

Quantum Learning in the Classroom

New Haven 2007

As a school, we have spent the past year trying to implement the Quantum Learning approach in our classrooms. Quantum Learning focuses on using teaching strategies better suited to hardwiring data into students' long term memory. This can be achieved through a number of different activities and methods. We have focused mainly on VAK teaching which we felt encompassed the best of what Quantum Learning had to offer.

VAK stands of visual, auditory, and kinesthetic. All individuals have a certain learning modality for which they have a preference. Each student in the classroom will prefer one of these methods of receiving information more than another. If instruction in the classroom matches their preferred modality, they are more likely to remember and effectively process information.

Individuals who are visual learners prefer receiving information through pictures. This might include note guides or books where they can see the words as well as hear them. These students like to see demonstrations or examples. They like diagrams and pictures. Methods that work well with these students include writing information on a board or providing handouts with the information so the students can see it as they review as well as using pictures and diagrams along with explanations. Teachers can also utilize movies in their teaching. Some students find it helpful to read and write information, both these processes involving visualization. Reading can be especially powerful for these students. Students who are visual learn best when they can create visual images in their heads of the material. Any materials which assist in that visualization process are of benefit to these students.

Individuals who are auditory learners prefer receiving information through sound. This might include lectures when they are able to hear the teacher's voice. It might also include music or talking. Auditory learners like to hear their information. Methods that work well with these students include lecture and speaking activities in which the student has the opportunity to speak or students share and speak with each other. Music is an excellent way to reach these students. The process and experience of music assists them in learning. If songs are available to teach a concept, these students would benefit from listening, but they might also benefit from writing or performing their own songs about information they need to learn. Any materials which assist in the auditory experience are of benefit to these students.

Individuals who kinesthetic learners prefer receiving information through movement. This might include activities where a student is up and moving around and anything requiring physical activity. These are the students that like to do it and want to get their hands involved. They are the students that want to conduct the experiments or act out a play. Kinesthetic learners are hands on learners and learn best from doing. Methods that work well with these students include opportunities to get up and out of their desks as well as writing which is a kinesthetic activity. These students also like to take part in the activity, to play a role so that they are engaged in the moment. Any materials which assist in the kinesthetic experience are of benefit to these students.

It is essential for students to understand which learning modality they prefer because they can then develop strategies to be more successful in school. Not all

classrooms will be geared toward their particular preference and they must find ways to integrate their learning modality into that classroom. Additionally, certain students are so dominated by one or two of the modalities that if the modalities of strength are being engaged as well as a weaker modality, they will not be able to process the information coming at them from the weaker modality. To combine modalities can be powerful, but must be done carefully so no student is left behind.

Quantum Learning provides teachers with a number of methods to engage students in a visual sense, an auditory sense, and a kinesthetic sense. By utilizing these techniques and bringing more VAK strategies into the classroom, we have attempted to better meet the needs and learning strengths of our students to make them academically stronger. As a school, we first had students complete a modality survey which highlighted their areas of preference. Teachers also completed the VAK modality preference to discover which style they preferred. Teachers are most likely to teach according to the modality they themselves prefer so it is important for each teacher to know which style they rely most on in the classroom. Based on these areas of preference, each department implemented different strategies and techniques to better facilitate student learning. In the following pages, various departments have explained their use of the VAK techniques and the successes experienced.

Quantum Learning in Social Studies

I have worked to incorporate Quantum Learning into my classroom through the addition of VAK strategies. As a visual learner, I tend to provide my students with a lot of visual stimuli including pictures, movies, and handouts so they can see what I am talking about. I am much less likely to use kinesthetic activities in my classroom because kinesthetic is my least preferred modality. Being aware of this, I focused on bringing in more auditory and kinesthetic activities while maintaining a strong visual component.

Visual

- Note guides and handouts- I provide my students with a note guide and handout for nearly every learning activity done in class. This allows students to see the material we will be covering and gives them a visual organizer to work off of
- Photographs- these can be particularly beneficial in a social studies class because the photos provide historical information as well as a way to engage visual learners
- Maps and diagrams- these provide a context for visual students. As they learn material, if they see a map or diagram of what they have learned, they can plug the information into the visual for a better understanding.
- Whiteboard- visual learners need to see information written on the board. They do not follow spoken information as well. If information is written on the board where they can see it, this reinforces what is being said.

Auditory

- Lecture- these students do benefit from a lecture. They can hear the information and can process the auditory stimulation
- Debates and presentation- this gives students the opportunity to speak and listen to the work and opinions of themselves and others. By giving auditory learners an opportunity to talk, they are able to share what they have learned in their favorite modality. This also works very well in a social studies class
- Music- students will listen to music in my class. This music relates to particular time periods and provides auditory information about the time. Additionally, students have the opportunity to write and perform their own small songs to reinforce information

Kinesthetic

- Play dough- play dough can be used for a number of purposes. Student can recreate maps and diagrams, play pictionary, and build with it. Play dough allows them to engage in a hands on activity which reinforces information learned in class
- Acting- by having students perform a scene or moment from history, they get to participated actively in history. This provides them an opportunity to move and be full involved in the material
- Review games- many of these games involve students getting up and moving around the room, whether it is coming up to the board, moving around to other

students, or something even more active. Review games get them out of their desks.

- Writing- this is a kinesthetic activity. If students have to write information down, their bodies are engaged in the experience and they are more likely to remember than if they just listened or looked.

I have always found visual materials helpful in class, partly because it is my own learning preference and partly because it fits in very well with the study of social studies. Auditory activities are best when they are combined with one of the other modalities, either visual or kinesthetic. By combining auditory with one of the others, it is usually strengthened. I have had the most success as I have tried to bring in more kinesthetic activities in the classroom, although they have also been the hardest to incorporate. It is more difficult to make social studies a hands' on activity, but by giving students the opportunity to move around, they seem to have enjoyed and benefited from the additional kinesthetic activities. VAK is very beneficial in the classroom, especially when it these techniques are used in cooperation with one another. I plan on continuing to use them and broadening my use.

Quantum Learning in Math

I have been trying to incorporate Quantum learning in my Math classes, some have been more successful than others. I have tried by combining a little of visual, auditory, and kinesthetic techniques in my each lessons, some have been more useful than others.

Kinesthetic

- I have used geoboards for a Variety of lessons, some for Algebra, but mostly in Geometry.
 1. To find the slope of lines; the students were able to use their hands using the rubber bands and peg boards.
 2. Also to identify different shapes and compare the different qualities between them.
- I have also used Algebra dots which allow the students to move around the dots, to represent problems with objects instead of numbers on a page. They have helped mainly with the idea of negative and positive numbers.
- Getting out of their desks to work problems on the board, or I have had some review games that they were able to get up and move around the room.

Visual

- By showing examples on the whiteboard and also on handouts.
- I have tried to be more detailed at writing out the examples step by step so the students can see each step clearly.
- The algebra dots have also played a role in allowing the students to have a better picture to visuals as we solved the problems.
- I have also had the students use colored pencils while taking notes or while doing their homework, which helped them see the different steps they take to solve the problem.

Auditory

- lecture
- Have the students work together and also have the students explain things to their peers, it's helpful to her different perspectives of how others see and work things out.
- I'll repeat instructions a couple of times and them have them repeat back to me to make sure they have heard the instructions.

By playing review games to demonstrate different strategies helps the students to enjoy what they are learning, and helps them recall the information they have previously learned. It lets them laugh and hopefully find math more fun. They get to interact with each other in a positive way, instead of just doing math worksheet one after the other.

Quantum Learning in English

I have incorporated visual, auditory, and kinesthetic activities in my English class. I have found the greatest success when I create activities that let students utilize all three of these learning styles.

VAK-Visual, Auditory, and Kinesthetic

- Something that I use that works for visual, auditory, and kinesthetic learning is assigning a scene from a play (*Death of a Salesman*, *Lost in Yonkers*, etc.) for the girls to memorize and perform for the class. Their performance acts as a visual and auditory aid for the class as we read that particular play. The girls performing can experience the movement and even the emotion within the story as a solid kinesthetic aid. I've also taken my students to see plays that we have read which allows them to experience it the way it should be—performed.

Auditory

- In the auditory department, I put the girls into small groups to read and discuss, as it keeps them better engaged mentally rather than feeling as if they can daydream in a class full of participators.

Visual

- Specifically for the visual aspect, I sometimes use movies to help students understand difficult material. We watched *She's the Man* before reading *Twelfth Night* because it is the modern day version. This helped the girls to engage and apply Shakespeare's old English to their modern world.

By using the VAK styles, I have been able to assist students in better comprehension and memorization of the materials. The students seem to really enjoy the activities and get more out of them than if they were simply reading silently or answer questions from a book.

Quantum Learning in Science

After attending Quantum Learning teacher training seminars, I have been able to make some important changes to make my teaching more effective, deepen student understanding, and increase student motivation. There are literally dozens of ways in which these seminars have helped my teaching. I have outlined several of them below:

- **Memory** – Quantum Learning emphasizes the practical application of brain research in the learning process. Because I now better understand how the brain codes memory, I can teach in a way that helps students to remember new information. I have learned how often, when, and in what way to repeat new concepts to significantly improve the chances that students will retain the information. I also teach my students some of what I have learned about the brain to help them to realize why certain study habits are important.
- **Color** – I had never realized how important it is to use color in teaching. Color stimulates the brain and greatly improves attention and ability to learn. Quantum Learning taught me how this works in the brain, and I have found that my students generally prefer working with multiple colors to writing in black ink only.
- **Music** – using music can make a big difference in students' concentration. We learned how different types of music promote certain types of brain waves that make a big difference in mood and concentration.
- **Visual/Auditory/Kinesthetic Learning** – different students acquire information in different ways. Knowing about this can help me to know whether reading, listening, writing, doing, drawing, talking, or other activities are the most appropriate for a particular student. I can put students with similar learning styles together in order to most effectively help them to learn.

In addition to these points, I have used many other methods I learned at Quantum Learning seminars. These methods are crucial to adapting my teaching style to help students of all abilities. It is especially important for students with learning disabilities, so that I know what sorts of changes and accommodations I need to make in order to keep their interest and help them to succeed.