigate interesting gadgets. Students are allowed to dismantle mechanical objects in a risk free environment (Meador, 2003). Students are allowed to ask questions and form a plan to discover answers to their questions. After students explore areas of interest, they can relate them back to their life, which gives information meaning and purpose (Smith, 2003).

Meador (2003) suggests an inquiry activity known as the attribute socks activity. In this activity students observe and determine the attributes of an object placed inside a
sock by using their senses (e.g., touch, smell, and sound). Dark socks prevent students from seeing the color of the objects (paper weight, emory board) and socks are tied at the top. Instead of guessing what object is in the sock, the discussion should focus on how the object feels, the shape, size, or weight. Extension activities involve classifying, sorting by weight, sorting by multi-attributes, or sorting by attributes decided on by the student. Meador states that students practice elaborating and communicating and defend the placement of objects into each group. Inquiry activities provide students with the a chance to predict and compare.

Another activity suggested by Meador is an experiment involving liquid movement on waxed paper. Eye droppers are used to place red, yellow, and blue. Gently blowing and dabbing a straw into the liquid discovers how surface tension affects the shape and movement of the water. Students are able to explore how colors mix together. First, students make predictions about what will happen. Then, communicate by writing their predictions to form a hypotheses. Next, students confirm or disprove their predictions.

An alternate activity is for students to be given a chance to create their own experiments with cooking paper, freezer paper, glass, construction paper and varying liquids used in the experiments (dishwashing liquid, cooking oil). Students’ engagement and, persistence in the scientific process will sustain their thinking. Next, students explain the results of their experiments. One method students could use to explain their conclusions is to make a chart. Another extension activity is to provide after school science activities such as science clubs.
Social Studies

Traditional teaching methods for social studies are primarily teacher-directed. Included in traditional teaching methods are the use of well organized lectures using videos, maps, charts, diagrams, and textbooks. Homework assignments are focused on reading assigned chapters in selected textbooks (Chilcoat, 2004). Presently, the question is being asked are students being to think critically? Are they learning how to evaluate pertinent information presented to them by individuals, events, and situations or are they just being taught isolated names and dates (Pattiz, 2004)?

New curriculum should imitate real life. Education should be related to the problems and concerns of the students and their community. Therefore, curriculum needs to identify common patterns and themes in history (Chilcoat, 2004). Social studies classrooms need to be more democratic, instructional laboratories in order for students to develop, practice and imitate the characteristics of a good citizen. Social responsibility behavior is developed to create awareness, tolerance and appreciation of diversity, and culture, which fosters the respect of individual rights. A classroom situation where students development of a social conscious where they become activity engaged in political and social activities. Students need skills training for making intelligent and socially responsible decisions.

One skill students need to develop is the ability to analyze multiple perspectives. Students could interview a guest speaker about a certain topic and later interview a family member on the same topic. Next, the student would compare the answers to the interview questions and compare individual perspectives (Yeager, 2002). Students need to evaluate the strengths and weaknesses of varying viewpoint by reviewing the evidence (Pattiz,
Teachers train students to carefully collect pertinent facts based on evidence to verify claims. Then, students learn to apply the information learned to social situations in their community (Chilcoat, 2004). Students learn to recognize that they and others have value systems, which become their points of reference.

As students study different countries, they can complete a Venn diagram to show the similarities and differences between the way citizens experience life in democratic and non-democratic nations. (Yeager, 2002) They learn to make intelligent and responsible decisions. In the classroom students consider persistent social problems which include problems both inside the school community and society at large (Chilcoat, 2004). Studying real life situations and concerns provide a learning environment that provides the motivation needed to keep students interested. Moreover, data learned out of the necessity to make informed decisions are more easily learned and less easily forgotten then facts in isolation.

Students require a safe, democratic learning environment that will allow students to draw from their personal experiences. By drawing on students’ collective experiences as a source of knowledge, students will find connections between their lives and the problem being investigated. Teachers create and maintain a learning environment that allows all students to participate, explore, make decisions, and mistakes (Chilcoat, 2004). The teachers provide an environment where they model the democratic process. An activity to encourage democracy in the classroom is to allow students to participate in the formulation of classroom rules. The process of discussion encourages students to put their thoughts into words and share those thoughts with others. Another role of the teacher is to provide constructive assistance during the decision-making process. A good
source for learning is the community surrounding the students, such as speakers with knowledge of the problem being explored. Invite people from the community into the classroom to be interviewed by the class (e.g., elected officials). Assist students in preparing questions to ask the quest speakers (Yeager, 2002).

Teachers create an interest in history by teaching children to explore past events by becoming a historical detective. Students perform different steps in investigating a specific historical event (1) they dig up evidence, (2) they check their sources, (3) they check to see if their sources are reliable, (4) check to see if the evidence is important, (formulate an idea of what happened in the past) (5) formulate an argument for what happened (VanSledright, 2002).

Activities that are challenging and meaningful to students are the most effective at maintaining students’ interest the in learning process (Ferretti, McAurthur, Okolo, 2002) Students with a disability may find challenging tasks unattainable without a support system. Small, interactive group instruction and learning in pairs is usually more effective than whole group instruction. Small group instruction has certain benefits (1) small groups are more conducive to constructive interactions between teacher and student, (2) teachers are able to diagnose students’ misunderstandings and supply the necessary remediation (3) students are provided skilled reading and writing supports. In small groups, students are able to organize information and compare viewpoints. Students learn to understand the viewpoints of others. A small group activity is to provide students with examples and non-examples of a topic (e.g., democracy) Students write information on a chart with labeled examples and non-examples. Examples should include both children and adults. Students may not understand examples that they are
unable to relate to personally (Yeager, 2002). Another chart activity with labeled columns allows the teacher in understanding what a student knows about a subject, what the student wants to learn, and what they have learned in coming lessons. Assessments to evaluate what students have learned include an opportunity to self-evaluate their own progress. Alternate activities include the use of student logs, and the presentation of oral reports in class (Chilcoat, 2004).

Yeager (2002) presents a variety of alternate social studies for teachers to use in their classrooms. One activity suggested is the use of literature. At the elementary level children’s literature provides a way for students to see into the lives of other people who have lived through a struggle in their lives (e.g., issues of justice). Students can investigate the issues through the examination of current events in the newspaper. They can locate, categorize, and analyze particular news by looking specifically at the issues of justice and fairness (e.g., conflicts among different cultural groups). Students arrange information and pictures onto posters for exhibition in the classroom. An alternate activity encourages students to adopt a local issue by developing a project designed to increase public awareness about an issue (e.g., problems facing the elderly).

Yeager (2002) also recommends incorporating technology into a social studies classroom. Students can visit a variety of Internet sites representing democratic and non-democratic governments. They can explore documents on the Internet at the National Archives Web site.

**Summary**

In today’s schools, it is essential to recognize students as individuals. If students with disabilities are taught to utilize strengths to overcome their weaknesses, it will allow
them to become successful adults. Teachers hold the key to providing students with the skills they need to access the information that will build a solid learning foundation. By using a variety of techniques, educators will not only reach students as individuals, but increase their motivation to learn as well. With the countless resources available for each subject, area teachers can effectively meet each students’ individual needs.

As educators, we have had students with varying needs and abilities in our classrooms. Therefore, we have experienced firsthand the necessity to break away from the traditional teaching methods that have been widely practiced in classrooms across the country. We have seen how individualizing instruction can impact our students and allow them to experience success as learners. By researching and utilizing new strategies, we, as teachers, can feel confident that we have done our part in educating each student as an individual.
Reference List


*Montessori Life*, 16, 43-44.


