NADE Digest

Promoting Communication among Developmental Education Professionals

Editorial Comments

Welcome to the spring issue of the of the **NADE Digest**. Our sincere thanks to the authors for sharing their research, classroom practices, and innovative ideas, and to our cadre of reviewers for their expertise, attention to detail, and commitment to quality.

Noting how frustrating it is when students simply memorize facts, Paola Di Muro's opening article, "Best Practices in Mathematics Instruction: Teaching for Understanding," outlines practical techniques teachers can use to make understanding concepts the focal point of mathematics instruction.

Amy Crouse-Powers tells how she has successfully used the I-Search process in a college study strategies course to promote active reflection, evaluation, and synthesis in scholarly research in "The I-Search: Writing to Learn."

Gerald J. Calais and Marilyn Larmon review how difficult it is for students to transfer skills and knowledge and provide insights for improving success in "Teaching for Transfer: Classroom Instructional Implications."

In "Student Services Support of Developmental Education," Gregory Stewart, Gennine Brewer, and Dianne Wright describe the role of student services, provide examples of successful services, and highlight the success of the University of Cincinnati's Center for Access and Transition.

Victoria M. Rey and Roberta Karstadt explain how collaboration between developmental reading courses and academic content courses works on their campus and how the pairing benefits students in "Strategies in Teaching Paired Reading with Content Courses."

In "Using Popular Culture in Developmental Writing," Sharon L. Barnes traces the evolution and (d)evolution of a media analysis assignment that she has found to be successful in developmental writing courses.

Denise Josten details a mastery learning plan she uses to motivate students to complete their assignments and master goals at their own pace in "Motivation through Mastery Learning."

In "Student Achievement in Basic College Mathematics: Its Relationship to Learning Style and Learning Method," Sydney Gunthorpe describes three course designs TVI developed to match a student's preferred learning style with the learning method of the course.

Isodoro Talavera closes this issue with "The Problem of Teaching Critical Thinking: Three Approaches," a discussion of the problems developmental educators face teaching critical thinking.

These diverse articles present significant ideas for developmental educators in our never-ending quest to help our students succeed. We hope you are encouraged to try new ideas and we invite you to share your ideas with us.

Jane McGrath & Laura Villarreal
Co-Editors

NADE Digest

Best Practices in Mathematics Instruction: Teaching for Understanding

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At some point between elementary and junior high school, something seems to occur that generates a rooted dislike toward the scientific disciplines in general and mathematics in particular. This results in most students in developmental education associating the word math with a series of illogical rules, totally disconnected from reality and common sense. As teachers and developmental educators, we need to take responsibility for the situation and create a teaching methodology that emphasizes the understanding of mathematical concepts rather than their rote and disconnected application. Extending results obtained for the general population of underprepared students, this article outlines practical techniques that can be used to make understanding the focal point of mathematical instruction.

Isn't it frustrating when the majority of the students in the class considers mathematics as a collection of disconnected rules, which make absolutely no sense? Such an attitude reflects their strong dislike for the subject, which probably originates from previous negative experiences and from the failure to grasp the ideas and to use the connections between them. When understanding is not present, interest fades and memorization becomes a temporary mean to produce answers, setting the stage for post-secondary students who lack motivation and background preparation. Research on underprepared students who struggle at the college level shows that they have the tendency to study just prior to exams or due dates, memorize terms but cannot recognize them in related examples, and lack the ability to see how course components interrelate. Furthermore, they are incapable of monitoring their understanding of the various concepts, cannot articulate what they have studied and do not try to connect and elaborate knowledge (Klopfleisch, 2005; Weinstein, 1982).

When the students' involvement remains superficial and detached, simply confined to listening to a lecture and reading material from the textbook, learning does not occur. Research studies have established that

learning does not happen overnight, but occurs over an extended period of time as a result of writing and thinking about what one is learning, relating it to past experiences, and applying it in real-life situations (Felder & Brent, 1996). Therefore, learners cannot be passive spectators that just listen to a lecture. To be successful, they must be actively engaged in the learning process, so that they can incorporate what they learn and make it a part of themselves. When strategic thinking processes are used, students obtain positive outcomes such as higher grades and increased retention rates (Weinstein, Dierking, Husman, Roska, & Powdrill, 1998).

Knowing how to solve first-degree equations is different from understanding equations, their usefulness and versatility, and the principles that are used in solving them. Understanding a concept translates into being able to perform a variety of thought-demanding tasks, such as explain, find examples, generalize, and apply it to practical situations (Perkins, 1993). Of course, knowledge is the basic prerequisite to understanding, but the gap between knowledge and understanding cannot be filled unless teaching is aimed toward the upper levels of Bloom's taxonomy. When the goal of teaching expands from mere knowledge toward comprehension, application, analysis, and synthesis, students become immersed in a culture of thinking and move beyond simple recollection of facts.

Suggestions for Useful Practices

To teach for understanding we must broaden our repertoire of activities beyond conventional knowledge sphere drills and calculation exercises to include thought-demanding problems and applications. By asking more challenging questions, we will stimulate comprehension of concepts, as well as analytical and thinking skills, helping to develop citizens that are better prepared for their future professions in our fast changing world. The following techniques focus on making understanding the true essence of mathematical teaching.

Compare and contrast a new concept with one or more previously learned concepts.

Students tend to be less intimidated by a new idea when they can see how it connects with material that is already familiar. Such connection is critical in facilitating assimilation of new concepts, by creating a meaningful context where new ideas fit harmoniously in an expanded frame. Emphasizing how a new concept fits with previously learned ideas and the advantages of the newly gained perspective, opens the road to new insights and encourages students to formulate new hypotheses and make

valid inferences. Comparing new and old ideas requires students to recall previous knowledge and apply it to a different situation, engaging the learners in critical thinking and deepening their understanding.

Create a conducive learning environment by using a mix of instructional methods.

To establish a positive environment from the beginning of a course, students must know the instructor's goals, expectations, and evaluation criteria (Casazza & Silverman, 1996). Clearly stated goals and expectations set the tone for the right classroom atmosphere. Students' motivation and interest are boosted when the instructor is capable of creating a conducive learning environment. Such environment is made up of many factors, including enthusiasm, confidence in the students' abilities, and instructional methods. Evidence collected in a number of studies conducted among college students points out that the dominant learning style is visual or iconic, followed by hands-on or learning-by-doing (Lemire, 1998). In addition, the use of a variety of instructional methods increases the chances of success of underprepared college students (Casazza & Silverman, 1996). Using a variety of instructional methods not only emphasizes understanding instead of memorization, but is also more likely to appeal to the learning styles of our learners.

Challenge students with questions beyond the recollection level.

Assigning some problems aimed beyond simple recollection skills stimulates critical thinking among the students and fosters their analytical abilities. Thought-provoking questions make the subject more interesting and stimulate curiosity and participation. Such questions communicate one's belief in the abilities of the learners, implying that the teacher has high expectations of the students. Learners generally tend to rise to the level required of them, so teachers should not be afraid to challenge their students with a variety of questions that extend toward analysis and application. Providing opportunities for review and class discussion through extra tutorial sessions and organizing study groups led by peer students are two of the techniques that are generally successful in preparing the class for the task.

Encourage students to write about mathematics.

Post-secondary students usually approach mathematics with a high level of emotion. Many will confess that they simply "don't understand it" and are "not capable" of achieving satisfactory results. One way to dispel their rooted fear is to ask them to write and reflect about their attitude

toward the subject. Journal writing exercises encourage self-reflection and stimulate a proactive approach. Students who have a negative self-perception of their mathematical abilities tend to discharge their emotions when writing about them. Their energies can then be channeled toward the development of positive strategies for success in mathematics. Such journals can contain an introductory page that emphasizes basic study skill implementation strategies and the students can be asked to reflect on ways they can use such strategies in the course they are presently taking.

Provide continuous assessment and prompt feedback.
A structured environment is generally conducive to learning and particularly beneficial to at-risk students (Boylan, Bonham, Claxton, & Bliss, 1992). Assessment and feedback are central components of learning and must be offered regularly, so that students can benefit from them. Frequent assessment in the form of quizzes, assignments, and tests eliminates procrastination and forces the students to make an effort to keep up with the material. To accomplish this task, it is crucial to ensure compatibility between classroom and laboratory activities, so that both course components complement each other toward the achievement of the learning objectives (Boylan & Saxon, 1998). Laboratory activities that are connected to the class material and provide opportunities for reflection, foster understanding of concepts, and assimilation of the material.

Once assessment has been completed, the most important aspect of feedback consists of pointing out common mistakes and helping students discover the overgeneralizations that cause those errors. Teachers must analyze the mistakes of their students and search for possible causes so that they can modify the presentation of the related topics, emphasizing their correct understanding and individuating the idea that is missed, in an attempt to eliminate misinterpretations of concepts.

Support learning with conceptual models.
Diagrams, flow charts, mental pictures, similarities-differences tables, and any form of supporting model that represents the information symbolically, are powerful tools that promote deeper understanding of the concepts and trigger the ability to make connections. Conceptual models compel students to rearrange and elaborate the material in their own way, so that ideas are seen from a different perspective and connections emerge. Models engage the students' thinking skills and support

interpretation and assimilation of the concepts. Encouraging learners to build their own diagrams and conceptual models, reinforces their understanding of the material and boosts their recollection capabilities.

Teach the discipline as a whole entity.

Concepts and principles in a discipline are not understood in isolation (Perkins, 1993). We should aim at transmitting a mathematical system of thought, in which principles and concepts flow and function harmoniously. Constructing an integral view of the discipline and its specific methods assists the students in the development of a scientific mentality and helps them apply concepts and principles across the sciences. Such an approach is crucial in fostering the growth of a mathematical thinking process, and augments the ability to think independently and to solve problems.

I like to compare knowledge to a puzzle and concepts to the single pieces of the puzzle. Looking too closely at the details generates the risk of losing sight of the whole picture, and without it the details are insignificant. The whole structure of the discipline must be the constant focus, while the single concepts must integrate and connect meaningfully with it, becoming indistinguishable from the conceptual frame of the discipline.

Teach for transfer.

Research findings agree on the fact that students fail to carry over to different contexts, ideas that were presented to them in a specific context (Perkins, 1993). To combat this tendency, we must first of all be well aware of it, and, subsequently, we must train the students to make more connections with other disciplines and situations. We can, for instance, provide examples in different settings, so that the learners can transcend the artificial boundary of the topic and the circumstances of initial acquisition and expand the ideas beyond. When teaching equation solving, we can, for example, point out that inverting formulas follows exactly the same principle. We can then provide examples and applications that span geometry, chemistry, and physics, to name just a few fields of application. By doing this, we teach our learners to transfer a mathematical process to other subjects and situations, and, at the same time, we demonstrate a practical use of mathematics across other disciplines.

Application of Best Practice Strategies

The *sign rule* for multiplying integers will serve as an application example for the previous strategies (see Figure 1).

$$+ \cdot + = \, +$$
$$+ \cdot - = \, -$$
$$- \cdot + = \, -$$
$$- \cdot - = \, +$$

Figure 1

Compare and contrast the sign rule for multiplying integers with addition of even and odd numbers. Associate even with positive, and odd with negative. Notice that adding two even numbers or two odd numbers produces an even number, in the same way as multiplying two positives or two negatives gives a positive number. Similarly, adding an even with an odd number generates an odd number, in the same way as multiplying a positive with a negative produces a negative (see Figure 2).

Even + even = even →	$+ \cdot + = \, +$
Even + odd = odd →	$+ \cdot - = \, -$
Odd + even = odd →	$- \cdot + = \, -$
Odd + odd = even →	$- \cdot - = \, +$

Figure 2

Use a mix of instructional methods. A visual method approach often appeals to a majority of learners and provides a second justification of the sign rule. Build a rectangular two by three sheet of paper, leave one side white and the other dotted, and assign a sign to each face or color. Draw a system of coordinate axes and use flipping. Start placing the positive face in quadrant one. The area of the rectangle can be associated to the product of the integers $(+2) \cdot (+3) = +6$. Now flip the rectangle to quadrant two to obtain a negative (dotted) area, representing the product $(-2) \cdot (+3) = -6$. Flipping to quadrant three visualizes the positive product $(-2) \cdot (-3) = +6$, and finally quadrant four gives the visualization of $(+2) \cdot (-3) = -6$ (see Figure 3).
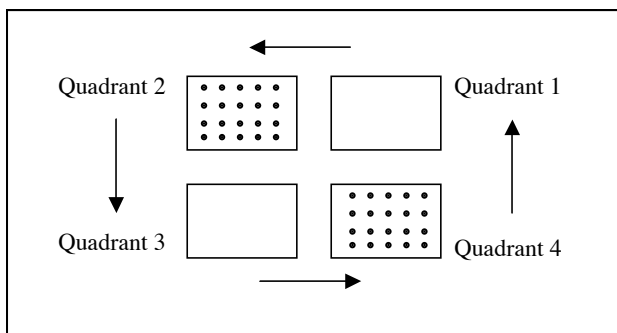
Figure 3

Provide continuous assessment and prompt feedback. Have a series of assignments and quizzes on integer operations and problem solving. Make sure you include some terminology and questions at various skill levels.

Support learning with conceptual models. Have students draw a flow chart of multiplication and division of integers, or alternatively create a summary table of their own design (see Figure 4).
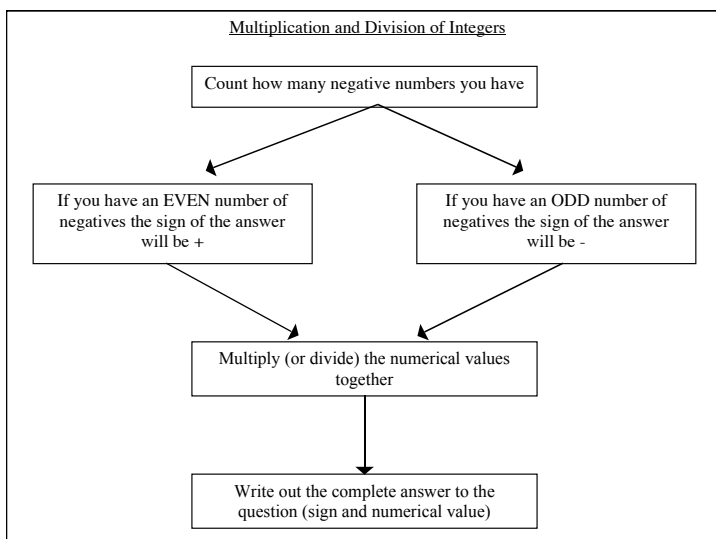
Figure 4

Teach the discipline as a whole. Emphasize that integers are introduced because whole numbers are not closed under subtraction. We want to be able to perform as many operations as possible within each number set, so we introduce a new set that is closed under subtraction. Similarly, we will introduce fractions and rational numbers, because integers are not closed under division.

Conclusion

The constant aim of teachers and developmental educators should be the development of critical thinking skills so that students are encouraged to shift from simple recollection of facts to understanding of concepts. When rote memorization is abandoned and ideas are understood, students have a chance to see the connections among the various concepts and to experience success instead of fear and frustration. Their negative attitude toward mathematics might finally leave room for more positive feelings.

References

Boylan, H., Bonham, B., Claxton, C., & Bliss, L. (1992). *The state of the art in developmental education: Report of a national study.* Paper presented at the First National Conference on Research in Developmental Education, Charlotte, NC.

Boylan, H., & Saxon, D. (1998). *An evaluation of developmental education in Texas public colleges and universities.* Austin, TX: Texas Higher Education Coordinating Board.

Casazza, M., & Silverman, S. (1996). *Learning assistance and developmental education.* San Francisco: Jossey-Bass.

Felder, R., & Brent, R. (1996). Navigating the bumpy road to student-centered instruction. *College Teaching*, *44*(2), 43-47.

Klopfleisch, K. G. (2005). *Divide and conquer: Teaching students to structure study sessions.* Presentation at the annual conference of the National Association for Developmental Education, Albuquerque, NM.

Lemire, D. (1998). Three learning style models: Research and recommendations for developmental education. *The Learning Assistance Review*, *3*(2), 26-40.

Perkins, D. (1993). Teaching for understanding. *American Educator: The Professional Journal of the American Federation of Teachers*, *17*(3), 28-35.

Weinstein, C. (1982). Learning strategies: The meta-curriculum. *Journal of Developmental Education*, *5*(2), 6-7, 10.

Weinstein, C., Dierking, D., Husman, J., Roska, L., & Powdrill, L. (1998). The impact of a course on strategic learning on the long-term retention of college students. In J. Higbee & P. Dwinnel (Eds.), *Developmental education: Preparing successful college students* (pp. 85-96). Columbia, SC: National Research Center for the First Year Experience and Students in Transition.

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The I-Search: Writing to Learn

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For a college study strategies course, we utilized Macrorie's (1988) I-Search process to facilitate students' individual exploration of the typical "study skills" issues that such a course would cover. The I-Search promotes active reflection, evaluation, and synthesis, and is an excellent tool both for aiding students in learning new information and for learning about the essence of scholarship. The result was a multi-layered learning opportunity to use the processes of scholarly research to bring new information to bear on a question or problem the students had in their own lives as learners.

Our Learning Center found itself in a difficult, yet exciting position a few years ago. We were given the opportunity to take over and redesign a study skills course that another department had originally developed and had been offering for time immemorial. The new course had to be designed in a way that would ensure rigor and quality control and reflect current learning theory. This is the story of our own developmental process that has led to a unique approach to study skills. This approach has changed everything about our relationship with students in the course and the relationship between students and the course content.

The course was built on a foundation of good intentions. It had four key aims, and admirable aims they were. We wanted students to explore how they knew themselves, how they communicated with others, how they used the resources available to them, and how they could be active learners. To that end, we tried to help students understand common theories of learning, such as Multiple Intelligences, Bloom's Taxonomy, and the ideas of internal and external locus of control. We created activities that walked students through critical reading strategies and we had them apply note-taking techniques. However, it was, despite our best intentions, really just a lecture class in which we dispensed advice about the "right" way of living a scholarly life.

At the end of the course, we spent several weeks working on writing skills. We talked about writing to learn and used Macrorie's (1988) I-Search process. Since it was an election year, we had the students use the

I-Search process to consider and come to understand a political issue. Their papers provided a glimmer of light in an otherwise fairly dull semester.

Since research is the basis of what we do in the academy, it is essential for students to understand that research is about neither regurgitation nor creative cut and paste. Constructing a research paper is supposed to involve critical reading and thinking skills. A research paper is supposed to be an entry into the larger conversation on the topic at hand. A research paper is an opportunity for students to write to learn. The I-Search process properly emphasizes the writing to learn aspect of the scholarly activity of research writing.

The I-Search process is based on the notion that individuals need to do research from a personal perspective for it to be a meaningful enterprise. Macrorie (1988) urges students to choose questions that they truly want to know the answer to and, as they search for information, to continually take stock of how the information they find relates to the question they have posed. This is the stuff of true scholarship. This is writing to learn.

It is no surprise that I found the I-Search process to be the point when the semester made the most sense to me and to the students.

Functioning essentially as a research journal, the I-Search reinforced all the theories we had set out to teach with the course. I-Searching begins by asking students to connect their personal experience to information to be learned. First, students examine, in writing, what they already know about the topic, an exercise which leads them to ask "what else do I want to know about this?" This "activating prior knowledge" is recognized as a means of effecting meaningful learning (Mayer, 2001). Students then write a question or a list of questions that are genuine areas of curiosity for them so that they feel compelled to engage in a meaningful search to answer the question. The third part of the paper is the research itself. To find appropriate sources on the search, the writer judges all sources on the basis of criteria such as credibility, accuracy, reasonableness, documentation, and currency. These are vital information literacy skills that all students need in college (Harris, 1997). After finding appropriate sources, the writer reads the articles or websites thoroughly and critically, creating a summary of the author's key ideas and then commenting on how the source helps one see "the big picture." This critical reflection directly connects their reading to their writing. The final entry in the I-Search is a summary of what the writer has learned from going through the process. When they've completed this process, the students haven't

written a research paper, but they have created a record of the thinking that undergirds good research.

Rather than continuing with the less personal political topics that the students had examined in the first semester, we had the students in the second semester use the I-Search process to learn about their majors. They examined a wide range of things, such as what jobs their majors really prepared them for, what internships were available, what specialties existed within their major, and what graduate schools would require. Although the I-Search was an effective process for the students who took our course the first semester, it was even more significant the second semester when the students used it to examine their majors.

After teaching the study skills course for a year as it had been designed, I was given the freedom to change it as I saw fit. I decided that the I-Search was the perfect vehicle for shifting the focus of the course to where it needed to be: onto the students' own learning lives. Because it modeled what I really needed students to understand, I saw that centering on the I-Search could make the course truly student-centered.

I decided to use the I-Search process repeatedly throughout the semester to examine a range of issues related to learning. A turning point occurred when I began using the I-Search as a process for facilitating students' engagement with the study skills and learning theory information about which we'd previously lectured to them. The I-Search was instrumental in helping students see how the course information applied to their learning lives. In my syllabus, I retained the last I-Search paper about their majors, and I added two more I-Searches. The first two I-Search papers used sources such as learning center websites and study skills texts to allow students to choose a learning-related issue that they want to explore (see Appendix). The topic "Who am I as a learner?" led students to ask questions about themselves, their habits, their strengths and weaknesses—questions that they approached using a wide range of informational resources.

Students astounded me, and themselves, with the depth of the questions they had about themselves as learners. A fair number gravitated toward learning about typical topics such as time management and study strategies. Others dealt with the psychological aspects of their own procrastination. Several young men explored the social reasons they avoided learning and "looking smart." Some students researched learning disabilities with which they had been diagnosed, and a few researched strategies for managing Attention Deficit Hyperactivity Disorder.

On a practical note, the reason there were two I-Searches about "self as learner" was that some students had big questions to wrestle with, and some had smaller ones. I allowed them to do two short I-Searches with four sources each or one long I-Search that drew on eight sources. Again, this built-in flexibility emphasized to students that the assignment was about them and for them.

With the I-Search as its centerpiece, the study skills course provided an experience in which students used the tools of scholarship to answer questions about their own lives. Surely, being educated is about being able to apply knowledge in new situations one faces; it is about acting on what one knows. The learning that takes place through the I-Search is multi-layered. Among other things, by doing the I-Search, students learn about the process and the nature of research, they learn study skills, and they learn what it is to actively engage with reading.

The key to the effectiveness of the I-Search lies in its step-by-step application of imperative cognitive and metacognitive skills. Paris and Winograd (1999) described the ideal of "Self-regulated learning" as having three major components: (a) Awareness of thinking, (b) Use of strategies, (c) Sustained motivation. Through its carefully designed steps, the I-Search aids students in building on some semblance of each of these characteristics. First, a main goal of the I-Search is for students to become aware of their thinking about the resources they find. The I-Search itself is a collection of strategies—activation of prior knowledge, reading with a purpose, reading critically, reflecting—that students learn to apply to each new piece of information they encounter, and this application has noticeable effects on their comprehension of the material. The use of the strategies that are built into the I-Search provide the necessary proof to the students that the strategies are effective. The value of active reflection is demonstrated to the students by the work they do for themselves. Using the process to help students think about learning strategies compounds its metacognitive benefits: the articles, books and websites they read for their papers have an immediate impact on their lives as they read about a strategy, try it out, and reflectively evaluate its effectiveness.

In addition, the I-Search process creates an authentic environment in which the activities of effective scholarship are integrated with a learning task. Through the student-centered and student-empowering process of the I-Search, we were able to model how the mindfulness of acting and then reflecting on those actions makes the learning experience more meaningful and useful.

References

Harris, R. (1997). *Evaluating Internet research sources.* Virtual Salt home page. Retrieved September 12, 2003, from the World Wide Web: http://www.virtualsalt.com/evalu8it.htm

Macrorie, K. (1988). *The I-Search Paper.* Portsmouth, NH: Boynton/Cook.

Mayer, R. (2001). What good is educational psychology? The case of cognition and instruction. *Educational Psychologist, 36*(2), 83-88.

Paris, S. G., & Winograd, P. (1999). The role of self-regulated learning in contextual teaching: Principles and practices for teacher preparation. *Contextual teaching and learning: Preparing teachers to enhance student success in the workplace and beyond* (Information Series No. 376). Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education; Washington, DC: ERIC Clearinghouse on Teaching and Teacher Education.

Appendix
I-Search Paper Assignment #1

For this essay, you will examine yourself as a learner, and you will discover resources to help you to expand your cache of strategies for learning and understanding. Your sources will be varied: some will be assigned; you will choose others on your own from among credible sources.

Part One: Consider your history as a student and as a learner (these may not be the same things to you). Write at least two pages in which you consider and carefully reflect upon how you see yourself as a learner.

Some questions to help you get started:
  »What's the best learning experience you've had? What made it the best?
  »What's the worst learning experience you've had? What made it the worst?
  »What's studying like for you?
  »What's your biggest strength in school? Why?
  »What's your biggest fear about school? Why?

Part Two: For the second part of this paper, you will create a list of questions you have about learning now that you have thought about your role as a learner. You might want to focus on searching for strategies that will help you with a particular issue, such as time management, organization, attention, memory, stress reduction, test preparation, test anxiety, or motivation. Your search may be more general, too. You might want to find out about a number of varied student success strategies. How you approach this is up to you.

Part Three: You will keep a running log as you search for, find, and evaluate sources. Most importantly, you should focus on how your understanding

of your topic evolved. You must consult at least four sources. To begin, your first and second sources are the Multiple Intelligence survey (yellow packet)and the Jung personality survey (pink packet) you took in class. You will choose at least two additional sources to work with.

As you search for information you should be trying to find ideas that you can apply to your own life. You will have to find more information than you will actually use for this part of the paper.

For each source you find, you must:

1. Summarize its content.
2. If it is a strategy, try it out. Most strategies require a few days' worth of use if you are honestly trying to determine their worth.
3. Reflect on the results of your "experiment," or on how you perceive the new idea.
4. Consider how this changes your understanding of "the big picture."

Part Four: After having tried a number of strategies and having considered some new ideas, you will evaluate where you stand. Who are you as a learner now? What are the new questions you have about this issue?

Part Five: Works Cited page in MLA format.

Note: You may choose to do either one I-Search about your learning with eight sources or two I-Searches with four sources each. If you choose to do two, you will explore two topics.

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Teaching for Transfer: Classroom Instructional Implications

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A review of the literature reveals that obstacles to the successful transfer of basic skills, knowledge, and thinking skills during classroom instructional time differ depending on which of three components of expertise is entailed: conceptual understanding, domain-specific basic skills, or domain-specific strategies. This article, accordingly, focuses on conceptual understanding and transfer, conceptual knowledge and problems of activation, lateral and vertical transfer of automated basic skills, rational task analysis, and strategy transfer. Curriculum and instructional implications are also discussed.

Although the transfer of basic skills, knowledge, and thinking skills is integral to our educational aspirations and expectations, many students believe that little of what they learned in school benefited them later in life. Not surprisingly, transfer of learning persists as one of the most vexing problems in the classroom (Borich & Tombari, 1997). Cognitive and educational psychologists, however, have made notable progress in understanding and surmounting problems of transfer. The picture currently emerging suggests that impediments to transfer differ depending on which of three components of expertise is entailed: (1) conceptual understanding, (2) domain-specific basic skills, or (3) domain-specific strategies (Gagne, Yekovich, & Yekovich, 1993). Since the factors that influence transfer differ to some extent for these three components of expertise, each of these areas will be discussed separately.

Conceptual Understanding

The probability of successful transfer is contingent upon the quality of one's conceptual understanding of a problem (Chmielewski & Dansereau, 1998). Researchers have repeatedly demonstrated this principle in a variety of domains, including generating and interpreting computer programs (Mayer, 1975), solving science problems (Bromage & Mayer, 1981), troubleshooting problems associated with mechanical or electrical systems (Tenney & Kurland, 1988), and writing (Case & McKeough, 1990).

The Paradoxical Nature of Activating Conceptual Knowledge

Merely possessing conceptual knowledge appropriate for a given problem-solving domain does not guarantee that such knowledge will be activated when useful for solving a novel problem (Perfetto, Bransford, & Franks, 1983). This paradox is perplexing and is far from being completely understood. Nonetheless, progress is being made by focusing on three areas of research: (a) production of a problem-solving context, (b) anchored instruction, and (c) cognitive apprenticeship.

Production of a problem-solving context. Some researchers (Bransford, Vye, Knizer, & Risko, 1990) believe that if students are to successfully activate conceptual knowledge in a problem-solving context, then they should learn this knowledge originally in a problem-solving context to facilitate recall.

Anchored instruction. Bransford and his colleagues (Bransford et al, 1990) have also focused on anchored instruction: a pedagogic approach that provides students with opportunities to gain pertinent knowledge in the context of trying to solve complex, authentic problems. Although this approach is promising, the degree or extent of transfer achieved is not known.

Cognitive apprenticeship. Cognitive apprenticeship, like anchored instruction, places learners in a problem-solving context: The learner is treated like a novice who will be apprenticed to an expert (Borich & Tombari, 1997). Although this approach has well-documented effects on transfer of strategies, its impact on improving activation of conceptual knowledge is less well-documented (Gagné, Yekovich, & Yekovich, 1993).

Domain-specific Basic Skills

Some of the relevant knowledge students identify for successfully solving a novel problem is frequently in the form of automated basic skills that are represented in procedural form. Fortunately, these automated basic skills will not need to be re-learned for the novel problem, allowing for great savings in time, since proceduralization—a time-consuming process—is obviated for some of the skills inherent in the new solutions.

Lateral and Vertical Transfer

Gagné's (1970) research distinguishes between two forms of transfer: lateral and vertical. According to Gagné, lateral transfer refers to the application of some known knowledge in a new context but at a level of complexity comparable to the old context. Singley and Anderson's

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(1989) skill-overlap hypothesis echoes the same thing: the degree of lateral transfer between skills is directly related to the degree of overlap of the skills. For instance, using the skills associated with driving a car to learn how to drive a truck is an example of lateral transfer. Vertical transfer, on the other hand, involves the use of known knowledge to acquire more complex knowledge that embodies the known knowledge (Gagné, Yekovich, & Yekovich, 1993). In this type of transfer, lower-level skills often facilitate the acquisition of higher-level skills by contributing to and functioning as prerequisites for them. Rational task analysis embodies and reflects far transfer, too: a task is logically decomposed into simpler and simpler elements. Activities lower in this hierarchical set-up are more simple than activities higher in the hierarchy. Moreover, these simpler activities are incorporated in the more complex activities to which they point. Initially learning the principles of wind flow that are essential when designing a windmill and then applying these principles to direct a sailboat's sails is an example of far transfer.

Domain-specific Strategies

While the degree of skill overlap between the new skill and the known skill is significant for the lateral and vertical transfer of basic skills, in strategy learning, the strategy user's conscious evaluation of a strategy's effectiveness is one of the preeminent factors affecting transfer (Brown, Campione, & Barclay, 1979).

Other Factors Impacting Strategy Transfer

According to Pressley, Borkowski, and Schneider (1987), four other factors, in addition to learner self-evaluation, critically impact strategy transfer:

Knowledge of when and how to apply a strategy. One factor involves the degree of knowledge a student has regarding why, how, and when a strategy works (O'Sulllivan & Pressley, 1984; Pressley, Borkowski, & Schneider, 1987). This metacognitive knowledge forms the conceptual basis for strategy transfer.

Imputing success to effort and employment of strategies. A student's belief that his/her efforts are instrumental in achieving success is a second factor. More specifically, those who persevere are more likely to employ a variety of strategies in order to determine which one(s) work (Clifford, 1984).

Ability to screen out distracting thoughts. The ability to screen out distracting thoughts is a third factor. Students who can screen out such

distractions have more cognitive capacity available to analyze what is required for the new task (Kuhl, 1985).

Degree of relevant declarative knowledge. A fourth factor entails the quality and quantity of schemata available when performing a task. Such knowledge is instrumental because many strategies require it for their successful implementation. More specifically, activating prior knowledge enables the reader to generate elaborated memory structures to accommodate the new information being employed. As a strategy, however, knowledge activation cannot be transferred to situations in which the reader lacks requisite knowledge (Walker, 1987).

Instructional Implications

Since transferring knowledge to novel problem situations may be contingent upon an individual's conceptual understanding, it makes sense to ensure that one's curriculum pays adequate attention to the conceptual basis of a problem area. Unfortunately, doing this is more difficult than it appears because the effective conceptual basis of numerous problem areas is not known. Consequently, the wrong conceptual information is taught (Means & Gott, 1988).

The performance of cognitive analyses of expertise, employing the expert-novice paradigm, is the most valid and reliable method to obtain information about the conceptual understanding essential for transfer in a problem domain. This approach, however, is very expensive; so many instructional designers informally interview subject matter experts. Relevant conceptual knowledge is identified through think-aloud protocols, derived from experts thinking aloud while solving some novel problems.

Ironically, according to Gagné, Yekovich, and Yekovich (1993), the problem of knowledge activation will still exist, even with a successful solution to the practical problem of expensive elicitation techniques. They suggest that more basic research is required in this area. For example, how do people who activate relevant knowledge differ from those who fail to do so? Are problems represented differently by them? Are they more persevering? In addition, to what extent are the promising instructional strategies of cognitive apprenticeship and anchored instruction effective for transfer?

The validity of skill hierarchies and prerequisite skills is rejected by many teachers because some curriculum materials are rigid and boring for both student and teacher. However, none of this invalidates the overwhelming evidence demonstrating the necessity of prerequisites in

various skill domains. Accordingly, teachers should feel free to reject or modify curriculum materials that do not benefit students; however, it would be unwise for them to reject the notion of prerequisite skill relationships (Singley & Anderson, 1989).

Strategy transfer is typically enhanced if the new task is analogous to a task for which the student has previously learned to apply the strategy. In addition, the new task must be represented in a manner that stimulates thoughts relative to appropriate strategies. How this new task is represented seems to be influenced by at least four factors: (1) students' ability to evaluate the utility of the target strategy, (2) students' knowledge regarding why, how, and when a strategy works, (3) students' belief that their efforts are instrumental in achieving success, and (4) students' ability to screen out distracting thought—providing more cognitive capacity available to analyze what is required for the new task.

Ostensibly, the transfer of skills and knowledge remains a matter of great interest to educators. It is an issue that has spawned substantial controversy among psychologists. Recent progress on this topic, however, has begun to provide us with a better grasp of it. Nonetheless, there is still a great deal to be learned.

References

Borich, G. D. & Tombari, M. L. (1997). *Educational psychology: A contemporary approach.* (2nd ed.) New York: Longman.

Bransford, J. D., Vye, N., Kinzer, C., & Risko, V. (1990). Teaching thinking and content knowledge: Toward an integrated approach. In B. F.Jones, & L. Idol (Eds.), *Dimensions of thinking and cognitive instruction* (pp. 381-413). Hillsdale,NJ: Lawrence Erlbaum Associates.

Bromage, B. K., & Mayer, R. E. (1981). Relationship between what is remembered and creative problem-solving performance in science learning. *Journal of Educational psychology*, *73*, 451-461.

Brown, A. L., Campione, J. C., & Barclay, C. R. (1979). Training self-checking routines for estimating test readiness: Generalizations from list learning to prose recall. *Child Development*, *50*, 501-512.

Case, R., & McKeough, A. (1990). Schooling and the development of central conceptual structrures: An example from the domain of children's narrative. *Internalization Journal of Educational Research*, *13*, 835-856.

Chmielewski, T. L. & Dansereau, D. F. (1998). Enhancing the recall of text: Knowledge mapping training promotes implicit transfer. *Journal of Educational Psychology*, *90* (3), 407-413.

Clifford, M. M. (1984). Thoughts on a theory of constructive failure. *Educational Psychologist*, 19, 108-120.

Gagné, R. M. (1970). *The conditions of learning* (2nd ed.). New York, NY: Holt, Rinehart, and Winston.

Gagné, E. D., Yekovich, C. W., and Yekovich, F. R. (1993). *The Cognitive Psychology of School Learning.* (2nd ed.). New York: Harper Collins College Publishers.

Kuhl, J. (1985). Volitional mediators of cognition-behavior consistency: self-regulatory processes and action control versus state orientation. In J. Kuhl & J. Beckmann (Eds.), *Action Control: From Cognition to Behavior* (pp. 101-128).

Means, B., & Gott, S. P. (1988). Cognitive task analysis as a basis for tutor development: Articulating abstract knowledge representations. In J. Psotka, D. Massey, & S. A. Mutter (Eds.), *Intelligent tutoring systems: Lessons learned.* (pp. 59-83). Hillsdale, NJ:Lawrence Erlbaum Associates.

Means, B., & Roth, C. (1988). *Some outcomes of a cognitive analysis of trouble-shooting.* Paper presented at the meeting of the American Psychological Association, Atlanta, GA.

O'Sullivan, J. T., & Pressley, M. (1984). Completeness of instruction and strategy transfer. *Journal of Experimental Child Psychology*, *38*, 275-288.

Perfetto, G. A., Bransford, J. D., & Franks, J. J. (1983). Constraints on access in a problem solving context. *Memory & Cognition*, *11*, 24-31.

Pressley, M., Borkowski, J. G., & Schneider, W. (1987). Cognitive strategies: Good strategy users coordinate metacognition and knowledge. In R. Vasta, & G. Whitehurst (Eds.), *Annals of Child Development,* Vol. 4, (pp. 80-129). Greenwich, CT: JAI Press.

Singley, M. K., & Anderson, J. R. (1989). *The transfer of cognitive skill.* Cambridge, MA:Harvard University Press.

Tenney, Y. L., & Kurland, L. C. (1988). The development of troubleshooting expertise in radar mechanics. In J. Psotka, L.D . Massey, & S. A. Mutter (Eds.), *Intelligent tutoring systems: Lessons learned*. (pp. 59-83). Hillsdale, NJ: Lawrence Erlbaum Associates.

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Student Services Support of Developmental Education

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The process of transitioning from secondary to postsecondary education can be very complex and challenging. Many freshmen students are coming to college underprepared and in need of developmental education. The role of student services is to assist these students and their families with this important transition to postsecondary education by offering specialized services such as new student orientation programs and welcome week activities, and establishing First Year Offices. This article also explains the role of the Center for Access and Transition which was established by the University of Cincinnati to provide services to students who do not meet the criteria for direct admission to the baccalaureate program.

Many freshmen students are coming to college underprepared and in need of remedial course work. In fall 2000, over three-fourths of institutions that enrolled freshmen offered at least one remedial reading, writing, or mathematics course. Public two-year colleges enrolled a higher proportion of entering freshmen in remedial courses (42%) than did other types of institutions such as private four-year (12%) and public four-year (20%). Public four year institutions were more likely than private four-year institutions to offer one or more remedial reading, writing, or mathematics courses (80 vs. 59 percent) (Pasdad & Lewis, 2003).

At that time, 60% of the institutions offering remedial coursework indicated that the average time a student spent in remediation was less than one year, 35% indicated the average time was one year, and five percent reported an average time of more than one year. In response to this need for remedial coursework, many American colleges and universities are developing specialized programs to assist these at-risk students with the transition from high school to college.

The Role of Student Services

The process of transitioning from secondary to postsecondary education can be complex and challenging. The role of student services is to assist students and their families with this important transition. Numerous

American colleges and universities offer a variety of first year programs such as new student orientation, academic advising, and an early alert system to support student success. The University of Cincinnati (UC) states, "the mission of Student Affairs and Services is to enroll students with diverse backgrounds and abilities and to assist them to reach their full potential. The Division works in partnership with faculty, staff, and the surrounding community to enhance student learning inside and outside the classroom" (University of Cincinnati, 2005, p. 1). Major responsibilities include:

» Identify and respond to the educational, developmental, and career needs of students;
» Provide students with experience to enhance their attitudes and skills that lead to success in and outside the classroom;
» Encourage self-awareness and individual exploration and personal responsibility;
» Promote diversity, civility, and civic involvement;
» Promote purposeful and healthy interpersonal relationships; and
» Promote values that enhance character development.

Student Connections

Research shows that it is essential for new students to make an early connection to their new educational home. This is especially true for students who enter college needing remediation. It is of great importance to ensure that these students are connected to the institution and establish an academic and social support system. This valuable connection provides many benefits for the student and the university. "Research examining college student attrition advises that the first year student's most critical transition period occurs during the first semester, therefore programs and services designed to combat student attrition should be front-loaded" (Singer, 2003, p. 53).

One of the most common ways to achieve this goal of an early connection is through new student orientation programs. There are many common experiences among freshmen students, such as confusion regarding university policies and procedures, financial concerns and the need to find a good balance between their academic and social activities. Orientation plays a crucial role in helping students learn about their new environment by providing an introduction to academics, services, and activities. At orientation sessions remedial students often receive special assistance from advisors and counselors who help them plan their schedules and realistically appraise their chances of success based on

standardized and/or placement test scores. Remedial students benefit greatly from an introduction to the specialized offices and services that are in place to provide academic support.

At UC, attendance at the Bearcat Bound Orientation is required for all new freshmen students in order to register for classes. The comprehensive two-day program includes placement testing, information sessions about policies, procedures, and graduation requirements, small group discussions about college life facilitated by upper-class student leaders, and community building activities. The program concludes with academic advising and course registration. The separate, but concurrent Parent and Family Orientation covers information on financing the student's education, how to stay actively involved in the student's learning process and Parent Association requirements.

Along with orientation sessions, many institutions conduct welcome week activities. Tinto's (1993) model of student persistence emphasizes the importance of academic and social integration within the university community. He argues that students who are more involved and connected to their classes, fellow students, and campus are more likely to persist. Studies have shown that students form critical impressions about the institution they will attend during the first week of school.

At Ohio State University, Welcome Week takes place the first week of classes during the fall semester. The week is full of activities such as rallies, pizza parties, movie nights and dances designed to welcome new students to the university in a festive atmosphere. Each day a wide range of student services offices, academic departments and student organizations host various fun and informative activities to introduce their services to new students. Also during this week sororities and fraternities hold "Rush" or membership intake programs. These types of programs provide additional support to remedial students and offer a way for these students to become connected, build a community, and access student services that are in place to provide the support necessary for college success.

At Northern Kentucky University with 14,000 students and 2,000 freshmen, the Office of New Student Orientation sponsors a welcome carnival for freshmen held during the second week of fall classes called Freshfusion. Freshfusion includes greetings by the University President and the student body president, and gives students an opportunity to show their class and school spirit in a pep rally type atmosphere. It also includes an outdoor cookout and fun activities sponsored by various

Student Affairs offices and student organizations. This program is designed to build class unity, allow students to meet one another, and gather valuable information in a festive atmosphere.

In addition to student orientation and welcome week activities, many American colleges and universities have also established First Year offices to work with students throughout their first year of college. These offices provide programming to engage and challenge freshmen with the goal of increasing freshman retention rates. They take a special interest in remedial students and work closely with developmental education faculty to provide specialized programs and courses to meet their developmental needs.

UC Center for Access and Transition

UC is perhaps unique in its emphasis on scholarship and research, while maintaining a deep commitment to accessible education. All UC baccalaureate colleges maintain a selective admission standard. The minimum admission requirement in 2004 was a high school degree or general education diploma (GED). The UC Center for Access and Transition is an open-admission academic unit designed to provide academic instruction and advising for undergraduate students—with the potential of academic success— who do not meet the criteria for direct admission to a UC baccalaureate program. The students do not meet entrance requirements for a variety of reasons, perhaps a low placement test score or the need to enhance skills in a subject area. In fall 2004, 643 students came to the UC but did not enter any of the "traditional" colleges. These students were admitted into the Center for Access and Transition. This year 754 students enrolled in the Center (see Table 1).

TABLE 1		
Comparison between students entering Center in fall 2004 and 2005		
	Entered fall 2004 N = 643	Entering fall 2005 N = 754
Average GPA:	2.31	2.27
Average ACT:	17.35	16.47
Average SAT:	870	833.55
Percent entering from Cincinnati Public Schools	13.3%	18.8%
Percent Ethnicity		
Caucasian	57.4%	46.6%
African American	34.3%	44.5%

The Center's faculty provide specialized instruction in math, writing, reading, oral communication and study skills supplemented by tutoring. Academic advisors provide intensive advising to focus the student on the academic skills needed to reach his or her goal. The aim is to have students fulfill requirements and develop their skills within one year, and then transition to a UC baccalaureate college. Examples of student services at the Center include:

Academic advising.
Academic advising is a key component in student success. Each student in the Center works with an advisor to complete a personalized learning agreement. This agreement is designed to help the student meet the requirements for his or her desired program. It may include required coursework, attendance at specific learning assistance workshops, or use of appropriate campus resources. It outlines the responsibilities of the student, including a required number of meetings with his or her academic advisor and the required completion of course progress reports during conferences with the student's instructors.

Counseling and information on college financial aid.
One third of the students in the Center qualify for the highest level of financial need. The Center has partnered with the Southwest Ohio Educational Opportunity Center (SOEOC) to provide counseling and information on college admissions and financial aid to qualified adults interested in entering postsecondary education. The SOEOC especially urges low-income adults whose parents have not received a college degree to apply for their free services. The SOEOC is funded by the U.S. Department of Education. In addition, special services are provided for students with high financial need who attend UC from Cincinnati Public Schools (CPS). The UC Pride Grant in combination with federal, state, and institutional aid equals the full cost of tuition and a book allowance for those graduates of CPS who might not otherwise be able to afford a college education. The Cincinnati Pride Grant coordinator has been given a satellite office in the Center for Access and Transition to enhance the progress of 80 students.

Promoting a love of reading through partnerships.
The Center, in collaboration with others, hosts a class day visit by an African-American author. The Center also partners with numerous UC units to co-sponsor a reading and book signing by a Hispanic author as part of Hispanic Heritage Month.

Increasing the retention and graduation rates for African-American students.

The African American Cultural and Research Center (AACRC) partnered with the Center to assist over 30 Center students enrolled in the AACRC Transition Program. Transitions, established in Autumn 2000, is a first year experience program that utilizes a Rites of Passage curriculum to foster a higher retention and graduation rate for Black Students at UC. The program assists students with their adjustment to college by providing workshops, mentors, and other activities so that participants are successful. This program connects Transitions' students with faculty, staff, upper class students and other members of the University family.

Assisting students with disabilities.

The Disability Services Office staff partners with the Center to empower students with disabilities through the delivery of reasonable accommodations and support services while educating the UC community to see beyond disabilities to the richness of inclusion. Qualified students receive reasonable accommodations and advocacy assistance on disability-related issues.

Conclusion

These programs have proven to be successful. They increase retention rates of first year students and develop students who are connected to the university, engaged in social and co-curricular activities, academically challenged, and ultimately more satisfied with their college experience. As shown in Table 2, during the fall 2005 semester, 32% of the students enrolled in the Center transitioned to the Baccalaureate colleges as opposed to only 10% of the students prior to the creation of the Center.

Table 2		
Status of students enrolled in the Center 2004-2005		
	Number of students	Percent of total
Total Transitioned & Enrolled	240	32%
Total Transitioned & Not Enrolled	51	7%
Total Withdrawn	154	20%
Total Academic Dismissals	116	15%
Still in CAT 05/06 & Enrolled	173	22%
Still in CAT 05/06 & Not Enrolled	18	4%
Transferred to other UC colleges	19	2%
Total	772	100%

The Center also serves as a resource for UC baccalaureate college students to enhance their academic skills. In 2004-05, over 1000 students in a UC baccalaureate college tested on the UC placement test to take one or more remedial courses from the Center. Thirty-eight percent (1,936) of the remedial course work seats in the Center were used by students from a UC baccalaureate college. These students also report tremendous success in progressing toward their undergraduate degree goals.

Overall, the Center has been successful in helping first year students before they are admitted to the baccalaureate programs and in helping students who are enrolled in UC who need to enhance their academic skills.

References

Parsad, B., & Lewis, L. (2003). *Remedial education at degree-granting postsecondary institutions in fall 2000* (NCES 2004-010). U.S. Department of Education: National Center for Education Statistics.

Singer, W. (2003). The role of the campus visit and summer orientation program in the modification of student expectations about college. *The Journal of College Orientation and Transition*, *10* (2), 52-59.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: The University of Chicago Press.

University of Cincinnati. (2005, March). *The Division of Student Affairs and Services*. Retrieved July 8, 2005, from http://www.uc.edu/sas/index.html

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Strategies in Teaching Paired Reading with Content Courses

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Students derive more benefits from attending developmental reading courses that are an integral part of the academic curricula (Maxwell, 1997). Colleges that pair their developmental reading courses with content courses achieve the objective of integrating the developmental courses into the academic curricula. This article describes the model and strategies Kean University implemented in order to pair its developmental reading and academic courses.

College students frequently exhibit negative attitudes toward attending developmental reading courses for a number of reasons. Some students believe that they actually read well, and argue that the results of their placement tests are inaccurate. Others resent paying tuition and completing assignments for non-credit courses. Some acknowledge that their reading skills need improvement, but they either dislike reading or feel stigmatized by having to attend remedial-type courses. Often students do not realize that mastery of the skills taught in developmental reading classes is vital for success in their academic courses, and they look upon developmental reading as a waste of time.

Research suggests that students derive more benefits from attending developmental reading courses that are paired with academic courses. In several studies and articles, the paired model was associated with higher academic achievement and more positive attitudes towards reading and attending developmental classes. Bullock, Madden and Harter (1987) reported that students enrolled in a paired developmental reading course with psychology performed significantly better on the Degrees of Reading Power test than their non-paired counterparts. After comparing the achievement of students enrolled in paired reading and writing courses with students enrolled in unpaired reading and writing courses, McKusick, Holmberg, Marello and Little (1997) concluded that the students enrolled in the paired courses demonstrated more dramatic growth in reading on a standard test than students enrolled in separate reading and writing courses. In a study examining the achievement of students enrolled in ethics and values courses paired with reading courses, Byrd

and Carter (1997) found that the students enrolled in the paired courses scored higher on exams than students enrolled in non-paired sections.

A number of studies compared the attitudes and retention rates of developmental reading students enrolled in paired courses with the attitudes and retention rates of developmental reading students enrolled in the stand-alone reading courses. Rey and Karstadt (2004) found that students enrolled in paired reading courses expressed more positive reactions about being placed in developmental reading classes and reported more satisfaction with their coursework. The students in the paired courses also placed greater importance on the value of reading in college. Simon (2000) reported that a College and Reading Skill course has been paired with American History, Psychology, Financial Accounting and Macro Economics. Students in these paired courses earned higher grades and had higher rates of course completion than students enrolled in these courses in the non-paired setting.

Implementing a Paired Reading Program

To improve its developmental reading program, Kean University adopted the paired-course model for its Introduction to Academic Reading course. Initially, two sections of this reading course were paired with Health over a period of one year.

Currently, each section of Introduction to Academic Reading is paired with one of the following courses: psychology, sociology, philosophy, theater, anthropology, women's issues, or economics.

Communication with Paired Course Faculty

For developmental reading instruction to succeed, Simpson (1997) warned that instructors involved in academic assistance must be familiar with the academic demands their students face in their content courses. In the paired courses at Kean University, the researchers found it essential that the developmental reading instructors and the academic content professors communicate with each other. Throughout the semester, the paired instructors communicated by email, telephone, personal meetings, and the exchange of notes and letters. At the beginning of the semester a developmental reading instructor sent the following note to the course content professor:

> *I teach CS 0412-Introduction to Academic Reading that is paired with Introduction to Psychology. I plan to use the psychology book and related materials for applications of the reading skills and strategies that I teach in CS 0412. I also plan to include reading activities*

that could help students complete assignments in psychology. I look forward to hearing or meeting with you if you have any questions.

Using the Course Content Syllabus

At the beginning of each semester, each developmental reading instructor receives a syllabus from the academic content professor with whom the course is paired. The developmental reading instructor reviews the syllabus in order to become familiar with the academic course content and determine appropriate reading skills to support it. In the following example, a developmental reading instructor prepares students for an assignment contained in a health syllabus.

The reading instructor discusses with the students the reading skills and tasks needed to complete the assignment. The underlined words show the actions that the students must take. For this assignment, students could apply reading strategies and skills such as identifying the main idea and supporting details, outlining, summarizing, describing details, stating opinions, and supporting a belief.

> *You are to <u>choose</u> three articles for each health care topic. You should <u>read</u> and <u>summarize</u> each article in a brief one page narrative report. You should <u>describe</u> how you feel about the topic and the relevance to modern health care (Nixon, 2004).*

Teaching Strategies

In the paired course model, students acquire reading and study skills in the reading course. Then they directly apply these skills in their content course textbooks. The examples that follow illustrate how students apply these skills in course content textbooks.

In the following vocabulary lesson, the developmental reading instructor demonstrates strategies to help students understand and remember vocabulary words in a health textbook. The students are instructed to examine prefixes, roots and suffixes.

In the example below, the word, psychoactive is composed of "psycho" and "active." Students' concepts of psycho-mind and active will help them remember the effects of psychoactive drugs. Many students may already be familiar with "prescription," medicine obtained from a doctor.

> *Psychoactive drugs - Drugs that have the potential to alter mood or behavior.*
> *Prescription drugs - Medications that can be obtained only with the written prescription of the physician (Donatelle, 2005).*

The next example demonstrates how transition words are used in

economics. The words *although* and *whereas* help students understand that two types of insurance are being differentiated.

> *Although the basic purpose of the two kinds of insurance is the same, they differ in most other characteristics. Social insurance is compulsory, whereas private insurance is voluntary. If you are a covered worker, you must pay social security taxes and participate in the program; no one requires that you purchase a private insurance policy (Brux & Cowen, 2002).*

In this lesson, the reading instructor demonstrates strategies for identifying the main idea and supporting details. The skill is then applied in a reading selection on emerging values taken from a sociology textbook. Although this example does not show all the values, students who have acquired these reading skills will be able to predict that there are five core values emerging in the United States.

> *A value cluster of four interrelated core values—leisure, self-fulfillment, physical fitness and youthfulness is emerging in the United States. A fifth core value—concern for the environment—is also encouraging*
>
> 1. *Leisure. The emergence of leisure as a value is reflected in a huge recreation industry—from computer games, boats, and motor homes to sports arenas, vacation homes, and travel and vacation services.*
> 2. *Self-fulfillment. This value is reflected in the "human potential" movement, which involves becoming "all one can be," and in books and talk shows that focus on self-help," "relating" and personal development* (Henslin, 2005).

Conclusion

Kean University paired its developmental reading courses with academic content courses in order to give its developmental reading students the opportunity to apply the skills and strategies they learned in their reading class directly to their academic coursework. The developmental reading instructors and the academic professors collaborated and shared information about course content, teaching strategies and their students' progress. The developmental reading instructors used the syllabi and textbooks from the paired content courses to help them determine which topics and reading skills and strategies to teach their students.

The article describes how the paired reading model was implemented. It includes examples of strategies used to help students apply reading skills to academic readings in order to help them understand their textbooks, complete class assignments and projects, and respond to discussion questions.

References

Brux, J., & Cowen, J. (2002). *Economic issues and policy.* Ohio: South Western Publishing.

Bullock, T., Madden, K., & Harter, J. (1987). Paired developmental reading and psychology courses. *Research in Teaching Developmental Education*, *7*(2), 22-27.

Byrd, E., & Carter, E. (1997). Study-reading for paired courses. In *1997 Selected Conference Papers.* Retrieved November 2005, from National Association for Developmental Education: http://www.nade.net/documents/SCP97/SCP97.1.pdf

Donatelle, R. (2005). *Health: The basics.* New York: Pearson Education, Inc.

Henslin, J. (2005). *Sociology: A down-to-earth approach.* New York: Pearson Education, Inc.

Maxwell, M. (1997). *Improving student learning skills.* Florida: H & H Publishing Co. Inc.

McKusick, D., Holmberg, B., Marello, C., & Little, E. (1997). Integrating reading and writing: Theory to research to practice. In *1997 Selected Conference Papers.* Retrieved November 2005, from National Association for Developmental Education http://www.nade.net/documents /SCP97/SCP97.12.pdf

Nixon, E. (2004). *Syllabus in teaching ID 1225: Issues in contemporary health.* Unpublished manuscript, Kean University at Union, New Jersey.

Rey, V., & Karstadt, R. (2004). Perception of reading skills and attitude of students in paired and non-paired course structures. *Affective Reading Education Journal*, *XX1*, 25-30.

Simon, J. (2000). Successful pairing of college reading and content courses: The instructor's models as a fellow student. Orientation given at KEAN on paired courses.

Simpson, M. (1996). Conducting reality checks to improve students' strategic learning. *Journal of Adolescent & Adult Literacy, 40*, 102-109.

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Using Popular Culture in Developmental Writing

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Using popular culture in my developmental writing course has prompted me to reconsider what it means to create successful developmental writing assignments. Having slipped into the questionable habit of assuming that removing complexity makes an assignment appropriate for developing writers, I pared down a fairly open-ended "media analysis" assignment to a more prescriptive "music analysis" assignment. As I limited their choices, however, students became less invested in the project. This article describes the (d)evolution of the media analysis assignment as it fell prey to my "simplicity" agenda and offers a few general conclusions about successful assignments—using popular culture and not—at the developmental level.

In the opening of her article in the premier issue of this journal, Huntsinger (2005) notes that personal experience essays are incredibly popular among writing instructors because we believe that students will feel confident and find success writing about themselves. I have made similar assumptions about having students write about popular culture, such as films, television, and music, that students like and know well. In his doctoral dissertation on the use of popular music in composition courses, Cox (1999) concurs, noting that many of the new popular culture readers for composition "deal with pop culture as a content area with the idea that if students are already comfortable and interested in the content, they can then concentrate on their writing skills without the difficulties of struggling with content" (p. 9). The notion that those of us using popular culture share with our colleagues teaching personal essays is that students' familiarity with popular culture, like their familiarity with their own experience, will enhance their ability to work on their writing because they won't have to struggle to understand the content.

Huntsinger (2005) argues, however, that a common problem with personal essay assignments is that "they do not always encourage students to enter into higher levels of college discourse" (p. 7); in fact, she asserts, quoting Brent and Felder (1992), they can have the effect

of encouraging students to engage in a "surface approach" (p. 43), a superficial interaction with the assignment and with their studies in general. Brent and Felder explain:

> Many college teachers are frustrated by the tendency of most of their students to take a surface approach, meaning that they pursue their studies with a minimum of personal engagement, satisfied to memorize facts and problem-solution procedures without attempting to understand them. Only a small minority routinely adopt a deep approach--wherein they try to understand rather than just to memorize--delving into the meanings of lectures and readings, asking probing questions, voluntarily doing outside reading, and relating class material to material in other subjects and to their own experience (p. 43).

I have found a similar effect with my popular culture analysis assignments, despite my intentions of creating assignments that encourage deeply engaged student responses. Cox (1999) shares this view as well, arguing that, "pop culture is used as a subject for writing, but seldom is it used as a subject of rhetorical analysis that could provide students with a basic understanding of rhetoric and communication" (p. 9). In my experience, students are quite comfortable with the descriptive element in popular culture and the narrative element in personal essays, but they are less comfortable with the analytical/interpretive component of the assignment. Examining the papers resulting from various permutations of my media analysis assignments over the years, I have come to believe that success in creating popular culture analysis assignments for developmental students comes, at least in part, from focusing on visual media, encouraging student ownership, engaging in communal analysis, and enhancing student pleasure. This discussion of the evolution of my media analysis assignment may offer insights for teachers hoping to elicit more critical thinking from personal narrative assignments as well.

I first used a popular media analysis assignment in the late 1980s when my colleagues in the English Department at The University of Toledo (UT) and I had students analyze what we called the "hidden messages" in magazine advertisements. The assignment had its origins in the movement within composition—and perhaps most English Departments in general—toward rhetorical theory, recognizing that "rhetoric" was everywhere, and that advertisers used techniques of persuasion that could be exposed, analyzed, and discussed. That original Composition I media analysis assignment focused on the persuasive strategies in ads,

usually in some form of comparison of rhetorical methods of appeal. Since it generally produced interesting papers and offered, at least I thought, a fairly compelling educational experience for students, I have continued to use a version of the media analysis assignment somewhat consistently. I've modified it over the years from its original agenda to fit various Composition II contexts and, most recently, for my SKLS 0990 Academic Writing class, UT's developmental pre-Composition I course.

Editors of contemporary popular culture-based composition text-books affirm my experience, or at least my memory of the growth of the use of pop culture assignments in composition. In *Common Culture: Reading and Writing about American Popular Culture*, Petracca and Sorapure(2001) note that popular culture has "become accepted as a legitimate object of academic discourse" (p. xii) only in the last decade, with the emergence of the field of cultural studies. In their preface to the third edition of *Signs of Life in the USA*, Maasik and Solomon (2000) discuss the appearance of their very popular text when, as they tell it, popular culture was "embroiled in the 'culture wars' of the early 1990s as it struggled for 'academic legitimacy'" (p. v). Interestingly, the editors of both texts discuss how examining popular culture will encourage students to do what the editors see as the central mission of their courses: "critical thinking." Petracca and Sorapure state, "…such courses are especially appealing for students and effective in improving their critical thinking, reading, and writing skills….we don't have to 'sell' the subject matter of the course and can concentrate on the task at hand—namely, teaching students to think critically and to write clear and effective prose" (p. xi), and "by reading, thinking, and writing about material they find inherently interesting, students develop their critical and analytical skills—skills which are, of course, crucial to their successes in college" (p. xi). Maasik and Solomon maintain that their "semiotic method has helped instructors lead their students to analyze critically the popular cultural phenomena that they enjoy writing about and so learn the critical thinking and writing skills that their composition classes are designed to impart" (p. vi).

It's clear, then, that the agenda in using popular culture assignments is often similar to the agenda for using personal experience assignments: we want our students to engage in critical thinking about their experiences or the media they consume in the hopes that they will improve their critical/analytical thinking skills, and that they will be able to translate the use of those skills to other tasks they will encounter in

their academic experience as writers and beyond. However, as I consider how I've revamped my Composition media analysis assignment to meet the circumstances of the developmental writing classroom, I must echo Huntsinger's (2005) and Cox's (1999) assessments: The task hasn't yielded the type of critical thinking I was seeking. No matter how I framed the assignment or pushed my students toward more complex analysis of their chosen media, they were consistently more preoccupied with description, which is a very worthwhile skill but a less sophisticated one than analysis and interpretation. They were not engaging the kinds of questions about themes, messages, audience, and implications that I hoped they would, which means I was not teaching them to apply critical thinking tools to the media, let alone encouraging them to use those skills beyond our classroom.

The media analysis assignment evolved from the Composition I version focused on print ads to a more open-ended one for Composition II students, allowing them complete autonomy in the topic of their analysis. About ten years ago, I was regularly teaching a Composition II course on "Women in Society" and having the students do an analysis of any media of their choice looking for messages about gender embedded in advertisements, films, books, etc. When I began teaching in the Developmental Writing Program five years ago, I brought the media analysis assignment with me, changing little about the Composition II prompt except the amount of in-class idea generating and workshopping. The prompt (see Appendix A for complete prompt) began with general commentary about media and media analysis. It reminded students that all media contains values, ideas, definitions, philosophies, etc., and that they had models to follow, in the form of the material we'd already looked at in homework and in-class activities that critiqued gender in advertising, music videos, and films. This prompt attempted to help students narrow the assignment by giving them a multitude of ideas for possible ways they could break down the task, such as themes, messages, audience, techniques, etc. My hope was that these elaborate and multi-focused directions would give the students a variety of approaches from which to attempt the task. I thought the variety would serve to help the students utilize what they'd been learning about how to break a paper down into manageable parts, which in turn, would help them construct a thesis that somehow contained and focused those parts. The prompt included four different concrete "possibilities" for how students could attack the assignment, which gave somewhat more focused examples of

what the paper might look like in a given scenario, such as looking for "countercultural" messages about masculinity in a film, for example.

While I think most Composition II students enjoyed the variety of options and possible foci, many of the Academic Writing students seemed to find this assignment frustrating and confusing. Even with encouragement and prompting, many of them had difficulty picking a piece of media to analyze and they often seemed uncomfortable with the assignment even after selecting a work they liked and knew well. It occurred to me that perhaps it was the variety and open-endedness that troubled them, so I thought it might be more effective to just give a simple, straightforward prompt ordering them to "do this particular kind of analysis with this particular kind of cultural item." Initially I resisted the urge to change the prompt because I liked it and wanted my assignments to be as much like advanced composition assignments as possible. However, after grading a batch or two of essays using the open-ended prompt and finding the papers frustratingly descriptive rather than analytical, I capitulated and revised the prompt to a more narrow version concentrating on music analysis.

The narrowed assignment (see Appendix B) focused on music and asked students to pick one song and explain its message. With my new emphasis on simplicity, consistency, and clarity, no exceptions or altera-tions were allowed—one song, one simple thesis explaining the song, period. Analyze a film? No. Analyze and compare two songs? No. Analyze two photographs of your favorite NBA star? No. Readers are perhaps not shocked to learn that the revised prompt seemed to stifle student analysis and interpretation even more. Sadly, I was surprised when the resulting papers still did not yield the kind and depth of analysis and interpretation I was hoping for in the essays because I truly thought that simplifying the directions, limiting the choices, narrowing the focus, and insisting on a uniform kind of project would provide the groundwork for better critical thinking. (You are free to wonder why). The following introduction, reproduced with permission, is from one of the better writers I've encountered in Academic Writing. Reading it, one can see that, even though she deeply connects with the material, the thesis statement is predominantly descriptive, analytical only in that it breaks the song into general topics. Despite its success, the thesis lacks the higher-level analytical components such as synthesis and evaluation that I was hoping for, but did not adequately write into the assignment:

The song "Coal Miner's Daughter" by Loretta Lynn is a very old

song but one I am sure many people can relate to even today. This song brings back a lot of childhood memories to me and other people raised in large families. These memories are sometimes hurtful to me because my parents are both deceased, and this song reminds me of being home again. Some of these memories are good and some are not so good. "Coal Miner's Daughter" offers insight about struggling families everywhere who have very little money but a lot of love, daddies who work long hours, family members who work hard, and mommies who never complain about their struggles.

This paragraph does many things well; in fact, I was very pleased with the development of this writer's genuine authorial voice. I also liked her attempt to identify the structure of the essay in her thesis. However, her thesis statement is predominantly descriptive. The student does an excellent job of describing the nature of the struggles, but is less clear, here in the introduction and in the body of the paper, about what insights the song actually offers. Most of the papers, like this one, were good general descriptions of the individual pieces of media, and, to the extent that they broke their songs down into parts—often corresponding to the verses—the papers were analytical; however, they did not demonstrate much higher-level analytical thinking about meaning, context, and implications, which I believe are exactly the kinds of thinking we most want our students to engage in and which they will be expected to perform at the upper levels of their academic experience.

However, it's now clear that the problem was more in the "simplified" prompt than in the students' unwillingness to analyze; its restrictions made the more abstract, critical, and analytical gestures I wanted nearly impossible. Asking students to look at a song in isolation from its genre, the artist's other works, songs about similar topics, etc., left the them with little room to move other than description, paraphrase, or summary, and, not surprisingly, that is exactly what most of them did. Last spring, on the advice of a veteran colleague, I returned to an assignment more akin to the original advertising analysis prompt, once again asking students to compare two ads for a similar product from a single magazine. The revised assignment (see Appendix C) produced significantly better papers than the music analysis prompt. The part of the papers focused on description became incredibly concrete, with measurements of relative size of images and text, inventive descriptions of colors and poses, and a wide array of specific information about backgrounds, fonts, layouts, etc. Unlike their experiences reading and listening to song lyrics, the print

ads provided prolonged opportunity for visual analysis, and the longer they looked, the more they saw. Although the song lyrics were, of course, also available to students, most seemed hard-pressed to do more than provide an "in your own words" gloss on the content of the lyrics.

The visual assignment also seemed to provide more opportunity for students to learn from and utilize strategies used by their peers. When one person made a point of discussing the background photos in her ads, the other students took the opportunity to review their own ads to see if that element might be worthy of some attention in their papers. Audience analysis was also collaborative. We had class discussions inquiring into how we might determine a target audience for a magazine, something that students invariably knew, but they needed help understanding how to locate and articulate evidence to support their assumptions. We practiced on sample magazines brought into class, and then we worked on their magazines in small groups. These discussions and shared in-class experiences led to fairly elaborate paragraphs in their essays that took into account target readers, values of the communities from which these potential readers might emerge, and surprisingly sophisticated discussions of how such magazines might also participate in stereotyping readers by such narrow demographic approaches.

The discussions of audience led most of the writers to engage in fairly difficult analytical questions about the visual and verbal rhetorical strategies of the advertisers. In their papers, students talked about "images" and "attitudes" projected by the ads and how those attitudes might impact potential consumers. Even when the analysis felt "stupid" to the student because the ad's message was superficial, e.g., "If you use this brand of surfboard, you will attract girls as pretty as the ones in this ad," the student's discussion usually offered both concrete description and evaluative commentary. In fact, a majority of the students were able to identify and explain at least the more obvious of the visual and textual rhetorical strategies employed by the advertisers, and some went well beyond the obvious in their discussions. The following introductory paragraph, though far from perfect, is representative of what I view as the kind of solid critical engagement, in both description and analysis, that I wanted the assignment to produce:

> *Advertisers today are at an all time peak for catching attention. Advertisers go to the extreme and back to catch an audience's attention in order for someone to buy products. Video game ads have great pictures and graphics of the game for a consumer to choose their ideal*

> *games. Two video game ads out of a men's magazine both have stun-*
> *ning graphics to sell their product; one game is "The Matrix" from*
> *the highly viewed movie, "The Matrix Revolution," and the other*
> *game is called "Brothers in Arms: Road to Hill 30." One of the ads*
> *targets adults, which is "Brothers in Arms: Road to Hill 30," and*
> *"The Matrix" targets teens. They both rely on appeal to gamers and*
> *adventurous people to sell their games, though both focus on violence*
> *and war to promote each game.*

In addition to describing what's in the ads, the student has to make the leap (albeit in this case, not a large one) to discussing how the ads reach their audience, in this case through violence and war.

Another student used her descriptive skills on two advertisements for migraine medicine and then offered a comparative assessment of the ads' appeals to humor:

> *Relpax's asteroid falling on a woman in the middle of the office*
> *is funnier compared to Imitrex's animated creature nailing a nail*
> *into a woman's head. Relpax and Imitrex both target women as their*
> *audience, but Replax's asteroid falling on a lady in the middle of the*
> *office is funnier than an animated creature pounding a nail into a*
> *woman's head because asteroids don't usually fall in the middle of*
> *the day and especially not in the middle of the office. If that was ever*
> *to happen it would probably cause some kind of commotion. Also it's*
> *funnier because the title and picture relate to getting knocked out.*
> *The idea is that the pain of a migraine can make people feel like an*
> *asteroid knocked them out. Relpax's light blue speckled background*
> *immediately draws more attention that Imitrex's white background,*
> *especially since that color is soothing and relaxing; it also gives a*
> *lively and refreshing feeling to it. Most women, when they sit to read*
> *a magazine do it at a time when they are looking to relax after a*
> *busy time in their day or week. The third comparison is the adver-*
> *tisements' attention getters. Relpax (Not Many Things Knock You*
> *Out Like a Migraine) is funnier because a migraine can't be seen so*
> *it's silly to picture it knocking someone out. Even though Imitrex's*
> *(Headache? OR Migraine?) is a good attention getter, there is noth-*
> *ing humorous about it. Compared to Imitrex, Relpax is the most*
> *humorous advertisement.*

Although both paragraphs have problems, I think it is fair to say that the students are engaging in a level of critical thinking that they

were not in the purely descriptive music analysis papers. Interpreting why a certain appeal might work for a particular audience involves more abstract and complex cognitive processes than pure description, and, I think, better supports our efforts to facilitate students obtaining and using critical thinking skills that they can apply across a spectrum of academic and nonacademic circumstances. Overall, I was pleased with the quality of work and with student investment in the papers. Quality of discussion, group analysis, peer critique, and final editing were all of substantially better quality than for my rigid "music only" papers of earlier semesters.

In revamping this assignment for developing writers, I saw my challenge as simplifying and providing more structure for the students to rely on as they made their way through it. In revising it, I removed choices, thinking that a narrower prompt would make it easier for students to enter the assignment. However, upon further reflection about the consequences of my adjustment, I've drawn some different conclusions about what makes a successful developmental writing assignment, particularly one using pop culture. Clearly, simplifying an assignment does not necessarily take care of making it appropriate for the developmental student. It's worthwhile to note also that since I started teaching developmental writing exclusively, I see myself making similar kinds of restrictive moves in many areas of my pedagogic life. I am much more willing to define the terms of a paper, prescribe a thesis (or narrow it to two options), and require a particular structure for an essay than I have ever been. In fact, I fear that I may be more concerned about structure, order and general "discipline" than I ever was as a Composition II instructor. I'm not at all sure that such focus ultimately benefits students. In fact, I'm fairly certain that it doesn't. Furthermore, assignments that restrict student choices and options seem to create an environment encouraging lack of ownership in which students are more likely to produce superficial work. I am certain that any assignment done superficially is much less effective, meaningful, and challenging than one done by engaged, interested students.

One of the conclusions I've drawn about using popular culture assignments in the developmental writing context is that students are more successful analyzing visual than auditory media, and even better at still images. Perhaps it is the in-depth looking possible on a still image that enables students to do more than describe what is in the picture. It may be that students are more willing to engage in critical analysis of visual

images than audio ones because, from the network news to the Internet, they may feel more influenced by visual rhetorical manipulation. To the extent that their previous teachers have been sensitized to the need for critical examination of web pages and other visual media, students may come to a visual critique assignment with a heightened awareness of the need to approach it from a critical thinking perspective. Whatever the reason, in my experience students seem to have more critical analysis to offer about still ads, both descriptively and interpretively, than they do about music, television, or films.

In addition to tapping into students' visual analysis skills, successful developmental writing assignments—about popular culture, personal experience, or other topics—encourage student autonomy in whatever measure appropriate to the assignment and to students' skills and abilities. In the case of the advertising analysis task, allowing students to choose the type of magazine and the type of ads they examined facilitated their investment in the assignment. Often students picked ads about products that they liked or used themselves, such as motorcycles, video games, makeup, or cell phones. They also used magazines that they read, which lead to some interesting realizations about what advertisers think about people of their generation's (or community such as "fantasy lovers" or "hip hop listeners") values and preoccupations. Given that my developmental courses have had a tendency to get quite prescriptive, despite my best intentions, having the students choose the ads they analyze is perhaps a nice balance between the prescriptive "pick one and only one song" approach and the "no holds barred" approach with which I started. Though I'm certain I will continue to tinker with the assignment, I am equally certain that I will continue to try to preserve some freedom of choice for the students, even if the assignment remains limited to advertising.

Cooperative analysis enterprises such as "practice" audience identification exercises, sharing and critiquing introductions and thesis statements, and, ultimately, exchanging analytical strategies are also important to successful developmental writing assignments because they help build a sense of community and enhance students' critiquing skills. I brought in sample ads upon which we participated in collaborative practice analysis, building experience and skill from which students were able to move to the analytical work required on their own and each others' ads. All of these collaborative activities helped make the advertising analysis assignment more successful than the music assignment. I'm

not sure what it was about the ads that made discussing, breaking down, and sharing them in community easier than with music, but the resulting effect on me has been a renewed attention to designing assignments that facilitate productive group analysis discussions as part of the writing process. Many of my students are very negative about "peer critiques," claiming that they are "a waste of time" or "impossible; I don't know anything, how can I critique someone else?" They have also, historically, been concerned about "offending" other students with their critiques. It may be that looking at someone else's ad, as opposed to someone else's paper, frees students up to offer critical commentary and analysis. Whatever the reason, I see visual analysis assignments as very welcoming to genuine peer engagement and facilitative of advanced critical dialogue.

I also remain committed to the media analysis assignment because students do appear to enjoy it, which is another quality I believe is essential in successful developmental writing assignments. My mostly traditional-aged students regularly report that they are willing to give a lot more energy and attention to an assignment if they like or have an interest in it. They frequently complain when a reading or task seems removed from their experience or interests. Once they get over choosing the topic, most of them report that they like looking closely at an advertisement and thinking about its influence on its target audience. As noted earlier, because the ads they pick are about products they use from magazines that they read, they have a natural curiosity about how advertisers are attempting to manipulate or influence them. They sometimes report after this assignment that, "They can't turn it off." They even bring in examples of egregious advertising to discuss with the class after we've moved on to other topics. Of course there's the added benefit that the assignment almost completely frees me from the complaint of, "This topic sucks; it doesn't have anything to do with me, and I don't have anything to say about it."

In *Signs of Life in the USA*, Maasik and Solomon (2000) raise the specter of the "striking … power of popular culture to shape our lives" (p. v) as reason that "learning to think and write critically about popular culture is even more important today than it was when [they] published the first edition of [their] book" (p. vi). As most of us know, the American media, which has a large impact on our students' time, interests, and money, is controlled by a relatively small group of conglomerates that is primarily interested in continuing their economic success by getting people to consume, not critique, their products. In fact, I think it would be fair to say

that such businesses encourage uncritical consumption and are not at all interested in audiences developing the kinds of critical thinking skills that might enable us to more aggressively critique, mobilize against, analyze, and in other ways subvert this powerful system. Because our students are heavily influenced by the media produced by the dominant culture, we have an even greater obligation to help them learn to use critical thinking tools on the media and perhaps at the same time, introduce them to the joy and value in creative resistance. Completing the advertising analysis assignment well, students typically enjoy themselves, become better collaborators, enhance their sense of investment and ownership, and develop an awareness of themselves as critical thinkers. If there is an "aha" moment related to themselves as consumers vs. citizens, particularly as empowered citizens whose consumer choices have political implications, then the assignment has achieved something well beyond its "make them better writers and analyzers" agenda.

References

Brent, R., & Felder, R. M. (1992). Writing assignments—pathways to connections, clarity, creativity. *College Teaching, 40* (2),43-49.

Cox, E. L., Jr. (1999). Critiquing the ephemeral: Rhetorical plasticity, popular music, and the composition teacher. *Dissertation Abstracts International 60*(05), 1536A (UMI No. 9928677)

Huntsinger, J. (2005). Unearthing critical writing skills: The time capsule essay. *NADE Digest, 1*(1), 7-12.

Maasik S., & Solomon, J. (Eds.). (2000). *Signs of life in the USA: Readings on popular culture for writers* (3rd ed.). Boston: Bedford/St.Martin's.

Petracca, M. & Sorapure, M. (Eds.). (2001). *Common culture: Reading and writing about American popular culture* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.

Appendix A: The "Open-Ended Version"
Academic Writing Essay #2:
Observing and Critically Analyzing the Media

General Commentary on Analysis of the Media:

The media always promotes certain sets of values, ideas about masculinity and femininity, standards of behavior, ideas about social class, race, ethnicity, and age, definitions of concepts like love, heroism, patriotism, etc., while also telling a story or promoting a product. Your task is to select a media item, briefly describe it, and then analyze it in terms of some of those issues, all under the guidance of a thesis that directs your reader toward your main focus. In analyzing a song, a pair of songs, a music video, or a movie, your

agenda is to look at the major themes or messages in the art form. You should also examine it for less obvious, or possibly even unintentional — messages it may also be presenting and for the techniques it uses to send out its messages. A significant portion of your paper should be spent discussing the concrete, detailed evidence that backs up your analysis about the piece of media you've chosen. Don't overlook an analysis of the item's target audience, as that often plays a significant role in the strategies it will use to project its message.

The possibilities described on this page are suggestions if you are feeling stuck about what to do. You are welcome to do something that "tweaks" the possibilities toward a subject or item that interests you more.

Possibility A: Analyzing Gender Messages

You have seen several examples of how media, like a music video or a magazine advertisement, can be analyzed to see what kinds of messages it is sending about gender, masculinity or femininity. You can examine a song or a film specifically to see how it defines masculinity or femininity. Don't forget to look at words, actions, symbols, clothes, themes, camera techniques, etc. A concrete example might be to look at all of the primary male characters in a movie and analyze what message about masculinity their behaviors reveal. You could do the same for female characters.

Possibility B: Analyzing a Definition or Theme

Look at a piece of media such as a song or a film to see how it defines a specific concept, like "hero" or "love" or "success." Explore the images, words, actions, symbols, etc. that are relevant to your topic. A concrete example here might be to analyze a love song's lyrics to see how the singer characterizes love. Looking at the metaphors and images in the song would reveal what love means in the context of the song. You could simply analyze one song, or analyze two by the same artist to see if there are any repeated concepts or contradictions in the artist's definition.

Possibility C: Analyzing Social Class or Group Messages

Select a song, a pair of songs, or a film that presents a picture of reality that you think privileges a certain social class or social group's perspective. Analyze how the art presents its message and whether or not it reinforces popular notions about behaviors and values of a particular group or class. Does it stereotype? At whom is the art directed? A concrete example would be to look at a popular Hollywood film to see how people of color are represented and whether or not the film uses racist stereotypes. Similarly, you could also examine a film intended to attract a "non majority" audience to see how it handles similar stereotypes or themes.

Possibility D: Analyze Conflicting or "Countercultural" Messages

Locate and describe a song or film that seems to work against the cultural stereotypes or definitions (of "sexy," "masculinity," "hero," "love," "poor person," etc.). Examine how the art critiques the "norm" and what it offers as a replacement. A concrete suggestion would be to find a film or song that had a message that you found surprising or disturbing and see if analyzing it reveals where it contradicts more mainstream cultural messages. A film that "glorifies" gang life or drug use (or anything the dominant culture would "normally" criticize) might be ready targets. If you choose this option, it might be a good idea to address whether you think the countercultural message is a positive or negative one.

Appendix B: The "Too Restrictive" Version
Academic Writing Essay #3:
Observing and Critically Analyzing the Media

Prompt: Analyze a Song

Popular media always promotes certain ideas, values, and philosophies, such as those about beauty, masculinity and femininity, standards of behavior, social class, and definitions of concepts like normalcy, love, heroism, patriotism, etc., while also telling a story or promoting a product. Your task is to select a song, briefly describe it, and then analyze it in terms of some of the issues it raises, all under the guidance of a thesis that directs your reader toward your main focus. Your agenda is to analyze the major themes or messages in the song and to reflect on the significance of the message in terms of how the song represents or challenges the attitudes or behaviors of its target audience. You can also analyze its method of delivering the messages or the less obvious, even unintentional, messages it may also be sending. A significant portion of your paper should be spent presenting the concrete, detailed evidence that backs up your analysis of the song you've chosen. Don't overlook an analysis of the kind of music it is, relevant information about the artist, and the song's target audience, all of which often play a significant role in the strategies the song will use to project its message. Do NOT simply tell the story of the song.

Appendix C: The "Just Right" Version
Academic Writing Essay #2:
Description, Analysis & Comparison
Observing and Critically Analyzing Advertisements

Analysis of Advertisements Prompt:

As the media literacy films we will be viewing make clear, the media always reflects values and ideas (about social class, standards of behavior, masculinity and femininity, and definitions of concepts like love, normalcy, heroism, patriotism, etc.), while also telling a story or promoting a product. Your task is to obtain a magazine, select two visually interesting advertisements that market similar products in the magazine, describe and analyze them both, and compare and/or contrast their approaches. In your analysis, you should describe your interpretation of the intended audience of the ads, provide detailed descriptions of the images, words, and layouts of the ads, and discuss the values, attitudes, messages, and persuasive techniques in the ads, all under the guidance of a thesis that directs your reader toward your main focus.

In analyzing and comparing your ads, your agenda is to critically "read" them for their major themes or messages and for their methods of delivering the messages. You can also discuss less obvious or even unintentional messages they may also present. A significant portion of your paper should be spent presenting the concrete, detailed descriptions of the evidence that backs up your statements about the ads. Don't overlook an analysis of the kind of magazine it is as a way of discussing the audience, which often plays a significant role in the strategies ads will use to project their messages. Remember that description is not enough; you must describe, analyze, and make comparative assessments of the ads. If you'd like to include an assessment of which ad is more effective as part of your thesis, you are welcome to do so, although it is not necessary.

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St. Louis Community
College at Forest Park

Every developmental education teacher would probably agree that motivation to complete assignments is one of the biggest obstacles to getting students to practice necessary skills. Short stories and other types of recreational reading might help motivate students, but they need to learn specific skills to help them cope with college textbook reading. An adaptation of mastery learning, a technique that uses multiple attempts for students to master goals at their own pace, was the key concept that allowed my students to achieve this goal.

I have taught developmental reading to college freshmen for almost twenty years. During all those years, I looked for teaching strategies that would motivate my students to learn and enable them to gain competency in all the skills set forth by my district. I also wanted to be fair in my grading practices. Many of my students are older teens and adults who struggle with the multiple demands of life: jobs, small children with the accompanying emergencies, parental pressure, and poor health. Motivating my students to complete each assignment seemed to belong in a fantasy world I had never visited; getting them to care about what I was teaching seemed impossible. I knew about the idea of mastery learning, the technique of instruction which allows students multiple opportunities to master a series of goals which are evaluated with reference to specified criteria (Biehler & Snowman, 1990), but I did not know how to incorporate it into a class with limited meeting times and the pressure to complete all skills by the end of a semester.

The Relationship Between Hope, Goals, and Mastery Learning

In the winter of 2003, Jackson, Weiss, Lundquist, and Hooper published an article with a title that caught my eye: *The Impact of Hope, Procrastination, and Social Activity on Academic Performance of Midwestern College Students*. In the article, the authors wrote that although many variables affecting academic performance have been verified through research, only recently have hope and procrastination been considered as potential predictors of academic performance. The reason I was interested in what these authors had to say was that my

students were definitely procrastinators and I have always suspected that one reason that retention in the community college is so low is that the students lose hope that they can succeed in college. Jackson (2003) and his colleagues concluded that hope reflects the interaction between goal-directed determination and the planning of ways to meet goals and it positively correlates with academic performance. Students who tested low on measures of hope used more disengagement strategies for coping with stressful academic situations and thus were not actively engaged in the learning process. These students procrastinated to the point of having insufficient time to do their assignments well, or they underestimated the amount of time it should take them to complete their assignments. According to the study, students with higher hope scores usually had lower procrastination scores, which suggests that although a student's hopeful disposition does not in itself predict higher academic performance, the behavior related to low hope—procrastination—may be the significant variable.

Other researchers have also investigated the link between hope, goal setting, and success. Snyder (1995) found that people with a higher level of hope, as opposed to those with a lower level, have a greater number of goals, set more difficult goals, have success at achieving those goals and perceive those goals as challenges rather than obstacles. I was particularly interested in the findings of a study by Ford (1995) that suggested that teachers can improve their effectiveness if they help students precisely define the targets in their learning activities. However, student efforts must be accompanied by feedback regarding their performance and progress. Ford concludes that human potential grows exponentially when people have significant goals and when they believe they can reach those goals through their own effort and through the help of others.

Clearly defining targets and providing specific feedback fits right in with mastery learning models. Biehler and Snowman (1990) built on the work of Bloom (1968) and Carroll (1963) to describe in very specific terms how to use the mastery approach in a classroom. Their suggestions include:

1. Distribute the list of objectives at the beginning and tell students they will be tested on them.
2. Use a variety of instructional methods to explain and illustrate the objective-related ideas.
3. Write exam questions based on the objectives and arrange them in two or even three alternate exams.
4. Test students when you feel they have had ample opportunity to learn the material.

5. Grade and return tests promptly; go over questions briefly in class and more extensively with individuals who desire the help.
6. Schedule make-up exams and make yourself available for consultation the day before.
7. Supplement exams with books reports, oral reports, papers, or some other kind of individual work that allows for student choice as much as possible (Biehler & Snowman, 1990).

My Solution

In the fall of 2003, I began to experiment with a system using the competencies (skills) set up by the district reading faculty. I had the goals; I needed to define the behavioral objectives (the measurements) and state them on the syllabus the students would receive on the first day of class. I set up the schedule for my students in four columns. 1) I numbered and named the competencies, 2) I wrote the number of points possible to earn for that competency, 3) I added the dates of the first and second chances for students to prove mastery of the competencies, and 4) I carefully described the measurements I would use to ascertain their mastery of each competency. (See appendix).

My next goal was to figure how I could be fair in my expectations and the grades I had to report when so many of my community college students had complicated lives that kept them from getting to class for a test or getting the homework to me on time. I did not want to penalize students for what they could not control. On the other hand, I did not want them to turn those situations into habitual excuses so that not meeting deadlines would become a way of life for them.

Eventually, I felt I had an almost ideal solution: I allowed everyone who failed or missed a test a second chance. If a student missed class, I did not judge the validity of his/her reason. I simply gave the student another version of the missed test during the college's finals week, not earlier. Another group of students also took specific competency tests during finals week. Those students who earned less than a 70% on a competency on the regularly scheduled test date were required to work on that competency with a tutor in the reading lab in order to be eligible to retake another version of the test. To prove their eligibility, they were required to hand me a copy of the tutor-signed form. The week before finals week, I collected the forms and verified who was eligible to retake which specific competency test. A system of little circles in my grade book for retakes made gathering the appropriate number of specific tests fairly easy. Mastery learning made my job easier too! I did not have to make plans for frequent make-up exams throughout the semester as I

did in the past and I did not have the confusion of grading exams out of the context of the other students' exams.

Not only did my students have two chances for the competencies measured by tests but also those measured by take-home projects that allowed some student choice of content, as recommended in the 7th criteria point. By turning in a first copy (rough draft) on the date it was due, all students had the opportunity to read my suggestions to improve their work. I returned their drafts during the next class period. Then in one week they turned in the new version of their work for me to assign a grade. This was their second chance. If they chose not to give me a draft on the draft due date, they could still turn in their final version on its due date; however, in that case, they received no help from me. Students who gave me a draft but neglected to rewrite it for a final copy could return the rough draft to me to grade "as is." Almost all students gave me a draft because they knew that incorporating my suggestions brought them closer to an "A" paper. The quality of student work made me proud to have them for my students.

In my adaptation of mastery learning, my current students also have two chances for success in every competency area. My students are now skillfully annotating, using SQ3R, outlining full-length college text-book chapters, and summarizing essays. They may select two out of three subject areas for their textbook chapters. In addition, they research a global issue of their choice. They appear to be more motivated than my former students who did not have the benefit of this approach. I am less guilt-ridden about not being fair to people with real problems because I feel two chances does allow for unexpected situations in their lives. I do not have to continue giving and grading make-up tests throughout the semester. Both my students and I have very specific goals towards which we work. My assignments are realistic and encourage skill transfer to future college courses. Students monitor their own grades while knowing that with some effort and tutoring they may improve test grades at the end of the semester. They feel good about their own skills when they have successfully completed the course; I feel good because I am no longer giving busy work to make them extend their lessons at home or to cover all the skills required by the district.

Problems

One of my colleagues questioned whether or not the students bother to turn in the rough drafts. I was pleased to respond that most of my students do. Others questioned whether students would study for the tests when they know they may have a second chance during finals week.

I have found that students have their own personal goal: achieving at least a 70% on every test and not returning to class during finals week! However, even when students have already failed one test, they still do not want to fail additional tests because they know they must spend time with a tutor for each failure. Also, they realize that the more tests they retake, the more stressful their make-up exam period will be.

I have made one big compromise. The first semester I required students to achieve at least a 70% in every competency area to pass the class . This meant that students with several strong skills who probably could have succeeded in higher-level classes were held back because they had not mastered every individual skill. After one semester, I decided I would accept an average of 70%. I must admit that the students were especially motivated to get my help that first semester but less so after I changed to averaging their grades.

A very important element to success for my plan is having a reading lab staffed with knowledgeable reading teachers. If the lab and its tutors were not available to my students, I would have to find an alternative tutoring method. I have considered using a computer assisted instructional program such as PLATO.

Do students consider the system completely fair? At the beginning of the term they think it appears to be extraordinarily fair. By the end of the term some students think they should have had three chances. What's important to me is that I feel my system is fair and I like seeing the improved quality of student work.

Conclusion

I have begun my sixth semester of using the mastery learning plan because I really think it works. Although not all students pass the class and many drop the class for family reasons, students who might have dropped due to poor grades on tests now continue to try because they have hope that they will improve their grade on the second version of the test. I have provided precisely defined goals at a reasonable level of difficulty and the help needed to support the students reaching those goals. Providing the competencies and assessment measures on the syllabus ensures that the students set very specific goals. I have been able to motivate my students by giving them hope so they are not likely to procrastinate. Most students learn not to procrastinate and meet assignment deadlines because they know I do not make exceptions. However, they also know I give prompt feedback by marking all drafts on the same day and grade all final copies one week later.

I believe that adapting mastery learning for underprepared college students in reading helps them take the first steps in becoming successful college students.

References

Biehler, R. F. & Snowman, J. (1990). *Psychology applied to teaching.* (6th ed.) Boston: Houghton Mifflin Company.

Bloom, B.S. (1968). *Learning for mastery.* Evaluation Comment, 1(2), Los Angeles: Center for the Study of Evaluation of Instructional Programs, University of California.

Carroll, J.B. (1963). A model of school learning. *Teachers College Record*, *64*, 723-733.

Flemming, L. (2006). *Reading for Thinking* (5th ed.). New York: Houghton Mifflin Company.

Ford, M.E. (1995). Motivation and competence development in special and remedial education. *Intervention in School Clinics* 10534512, *31*(2). Retrieved June 27, 2005, from Academic Search Elite database.

Jackson, T., Weiss, K.E., Lundquist, J.J., & Hooper, D. (2003) The impact of hope, procrastination, and social activity on academic performance of midwestern college students. *Education*, *124* (2), 310-320. Retrieved June 28, 2005, from EbscoHost database

Snyder, C.R. (1995). Conceptualizing, measuring, and nurturing hope. *Journal of Counseling and Development*, *73* (3), 355-360. Retrieved June 27, 2005, from Academic Search Elite database

The Houghton Mifflin Guide to Reading Textbooks (2nd ed.). (2005). New York: Houghton Mifflin Company.

Appendix

Competencies Requiring 70% Success

(Retake allowed with signed proof of adequate tutoring)

Skills	Pts. Earned/Possible	Due Date	How Measured
1. **Vocabulary**	/25	Feb. 14	Competency 1a: Quiz
"Identify meanings based	/25	Mar. 7	Competency 1b: Quiz
on context clues & affixes	/25	Mar. 28	Competency 1c: Quiz
in academic texts."	/25	Apr. 11	Competency 1d: Quiz
2. **Study Strategies**	/150	Feb. 9/16	Competency 2: Assign.
"Select & apply before, during,			Demonstrate SQ3R &
& after reading Strategies"			annotation skills using
			one of 3 text chs. in Pt. 4
			of the *H/M Guide to*
			Reading Textbooks.

Skills	Pts. Earned/Possible	Due Date	How Measured
3. **Structural Patterns/ Textual Clues (Transitions)** "Identify patterns in structurally complex academic writing. Use transition words & pronoun reference to comprehend meaning & structure in passages."	/100	Feb. 28	Competency 3: Test
4. **Supporting Details** "Identify & understand the relevancy of ideas that support theses in long academic passages."	/150	Mar. 2/9	Competency 4a: Assign. Outline one of 3 text chs. in Pt 4 of *H/M Guide*
5. **Inference & Conclusions from Graphs** "Make complex inferences & deductions from facts in a passage and from graphs."	/100	Mar. 23	Competency 5: test
6. **Main Ideas** "Identify theses statements & implied main ideas in passages which have some complex, unfamiliar ideas. Summarize essays, articles, chapters."	/150	Mar.30/Apr.4	Competency 6a: Assign. Summarize pp. 586-598 *Reading for Thinking* (Flemming, 2006)
7. **Purpose, Tone, Bias, Fact/Opinion** "Identify purpose, bias, tone in a passage & distinguish between fact & opinion."	/100	Apr. 13	Competency 7: Quiz
8. **Synthesis of 2 or More Readings; Technology/ Library/Campus Resources; Experiential Connections/Evaluation** "Use statements from two or more passages to support an idea. Seek resources on the Web & use the computer to access the school's library. Discuss issues in reading which are common social issues. Judge worth & value of specific reading passages on & off line."	/150	Apr. 25 (in library for draft) May 2 (final copy)	Competency 8: Assign. Complete grid using 3 book/Web sources. Your global/social issue topic must be approved.

Total Points   **/1000**

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Student Achievement in Basic College Mathematics: Its Relationship to Learning Style and Learning Method

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From the assumption that matching a student's learning style with the learning method best suited for the student, it follows that developing courses that correlate learning method with learning style would be more successful for students. Albuquerque Technical Vocational Institute (TVI) in New Mexico has attempted to provide students with more than one learning method in its Basic College Mathematics course. Three courses were developed to correlate curriculum with learning style theory to create a match between a student's preferred learning style and the learning method of the course. The learning methods include collaborative (traditional lecture), self-paced (individualized), and project-based (hands-on activities). Each Basic College Mathematics course follows the same curriculum and every student takes the same final exam. While there is no significant difference in the students' performance between the three courses, the student success rate in Basic College Mathematics is higher than the national average for two-year colleges.

Albuquerque Technical Vocational Institute, a two-year community college in Albuquerque, New Mexico, offers its students three ways to learn developmental mathematics in order to accommodate students' different learning styles. Students can choose a traditional lecture class, a self-paced class, or project-based classes in which students work in groups to solve projects. With enrollment approaching 24,000, TVI is the second largest postsecondary institution in New Mexico, following only the University of New Mexico. TVI is a multi-ethnic college with students consisting of 42% non-Hispanic, 3% African American, 39% Hispanic, 2% Asian or Pacific Islander, 7% American Indian or Alaskan Native, and 7% other.

Over 65% of all TVI students take at least one developmental course in the Division of Educational and Career Advancement (ECA). ECA offers students courses in nine disciplines that develop basic skills

necessary for success in college and careers. ECA also includes classes in English as a Second Language (ESL) and General Education Degree (GED) preparation. It is a multi-ethnic department with a student population consisting of 31.4% non-Hispanic, 3.7% African American, 46.4% Hispanic, 2.2% Asian or Pacific Islander, 8.7% American Indian or Alaskan Native, and 7.6% other. The average age of ECA students is 26 years old. With enrollment approaching 7,625, the Division of Educational and Career Advancement is the second largest department at Albuquerque Technical Vocational Institute. Of those 7,625 students taking classes in ECA, approximately 29% test into Basic College Mathematics.

According to Hiemstra and Sisco (1990), approaches to learning methods and learning styles must be handled in tandem for them to be most effective. Since the time of ancient Greeks, educators have struggled with this concept as they wondered how someone could possibly learn something new. Modern learning theorists take a more pragmatic approach. They believe in the need for a more practical and realistic approach to the idea of education. For many years, educators have noticed certain characteristics among their students in that they prefer certain methods of learning more than others. These characteristics, or "learning styles," form a student's unique learning preference. Learning style refers to the typical ways in which a person takes in and processes information and makes decisions. It is that consistent pattern of behavior and performance by which an individual approaches educational experiences. It is the composite of characteristic cognitive, affective, and physiological behaviors that serve as relatively stable indicators of how a learner perceives, interacts with, and responds to the learning environment (Bennett, 1990). Learning styles can be a support to teachers in the planning of group and individualized instruction. There are many expressions of learning styles in the literature. Some of the most common are visual—sights, pictures, diagrams, symbols; auditory— sounds; read/write—textbooks, handouts; kinesthetic—taste, touch, and smell.

These approaches to educational experiences or learning styles were used by the mathematics faculty in ECA to develop three learning methods for teaching Basic College Mathematics. The developmental mathematics curricula range from Basic College Mathematics which begins with whole numbers to Introductory Algebra which ends with quadratic equations. Developmental mathematics accomplishes its mission of assisting students in achieving both academic and personal goals by

offering developmental courses, tutoring, study skills seminars and workshops, computer-assisted instruction, and short- and long-term academic skills remediation.

The learning methods used to teach Basic College Mathematics include collaborative (traditional/lecture), self-paced (individualized), and project-based (hands-on activities). The collaborative learning method, which is a traditional/lecture style class, incorporates lecture, individual and group work, and individual and group activities to cover course material. The traditional/lecture format focuses on the visual representation of auditory information of words and mathematical symbols written in texts and handouts, on transparencies, or on a chalkboard. Since the learning method used in the collaborative learning method uses these approaches in the classroom, the visual and aural components of a student's learning style are matched successfully in this learning method.

The second method is self-paced which has the same curriculum as the other learning methods but allows the students to work at their own pace from the text and allows for open entry and open exit. An open entry/open exit course is one that allows students to enter the course up to the tenth week of the term. As long as course requirements are completed, students receive credit for the course. Research conducted by Price (1983) indicates that students who score above average on reading and writing tests do significantly better on tasks that are individualized. He proposes that students in this category be given the opportunity to work on tasks at their own pace and provide feedback on their progress through written reports. Since the learning method used in the self-paced learning method uses individualized instruction and allows the student to work at their own pace, the read/write components of a student's learning style are matched with this learning method.

The third method is project-based which is taught using a series of learning activities the students complete in groups. The kinesthetic learning style involves both information perception (touching, tasting, smelling) and information processing (moving, relating, doing something active while learning). Since the learning method used in the project-based learning method uses most of these methods during the class projects, the kinesthetic components of a student's learning style are matched with this learning method. All three courses incorporate the same curricula, same textbook and objectives, and the students take the same final exam. The only difference is the methodology in which the course is taught.

The first method, the collaborative learning method, uses the traditional/lecture method for the delivery of the material. The capacity of a traditional/lecture course is 25 students and typically meets two days a week for 15 weeks. The most common approach in a collaborative class is the instructor presenting the material in a lecture format. For example, if fractions are being covered in the traditional/lecture course, the instructor may begin the class with a brief lecture, then move to a guided practice and finally give the students a handout to complete the lesson. They may also reinforce the concept using individual or group handouts that provide more practice.

The second method, the self-paced method, uses individualized instruction and allows the students to proceed at their own pace. Because individualized instruction can be very time consuming these classes have a capacity of 18 students and, whenever possible, an instructional assistant is scheduled in the class to assist the faculty. Also, this course is open entry/open exit, which means that students may exit when they have completed the objectives. In addition, students are allowed to enter the class up to the 10th week of the semester. The faculty work individually with each student and, whenever possible, provide small group lecture; but most frequently, the students work one-on-one with the faculty or instructional assistant. In the self-paced class, the student reads and studies the text in order to understand the material while the instructor is present to answer questions. Also created for the self-paced course are comprehensive handouts given to students to supplement the text. These handouts are detailed and provide students with practice problems; students are also given answers to the practice problems. If the concept of the addition and subtraction of fractions was introduced in the self-paced method, the student would begin by reviewing the addition and subtraction chapter in their textbook and, if necessary, the faculty can suggest additional supplements. If the student has any questions, either the faculty member or the instructional assistant will sit with the student and answer any questions.

The third method, the project-based method, uses group activities to complete the objectives. The capacity of a project-based course is 25 and typically meets two days a week for 15 weeks. In addition to the normal textbook, this course also includes a supplemental manual. The supplemental manual consists of projects that support each corresponding section of the text and provides the student with contextual hands-on learning experiences. The faculty in the project-based class

serves as facilitators as the students complete the projects. For example, the concept of addition and subtraction of fractions is introduced by the instructor using the standard text and then the students are given various contextual projects to complement the text.

In the project-based course, students work in groups to solve projects. For example, one of the first projects used to introduce students to fractions is adding up the length of all the areas that process food in the human body. Student groups measure the various organs that food travels through the human body. At the end of the project, students have a total figure of the length. During the process, they have had to manipulate fractions through measurement to discover the total length.

The intent behind offering the course using three different learning methods is to give students as many options as possible to enhance success. ECA has experienced considerable success with these options. For students enrolled in the course in the spring 2004, the data show the completion rate for the traditional approach was 77%, 82% for self-paced, and 75% for the project-based method. Since these courses are taught as credit/no credit, completion rate is defined as the number of students who received at least a 71% overall average in the class and who also receive at least a 60% on the final exam. There is no statistically significant difference among student success rates in the three methods. Data show that students enrolled in each of the three methods do equally well. These completion rates are high compared to the nation's community college rate of students who pass remedial mathematics courses which is 66% (Lewis, Farris, & Greene, 1996).

This approach is innovative in that it incorporates the concepts of a student's learning style with a learning method for a distinct course. Since the Greeks, we have discovered that the question is not how someone can learn something new, but rather it is unrealistic to expect that a particular learning method will be successful for all learners. ECA's approach tries to create distinct approaches to learning methods, content instruction, and curricula organizations that specifically address students' learning styles. Instead of an "all or nothing" mentality, ECA recognizes that using a variety of approaches benefits learners. In this way, all students have an opportunity to be successful.

References

Bennett, C. I. (1990). *Comprehensive multicultural education, theory, and practice*. Boston, MA: Allyn and Bacon.

Hiemstra, R., & Sisco, B. (1990). *Individualizing instruction: Making learning personal, empowering, and successful.* San Francisco: Jossey-Bass.

Lewis, L., Farris, E., & Greene, B. (1996). *Remedial Education at Higher Education Institutions in Fall 1995* (NCES 97584). Retrieved October 14, 2005, from NCES National Center for Education Statistics: http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=97584

Price, G. (1983). Diagnosing learning styles. In R. M. Smith (Ed.) *Helping Adults Learn How To Learn*. (pp. 49-55). New Directions for Continuing Education, No. 19. San Francisco: Jossey-Bass.

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The Problem of Teaching Critical Thinking: Three Approaches

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A standardized program of instruction usually demands common syllabi, texts, and tests. Since teaching under this type of program is seen as stimulus (or cause) and learning as response (or effect), much stress is placed on the effectiveness of the classroom teacher. This effectiveness is usually gauged by the technical skills of the instructor to meet the demands of common syllabi, texts, and tests. And yet, in applying other than the administration matters most approach to teaching (e.g., the student matters most approach or the content matters most approach), the developmental teacher seeking to teach critical thinking will be at odds with the standardized educational goals and practices of the administration.

There are certainly different ways to implement an educational program and different ways to conceive of the role of the developmental teacher under the program. Consider three main approaches: (a) the administration matters most; (b) the student matters most; and (c) the content matters most. Each approach can give the developmental teacher a way to think about and respond to why the educator cannot teach critical thinking. Under the administration matters most approach, the administration views the teacher as an executor, a person charged with the management of the classroom and the production of learning. The teacher engages the student in the study of some content for the purpose of helping the student acquire specified knowledge. Since teaching is seen as stimulus, or cause, and learning as response, or effect, much stress is placed on the effectiveness of the classroom teacher. This effectiveness is usually gauged by the technical skills of the instructor to meet the demands of common syllabi, texts, and tests.

But teaching in the administration matters most approach is a form of persuasion, a deliberate attempt to change attitudes. To change the attitude of a student is to alter belief, emotion, and/or action, since attitude is a function of belief, emotion, and action (Coon, 2003). To predispose the student to meet the demands of common syllabi, texts,

and tests, there must be uninterrupted attention to the task, lesson plan preparation to the minute, point by point PowerPoint presentations, orchestrated class discussions, step-by-step film clip instruction, scheduled worksheet or computer guided drilling, end-of-the-semester teacher evaluations, achievement results, and accountability for failure to retain students in the program. So teaching, in the administration matters most approach, amounts to any deliberate attempt to change a mixture of belief and emotion that predisposes the student to respond to the teacher in the administration's way. Accordingly, adherence to rules, deference to authority, and strict norms of acceptable behavior are stressed, since a standardized curriculum is to be spoon-fed to a captive audience of students to meet the demands of common syllabi, texts, and tests. As a result of all of this, convergent thinking is encouraged (see Figure 1).

FIGURE 1
THE PROBLEM OF TEACHING CRITICAL THINKING: THREE APPROACHES
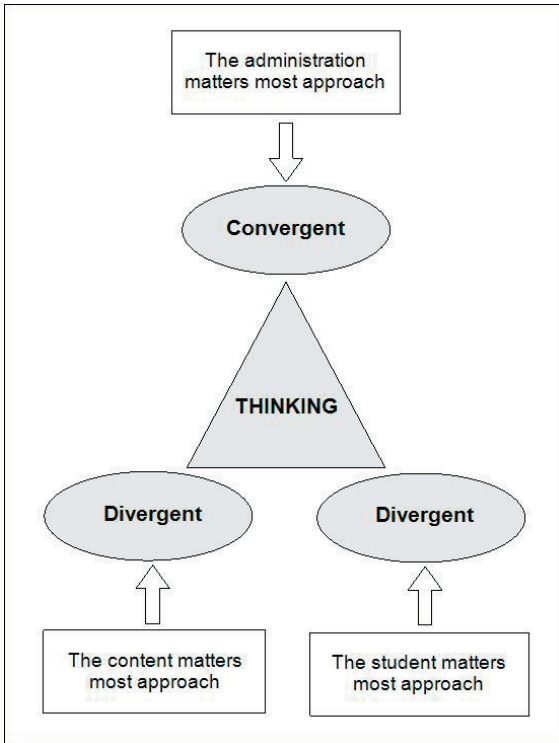
To be sure, there are some problems to consider. First, the administration wants the developmental teacher to be like the manager of a kind of production line, where students enter the factory as raw material and are somehow assembled as graduates. Second, the administration matters most approach does not account for, and is independent of, the content taught, the context in which teaching occurs, and the backgrounds of the students and teachers. This is not surprising since the administration is outside the process of teaching and learning: the administration merely regulates the content and activities of the teacher and learner. Finally, the administration matters most approach leads to alienation by driving a wedge between the student and the teacher. When the teacher becomes the executive, the learner, overwhelmed into passivity, always acquires someone else's knowledge, on someone else's terms, for someone else's purposes. All this breeds animosity toward the teacher who is unwaveringly following the administration's call to fill the student's head with specified content that has been selected, packaged, and conveyed by others to force the student to attend, not to his or her own feelings, thoughts, and ideas, but to the sterile thoughts, images, and attitudes of others.

To teach otherwise, is to engage in what seems to be academically irrelevant activity. For instance, the practice of acting friendly with the class is not a practice usually associated with gains in student learning. The students are not learning the subject matter when a teacher is talking about ballgames, the latest national news, and the hot gossip around the university. Nonetheless, the student matters most approach to teaching may be incongruously piggybacked onto the already established the administration matters most program by the administration, usually stimulated by the customer is always right campaign in demand these days by the administration because of the corporatization of American universities. This approach to teaching may be diametrically opposed to the administration matters most approach, since it views the teacher as an empathetic person charged with helping individuals grow personally and reach higher levels of self-actualization, understanding, and acceptance. As the Chinese proverb notes: teachers open the door, but you must enter by yourself. The teacher engages the student in the study of some content for the purpose of helping the student become an authentic person, for who the learner is, cannot be separated from what is learned and how it is learned. The student matters most approach emphasizes who the student is, and what he or she chooses to become. Furthermore, student-centered instruction is encouraged when the teacher is likable,

expressive, trustworthy, and similar to the students in some respect, since the teacher provides an environment that reduces fear or anxiety in the classroom.

Accordingly, the teacher elicits student interest in what he or she plans to teach by asking: What are the backgrounds of these students in my class? What do they care about and what is their interest, if any, in the study of the subject matter of our course? So what is important, then, is not what can be taught, but rather what is learned. And the only significant learning is self-discovered and self-appropriated learning. Hence, the focus of the student matters most approach is not on what the administration wants the teacher to do, but on the learner. As a result of all of this, divergent thinking is encouraged, i.e., differing thinking that does not evaluate the reliability of reasoning and information (see Figure 1). And divergent thinking is typically incompatible with a standardized program of one-size-fits-all instruction. This is because a standardized program of instruction encourages convergent thinking through the demands of common syllabi, texts, and tests. Moreover, the notion that the teacher, as a facilitator, is not one who imparts knowledge and skill to another, but one who helps another gain his or her own knowledge and skill, is typically not well-received by the administration. Furthermore, with a large number of sometimes apathetic or cynical developmental students in a classroom and the heavy demands of the curriculum, some administrators argue that they are simply unable to deal with the multiple characteristics and needs of students in the program unless standardization is in place across the board. Unfortunately, in the balancing act between the standardized program and the student matters most approach, the administration's student retention goals may tilt the scale in favor of the customer, who more than likely is not interested in the active and difficult academic study of critical thinking.

The last approach to teaching brings content to the forefront. In this approach, students are engaged in the many sides of the subject matter through class participation that aims at self-disclosure and discovery learning or understanding. But the aim is not simply to help the student to acquire content, but to enable and empower the student to grasp, interpret, and extend the content beyond the limits of everyday experience. The content matters most approach views the teacher as liberator, a freer of the individual's mind and a developer of well–rounded, autonomous, rational, and moral human beings. Here, the teacher engages the student in the study of some content for the purpose of help-

ing the student liberate the mind. The teacher appears to have nothing to gain if the students accept the information and arguments. So if something interesting happens in the class discussion, in the content matters most approach the teacher does not cut it off in order to get to the next planned event. Correspondingly, teachers, as educators, never let their instructing interfere with their educating. As a result of all of this, critical thinking is encouraged to evaluate the reliability of reasoning and information (see Figure 1). This is because critical thinking is a purposeful mental activity that takes something apart and analyzes it on the basis of an intellectual standard, e.g., clarity, accuracy, precision, relevance, completeness, reliability, soundness, fairness. But, critical thinking is typically incompatible with standardized programs of developmental instruction, since convergent thinking is encouraged via a program that usually demands common, one-size-fits-all syllabi, texts, and tests. And, if everyone is thinking alike, no one is thinking very much.

With a large number of students in a class, a large amount of content to be covered from a common textbook, and standardized tests to be taken on a rigid schedule, some administrators argue that they are simply unable to allow for more time for the educator to follow a discussion in the classroom to its conclusion and make the class more interesting for all concerned. This is unfortunate, since liberating the mind requires a manner of teaching that is heavily influenced by the content itself. For example, if as a developmental math teacher, you hope your students become critical, analytical thinkers (because that is a prerequisite mindset for doing good mathematics), the nature of your subject demands that they observe you doing critical thinking. So the developmental math teacher strives to teach students to apply reasoning and critical thinking to develop their conceptual understanding of mathematics so that they may understand better the universe in which they live and the quantitative problems affecting their lives.

However, given the broad range of individual differences of our students in most developmental classrooms, and that these students must be actively involved in determining how they are going to learn in the content matters most approach, not all standardized programs will be able—or even want—to develop the critical thinking skills espoused by the content matters most approach. Moreover, many instructors (not to be confused with educators) are simply not able to master and teach the content matters most approach well. And this is a problem, since learning also occurs by doing what the teacher models.

Conclusion

In conclusion, the administration matters most approach to teaching is indeed, for all but the most engaging teachers, a lesser form of instruction and scarcely to be idealized. Accordingly, this approach to teaching will not always lend itself for the developmental educator to teach critical thinking. This is because to teach critical thinking, our developmental classes must provide educational opportunity for all individuals, appropriate to their needs, goals, and abilities. To develop reasoning and critical thinking skills in our classrooms, the developmental educational program must provide an independent teaching and learning environment so that educators and students alike may indeed take command of their intellectual lives.

When the educator is allowed academic freedom to set the content and method of his/her course, teaching appeals not only to behavioral, but cognitive learning, avoiding the bifurcation of learning. This is important, since "critical thinking [as a purposeful mental activity] is an active skill-building process, not a subject for passive academic study. Moreover, . . . it cannot be mastered through knowledge of norms and rules alone" (Mayfield, 2001, p. 5). This suggests that once unfettered by the demands of a standardized program of developmental instruction, e.g., common syllabi, texts, and tests, teaching critical thinking is improved or enhanced. Accordingly, the developmental educator is in a better position to encourage his or her students to interrupt lectures with questions, partly to raise the plane of comprehension, partly to keep them (divergently and critically) thinking, and partly to generate self-discovered and self-appropriated learning through discussion. So the very act of participating in class becomes a way of engaging the material, wrestling with it, struggling to comprehend or to take issue, but in any case entering into the subject.

As we have seen, the administration matters most approach highlights what the administration wants the teacher to do. But this approach generally misses several of the crucial keys to learning and education. Learning begins with participation, immersing oneself in the activity at hand, listening, judging, and offering active responses, often thinking outside the box. Education is a meeting of independent minds, a process through which the student draws from within a response to what an educator teaches, unrestrained by the shackles of common, one-size-fits-all syllabi, texts, and tests.

REFERENCES

Coon, D. (2003). *Essentials of psychology* (pp. 569-571). Belmont, CA: Wadsworth.

Fenstermacher, G. D., & Soltis, J. F. (1986). *Approaches to teaching*. New York: Teachers College Press.

Mayfield, M. (2001). *Thinking for yourself: Developing critical thinking skills through reading and writing* (pp. 4-6). Orlando, FL: Harcourt, Inc.

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