

Proceedings for School Tech Expo 2000
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“Simple Solutions for Students Who Struggle With Reading and Writing”

One of the goals for use of Assistive Technology in the classroom should be to acquire universal access to information. Our society has come a long way toward providing universal access to physical buildings, but because so much information is in printed form there are many people who do not have access to information due to the fact that they can't read.

Take for example a person such as Stephen Hawking. If you judge only by his appearance, you may think he is not capable of understanding the same things an able bodied person may understand. But he has proven otherwise. Teachers need to think about how to make ALL information they present to students accessible to ALL their students.

Technology and the use of electronic text make universal access to information a realistic goal.

The second goal is to achieve active vs. passive participation in the classroom for all students. I choose to use the word participation rather than inclusion or mainstreaming. To me, each person who chooses to attend a class is there because they wish to participate. It is the teacher's job to create an environment in which each person in the room feels as if they belong there and can play an active role in the activities. It is not enough to just have a student physically sit in a classroom. They should be active partners in the tasks at hand.

It is important to understand the process of task analysis. It is not necessary to create a new lesson for each student in the class. It is important however to understand and write down the specific goals of the lesson in detail so that each specialist on the IEP Team can give input as to what may be the parts of that lesson in which a struggling student can take part.

I want to see the students actually doing something in the class not just sitting in the room. I believe if a teacher can identify the goals of a lesson, they can easily allow a student to use alternative methods to reach those goals. Notice how I said alternative methods, not alternative curriculum.

We all choose the route we wish to take to work each day. Even though everyone may choose a different route, everyone meets their goal of arrival and everyone knows what they are responsible to do once they get begin work. So it's important that these students learn what others are learning, but what may not be so important is that they all use the

same method to acquire the knowledge. With all the multimedia available today, students can use programs such as PowerPoint or HyperStudio to make dynamic presentations for their classes. Writing all information down word for word is not the only way to communicate information. We are in a world that uses multiple media each and every day..radio, TV, print media, pictures, sounds, all of these can be incorporated along with the printed text to make learning a challenge and bring back the F word.....FUN!

More is not always better when it comes to the use of technology in the classroom. I have found that a few simple tools can go a long way in helping students use printed text to communicate.

These simple tools are: 1) AlphaSmart Keyboard, 2) a word processor which speaks the text such as IntelliTalk, Write Out:Loud, WYNN, or eReader, 3) a word prediction program like Co:Writer and a multimedia program such as HyperStudio.

If a teacher has these basic tools at their disposal, it can open up a whole new world to the student. Just the fact that the computer speaks words back as the student types is a tremendous help to the student to be able to self correct. This goes a long way toward improving motivation and self esteem.

Each programs mentioned above has strengths and weaknesses that the teacher will need to evaluate and compare to the needs of the students in order to decide which will best suit their situation. The key here is look at the needs of the students FIRST and the technology SECOND.

Allowing the student the use of electronic text is a must. If research is done on the Internet using eReader to read the Web pages, the student's comprehension of the material will increase.

Transfer your quizzes and tests to the AlphaSmart and let the student complete them in an electronic fashion. Then they can transfer their work to the computer into eReader, IntelliTalk or Write Out:Loud and make their own corrections.

The use of simple technology tools assists the student with academic tasks as well as organizational tasks. They must have a system which allows them to feel ok about making mistakes and which gives them strategies to self correct. This adds to the increase of self-esteem resulting in increased motivation to learn.

"All Kids CAN Write!"

The One Hundred Steps to Writing©

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Remember the old trick of patting your head and rubbing your stomach at the same time? Or how about this one...bounce a basketball with your non-preferred hand while standing on one foot. These tricks can pose quite a challenge and require a great deal of concentration.

These tasks are similar to what many students experience when asked to perform a writing task. I recently completed a task analysis of writing a sentence and found there can be over 100 steps to writing an average sentence!

We often forget how complicated the simple task of writing really is.

Let's take a look at what this experience is really like. First, I must locate a writing utensil. For a student with organizational difficulties this alone can add 5-10 steps to the process.

Next, I begin to formulate the ideas in my mind or attempt to remember the assignment. I must keep this idea in mind as I begin the physical process of writing it down.

As I attempt to keep track of a sentence in my mind, I must also ask myself what the first word of the sentence is, what letter it starts with and does the word need to be capitalized.

Once I've answered those questions, I then must think of what the first letter of the first word looks like, how that letter is formed, what line the letter starts on, the spatial relationship that letter must have to the line in order for it to look right, and what direction the pencil needs to move in order for the letter to be formed correctly.

All this and I have only produced one letter!

Now I have to think of what letter comes next in the word and think about where to position it in relationship to the previous letter. I still must attempt to remember the entire sentence I'm trying to produce.

I must repeat these steps 50-100 times per sentence!!

What if the process stops or is interrupted for any reason? What if I have to look up a word in the dictionary, go to the bathroom, or go to recess or PE? In some cases this could increase the number of steps for one sentence to well over 200!

As frustrating and time consuming as all this may be, it doesn't hold a candle to the most discouraging word: Rewrite!

Can you imagine? I think I'll just give up and take the "F" on my report card. Any wonder why I produce short sentences with small words or I act out when asked to write a three paged, single-spaced paper? The thought is just too overwhelming.

For many of us, the task of producing individual letters is second nature. We don't have to think about how those letters are formed we just do it. This allows our minds to concentrate on content.

Not so for students who have learning differences such as dyslexia, dysgraphia, attention deficit disorders or a host of other complications. For many of these students the process of sequencing and remembering is extremely difficult.

These students have wonderful ideas and vocabulary but for many of them what blocks the path to success is the frustration of the PROCESS. If they cannot keep the paper on the desk how can they be expected to write compound sentences?

Let's take a look at solutions.

It is important to separate the processes of mechanics, spelling, and writing whenever possible until the student gains confidence in their writing ability.

I recommend starting with a talking word processor. If the student hears what they write, they can make corrections immediately. You cannot believe how this simple adaptation helps.

When using a talking word processor, students hear their mistakes and are much happier making the corrections themselves before anyone else ever sees them.

No one will argue the fact that students do need to know how to use a pencil/pen and paper. Even the type of pen itself can make a big difference.

Sometimes if the pen is fatter it provides a better grip. Take a field trip to an office supply store and have the student try out different size pens to see which is most comfortable.

Keyboard or pencil and paper? There are appropriate times for each.

Allowing students to use the computer or devices such as the AlphaSmart^a Keyboard to complete their writing assignments can cut the number of steps in half.....even if the student is unfamiliar with the layout of the keyboard and uses the hunt and peck style.

Keyboarding is important but success happens when there is motivation behind it. Once the student begins to hunt and peck and have successful writing experiences, the anxiety begins to diminish and keyboarding speed increases.

Next I suggest separating the spelling process from the writing process.

A wonderful software program to help achieve this is called My Words^a. This program splits the screen giving the student both a word bank and a writing screen.

First the student enters their vocabulary words into the word bank and makes sure the spelling is correct.

Then as they write the words they entered in the word bank stay visible giving them a visual reference.

They can also add sound effects to their stories as well as record their own voices. This adds a tremendous amount of motivation.

To assist in sorting out visual information, color is a great tool. They can make all the spelling words red or all the verbs green.

IntelliTalk^a and Write Out:Loud^a are not only talking word processors, but also have the option to change the background color. When writing a Christmas story, the background can be green and the text red.

Finally, goals must be well defined. If the goal is to learn to spell, then the student needs to concentrate on spelling. If the goal is to learn to keyboard or have good penmanship, the focus must be on those tasks.

When the goal is to write, the student must be allowed time to produce thoughts without the pressure of correct letter formation, spelling, punctuation and grammar.

The more students are encouraged to separate these processes, the more successful they become.

Over time they develop the ability to merge these skills together with confidence and success.