

## Retaining Students through Individualized Study Skill Training

by Abby Hassler

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### Abstract

The author details a Perkins Grant-funded project of the Medical Education Center at Northern Virginia Community College that is designed to increase student retention by teaching students to identify and to use their learning style preference(s).

“The Americans of college age are increasingly ill-prepared for university instruction as it is traditionally delivered.... Often they fail because they do not know what they do not know and when they do know what they do not know, they do not know how to learn it.” -- Clark Glymour

A student came up to me after class last September and said, “We like the way you teach. You say everything in three different ways: you say it, you point to it, and you do it. If we miss one way, we have a second and even a third chance to learn.” Who would have known that that one comment would become the impetus for the creation of an on-going, fifteen-week pilot program?

### History of the MEC Tutoring Program

For over a dozen years, I had team-taught a course on rehabilitation procedures to second-year physical therapist assistant students. Then, one semester, with one teacher out on maternity leave, I was required to teach the whole course alone.

After giving the first five minutes of a lecture on spinal cord injuries, I realized I had lost the class. I told the students to put down their notes as I threw down mine. I asked them to get on the floor: we were going to pretend to be paraplegics and quadriplegics for the day instead of having the planned lecture.

Some of the students wanted to bring their notebooks and pencils onto the floor with them. I assured them I would give them whatever information they needed in a handout the next day.

I then watched for the next four hours as the students actively learned. This had always been a very difficult unit to teach, but it wasn't anymore. It was easy, and it was fun – for the students and for me. The resulting average grades for the unit exams were higher than previous years.

I continued to test this changed methodology throughout the semester. For the first time in ten years, 100 percent of the students passed the final practical exam and the course. Usually, 10 percent of the class failed.

Why the difference? Why had I lost these students with a lecture that had been given for many years? I began research on multi-sensory teaching in the community college. Several weeks of investigation led me to understand what I had experienced.

This group of students preferred to learn kinesthetically – not just orally, not only by reading or writing, but by doing and incorporating all of their senses. Three months later, this group was given a learning style assessment tool, and the test results illustrated that 19 of the 21 (90 percent) were kinesthetic learners. Though lectures had been supplemented with Power Point presentations using written words, the students very easily lost ground in a lecture where the main instrument of delivery was words.

I informed my assistant dean about the needed changes and my discoveries, and I asked if I might offer an additional one-credit course the next fall to supplement this rehabilitation course. It would be made up of the same material but delivered in a completely kinesthetic and visual way, with no lecture or required reading. She suggested that I apply for a small grant.

My grant proposal, entitled “*How to Increase Retention of Second Year Physical Therapist Assistant Students*,” was presented to our acting dean of allied health, who decided that this idea would be expanded to include all eight programs: dental hygiene, health information technology, emergency medical services, physical therapist assistant, radiology technician, respiratory therapist, medical laboratory technician, and nursing.

Four days before the spring semester, our Perkins Grant and my new position were approved. There was no job description yet, just two women with a lot of the same ideas. Part of the grant included having someone to analyze the retention data from years past and compare it to data at the end of this tutoring grant.

I realized that waiting for students to come for tutoring after failing their first exam was not the way for me to achieve success with this program. Instead, I took a proactive approach. I brought the eight components to life, and these metamorphosed several times over the course of the next two months.

## **Program Design**

We crafted the program to

- assess students’ learning preferences with the VARK learning style assessment tool;
- give students learning style specific strategies immediately following assessment;
- inform faculty about the learning style makeup of their classes;
- make tutoring available to individuals and small groups in study and test-taking skills, as well specific course content;
- display the *Study Strategy of the Week* newsletter in each classroom;
- at the request of faculty, present some of those study strategies in a class presentation;
- send the *Learning Style Tidbit of the Week* by e-mail to all faculty members, giving anecdotal information from the learning style literature; and
- at the request of faculty, give in-services on how to increase multi-sensory teaching.

The research illustrates that if students can identify their learning styles and are taught strategies to study using their preference(s), their chances of academic success increase. I decided that in order to increase student retention and success, it would be very helpful if all the students in the division could identify how they prefer to learn.

I chose to use the VARK learning style assessment tool, as it is a thoroughly researched tool. In 1987, Neil Fleming and Charles Bonwell designed it for assessing whether a student prefers to learn visually (V), aurally (A), by reading/writing (R), kinesthetically (K), or in some combinations of two, three, or four of these modes. Fleming and Bonwell report that approximately 40 percent of the population is unimodal, having only one preferred mode, whereas 60 percent of the population prefers two or more modes.

Next, I collaborated with the faculty to test the learning style of all students in the division within the first ten days of the semester. This included approximately 700 students in eight associate’s and three certificate degree programs.

In twenty minutes, the students and their teachers were given the VARK questionnaire in their classrooms. These questionnaires were self-graded and then handed in to me, without names attached. I next helped each student to understand what the scores meant, stressed that these distinctions are not to be seen as strengths or weaknesses but preferences, and handed each student six pages of style-specific study strategies. We spent several minutes going over the handout, and I explained my other services to the students. As MEC Tutor, I was available for fifteen hours a week to tutor individuals and small groups on study skills, test-taking strategies, and specific course content – at no charge to the students.

By the third week of the semester, I presented the faculty with the results of the VARK questionnaire for their classes. Usually, I presented this information to the department head (assistant dean) of each program in a 15-20 minute meeting, and I provided copies for their faculty members. The data was supplied on an Excel spreadsheet, including how many students

- were unimodal, identifying which mode;
- were multi-modal, showing which modes;
- did not prefer to learn aurally;
- did not prefer to learn by reading and writing;
- did not prefer to learn aurally AND by reading and writing; and
- preferred to learn by all four modes (VARK learners).

### **Developing Study Plans**

Originally, we had planned that the bulk of my work would be as a tutor. After one week and fifteen tutoring appointments, however, a new idea was born.

I noticed that all of the students were having the same trouble and seemed to need the same instructions. They did not know how to select the pertinent information from their textbooks and lecture notes. The students needed to condense a vast amount of written material in medical textbooks into a more manageable package for studying. They needed guidance with this skill – using their own learning style preference(s).

To help them master these skills, I constructed a study plan that used an approach of turning every heading and subheading into a question and then either highlighting, underlining, and/or writing only those words that answer that question. The students were directed to express the answers to their formulated questions in their own words. They were instructed not to memorize words until they first have some meaning and association. Visual learners were asked to draw pictures, develop their own symbols and abbreviations, and to use flow charts, different color markers, and upper case letters. Aural learners were to record the question and answer in their own words using a tape recorder, to read it aloud many times over, and/or to tell a friend what they had just read. Kinesthetic learners were advised to make up a story, to use an example and relate the concept to something they know already, and/or to use their bodies to act out the concept (if possible).

### **Newsletters and Demonstrations**

This study plan became the first edition of *The MEC Tutor Presents: Study Strategy of the Week*, a newsletter I created that was first posted on bulletin boards around the building and then (by popular demand) made available in every classroom.

I wrote another six newsletters on topics such as organizing study time, organizing class notes, and completing required reading before attending a lecture. Many students and teachers expressed their satisfaction with these strategies. The newsletter was an overnight success.

Nevertheless, some students needed for these study strategies to be demonstrated to them. A handout alone just did not lead to full comprehension; they wanted to learn exactly how my methods could be used with their textbook and their notes. After another week and another ten students, I decided that I needed to take this idea into the classrooms, as I did not have enough hours to show all the students individually.

So, for the next week, I presented these methods to first-year students in four of the eight associate's programs – in their classrooms – and the information was very well received.

By this point in our program, I was being stopped in the hall by members of the faculty asking me if I thought the way they were about to do a presentation was a good way to reach all styles of learners. I was asked for articles, books, or any other resources that would give guidance on how to teach in a multi-sensory way. They wanted to reach those visual and kinesthetic learners who could not be reached as effectively with just a lecture and a word-based Power Point presentation.

My job description grew further with the inception of the *Learning Style Tidbit of the Week*, where I quoted anecdotes from the learning style literature. At the request of faculty, I also started meeting with them one-on-one, and I gave an in-service presentation at department faculty meetings, as well.

### **Learning Style Preferences of Students Seeking Help**

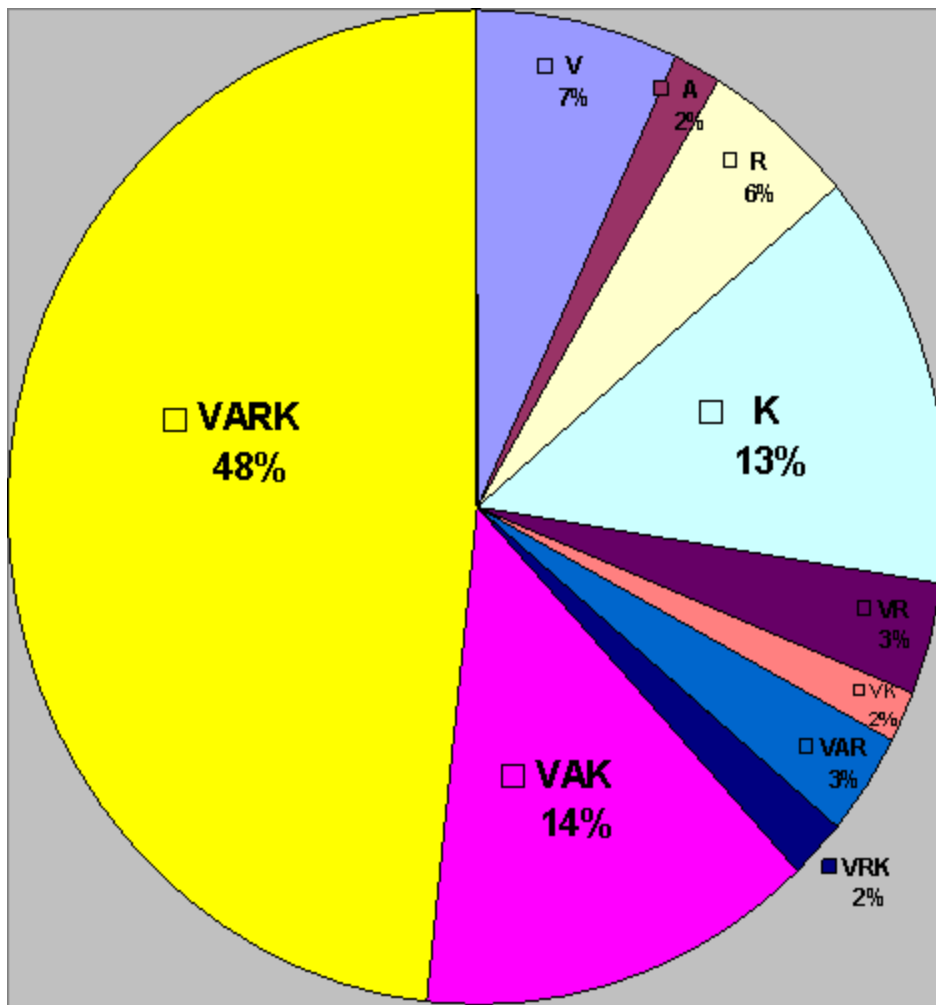
Ten weeks into this semester, fifty-eight students had sought tutoring assistance. (See chart.) Of these, only three students came for assistance on specific course content; the others wanted help learning how to study efficiently using their respective learning styles.

The majority of the students who came to see me were those that preferred learning in all four modes (VARK). They represented 48 percent of the total. (Typically, Fleming and Bonwell report, some 30 percent of the population are VARK learners.) The Kinesthetic (K) learners represented another 13 percent of those seeking help, and the trimodal learners who were missing the Read/Write preference (VAK) came in significant numbers, at 14 percent.

Fleming explains that those with all four preferences – VARK – very often need all four preferences to learn. He states that these students may feel anxious if they do not use *all* of their learning styles. Indeed, many of the VARK students came in with high frustration levels, complaining that they were having difficulties learning from just the written and spoken word. Some were in classes that were primarily lecture (A & R), so there were few opportunities for them to use their V and K preferences – to see, touch, feel, act out, and do what they needed to learn. I steered them toward videos and visuals via models or through computer software, and I taught them how to draw diagrams from their notes, to study by speaking out loud, to rewrite important words, and to make up stories using necessary concepts. Indeed, they did not feel comfortable until they used all four modes.

Our kinesthetic learners (K) were struggling with the vast amounts of material presented in lecture format. They yearned for examples before concepts. In fact, they often tuned out the conceptual learning early on in the textbook and lecture, waiting anxiously for the reality that comes afterwards. Often their lecture notes were sparse, full of holes, disorganized. They really enjoyed practical sessions, case studies, and problem solving, as well as see it, touch it, smell it, and do it. As Fleming and Bonwell predicted, they found multiple choice questions almost impossible, did not like to read the textbook, and felt an intense dislike for memorizing lists and difficult medical terms.

Like these kinesthetic learners, the VAK students also had trouble with multiple choice questions, the textbook, and memorizing lists and difficult medical terms. These students needed to be shown how to use the other three modes to accomplish learning the information from their textbooks and lecture notes. This may not come easily to someone who does not prefer to learn via R (reading/writing). Unfortunately, often times a person prefers not to learn a certain way because for some reason they are unable to learn that way. For these VAK students, I followed Fleming and Bonwell's suggestions and used the same strategies needed for those with all four preferences, the VARKs. They too needed to be taught how to use the V (visual) and K (kinesthetic) preferences to make up for not having the R (reading/writing) as part of their learning style profile.



**Learning Preference(s) of 58 Students Seeking Tutoring Help**

V=Visual A=Aural R=Read/Write K=Kinesthetic

Chart-Copyright Hassler, A March, 2004

### Initial Success

Although I do not yet have retention data for this study, I do have multiple reports of success.

Results from the first-year student evaluation of the project were quite favorable. When asked if the program of identifying learning styles and recommending study strategies was helpful, 88 percent responded that it was. Some 77 percent of the students reported that they read the Study Strategies of the Week. And 72 percent stated that they have applied this new information.

For example, the emergency medical services program reported an improvement in the median score on one exam after the class was instructed in how to condense information from the textbook and lecture notes.

One multi-modal VARK student (who had previously been on academic probation) came into my office to thank me. I did not recognize her; she looked about 10 years younger than when I had first met her. She confided that she had received a 92 percent on her midterm and was no longer on probation; she explained that she had done everything that I had suggested she do and stated that she was able to

use her study and lecture time more efficiently. She was no longer anxious and therefore was more able to focus well.

In another case, a struggling student (barely getting by with a 71 percent average the previous semester) had come to me saying that he had learning disabilities and ADD, and that it was impossible for him to learn all the medical information. I rapidly discovered that this VK student had almost a photographic memory for diagrams. I taught him how to turn all pertinent information from text and lecture into pictures, symbols, and stories. I later received an email from him saying that he would have been happy to get a solid C on the test he just took, but that he had received 100 percent. He urged me to "keep up the good work."

These stories go on and on, and if predictions hold, the data will show that this program is increasing the retention of our students in these demanding health technology programs. The next step is to bring this program into our feeder schools at the high school level, so that the students will already know what it takes to study using their learning style preferences and increase their chances of succeeding from the start.

With six weeks left to go in the semester I look forward to being part of further success stories now that I know what I know and how I know what I know and how to use it.

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**Abby Hassler**, RPT, is an adjunct physical therapy assistant instructor and tutor in the Medical Education Center for Northern Virginia Community College in Springfield.

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