NADE Digest

a resource for those who help underprepared students prepare, prepared students advance, and advanced students excel

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Morphology and Vocabulary Acquisition: Using Visual Cues from Word Parts to Enhance Recall and Decode Newly Encountered Words

Tom Bellomo
Daytona State College

An enhanced replication of an original quasi-experiment (Tom Bellomo, 2009b) was conducted to quantify the extent of long term retention of word parts and vocabulary. Such were introduced as part of a vocabulary acquisition strategy in a developmental reading course at one southeast four-year college. Aside from incorporating changes to the test instrument, creating a course-specific workbook, and including more detailed demographics, the emphasis of this present study was on measuring student recall of instructed items—months after the conclusion of the course. Robust results, though generalized solely to this convenience sample, warrant further investigation by those interested in strengthening students' college reading readiness.

Background

In education in general, and higher education in particular, reading is the salient skill used across the curriculum. In college, it is the primary means whereby content is disseminated. Reading efficacy, in turn, is chiefly linked to the extent of one's passive vocabulary knowledge (Sternberg, 1987). Instructors are fairly uniform in their belief that their students could profit from some form of vocabulary instruction, but there is less agreement as to what technique to use. Learning isolated words often results in short term retention; however, strategies that help to recall words learned and make the student an independent learner of new words are of far greater value.

One strategy I have employed that has demonstrated broad success within my developmental reading course is Morphological Analysis (MA). Morphological Analysis capitalizes on the physical

form (morph = form) of word parts that remain visually stable though phonologically altered. For example, aurally it would be difficult to discern that *sign* and *signature* are morphologically related (sīn; sĭg-n-chĕr) as the root is pronounced much differently in each. Nevertheless, the visual aspect (*sign*) is retained in both and offers a clue in reading that is not apparent in listening. Hence, English is morphophonemic, not solely phonetic. Since morphemes are by definition the smallest units of meaning, perceptive readers exploit their knowledge of these meaning units when visually recognizing them and mentally cross-referencing them with known words. As pointed out by Nagy, Berninger, and Abbott (2006), students will encounter increasingly complex words as they progress through school:

> More than half of the words in English are morphologically complex. Morphologically complex words are more common in written language (and especially academic language) than in spoken language . . . . Thus, with each grade children encounter an increasing number of morphologically complex words. The majority of these have meanings that can be inferred from the meanings of their component parts. (p. 134)

Consequently, proficient readers need strategies to help them deal with this morphological complexity. Not only does MA act as a strategy to unlock the meaning of unknown words, but directly instructed roots and affixes serve as mnemonics to assist in the recall of morphologically complex vocabulary introduced as part of the curriculum. "The fact that the mental lexicon of adult readers is morphologically organized suggests that morphological knowledge may serve as a framework to efficiently store words" (Kuo & Anderson, 2006, p. 162).

My personal experience serves as an illustration in the following anecdote. I recall coming across the word *deride* while reading a passage years ago. Context clues left the word ambiguous, so I looked up the word in a pocket dictionary and learned that it meant "to laugh at, mock." This being a relatively low frequency word, the next time I encountered it was perhaps a year or two later. Not having retained its meaning, I looked it up a second time. Some distant time after that, I came across the same word yet again and was bothered because I had failed to retain its meaning. It was similar to retaining a phone number in short-term memory just long enough to place a call—once used, the memory of it is discarded. This third time I came across the word *deride*, I referenced an unabridged dictionary that offered root etymologies. I learned that the word is comprised of the root *ridere*, to laugh; additionally, the entry went on to note that the word means "to laugh at, make fun of; ridicule." Instantly a light went on when I saw the synonym, *ridicule*. I knew what that word meant, and it was now obvious that *deride* and *ridicule* were derivations based on the same word part, *rid* (to laugh). It was the visual (morph = form) not the aural component that helped me make the connection. Seeing the morpheme *rid* in both *deride* and *ridicule* forever fastened the meaning of the former word in my mind.

Course Pedagogy

Based on my understanding of morphological analysis and its help to me personally, I developed a process for using MA with my developmental reading class. I created an original workbook to introduce word parts and vocabulary derived from those parts each week; this booklet served as the primary means of instruction. At the end of each weekly unit, the workbook included a vocabulary review in the form of sentence completion. Student responses to this homework assignment were later reviewed in class. The next homework assignment was a crossword puzzle—included in the workbook—that covered a mixture of word parts and vocabulary from the unit. At the end of each week students took a unit quiz. Beginning with the second quiz and on through the remaining quizzes, I added a review section comprising a sampling of word parts and vocabulary from each of the previous weeks. The intent was to strengthen memory links through intentional re-exposure. After five weeks of instruction (7.5 week semester), students had covered 29 prefixes, 20 suffixes, and 35 roots, which together, produced 147 distinct words they were required to learn (not including inflections or subtle derivations that change the part of speech). At the end of the semester, I administer a comprehensive final exam. Not only was this used as a summative assessment,

but it also offered a final means to deeply embed word parts and corresponding vocabulary into long-term memory.

In selecting the word parts that constituted the workbook, and hence instruction, I have identified critical criteria requisite for a successful program:

Criterion one: Stable form (the visual cue)

Word parts were taught as commonly seen in the target words. To facilitate this, no strict adherence to a morpheme's classical origin was made. The morpheme *malus* is almost exclusively written as *mal* and is visually evident across a broad spectrum of words—*malefactor, malignant, malfeasance,* and *malcontent*, so this word part, along with many others, was taught in its simplified and most prevalent written form.

Criterion two: Semantic Transparency (the meaning cue)

Words that were taught exhibited a clear parts-to-whole relationship, i.e., the morpheme's meaning was evident and offered a semantic clue in each of the target words. Note how the meaning of *ject* ('to throw') is evident in the following words—*eject* (to throw out), *reject* (to throw back), *interject* (to throw between), *projectile* (a thing thrown forward), and *trajectory* (thrown across).

Criterion three: Ubiquity (practicality)

Morphemes taught were found in a minimum of five words from the same family (see Holmes and Keffer, 1995), not mere derivations that change only the part of speech, as from *reduce* (verb) to *reduction* (noun). Why commit to memory a word part if it served to assist in the recollection of only one or two words? Consider the ubiquity of the word part *duc*, which means "to lead": *abduct, aqueduct, deduction, ductile, induce,* and *seduce.* Incidentally, note how each of these words meets the other two criteria.

Conclusion

In my experience over the years teaching vocabulary acquisition through morphological analysis, I have found this technique to be engaging and rewarding for students from many diverse backgrounds. In my developmental reading classes, I have seen students who were not keenly motivated in other aspects of the course to be quite engaged with learning vocabulary in this manner. I have been encouraged to see a number of these same students initiate the creation of their own index cards to rehearse the meanings of vocabulary and word parts in preparation for weekly quizzes. Students in general appeared to have also had a marked interest in discovering previously learned word parts in newly encountered words, or to recognize one of their stored vocabulary items in reading. When I have spoken with various students months after the course ended, they have commented on how the technique helped them in other classes, or how they were able to unlock the meaning of complex words that others in their class could not.

Typically, morphological instruction that has been unfruitful has either omitted the critical criteria set forth above, and/or a sound, sequential pedagogy that provides sufficient re-exposure throughout the course. Though previous research has empirically demonstrated end-of-semester retention gains (Bellomo, 2009), subsequent data is currently being amassed to assess the technique's efficacy regarding long-term retention.

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Confidence Using Best Practices to Teach Writing: A Case Study of Community College Professors

Sharon J. Koch
Goodwin College

The issue of preparation of the nation's student body has many facets, including the preparation of faculty charged with their instruction. This article reviews findings from a single-case study of community college English faculty members' perceived self-efficacy (Bandura, 1997) using best instructional practices, as identified by the National Association for Developmental Education (NADE; 2009) to teach writing to underprepared students. The sample included 12 faculty members from a community college in a northeastern state. Seven of the 12 survey respondents also participated in an interview. Overall, the data indicated that faculty members were confident in using the practices. Some interview data did not reinforce survey data, providing a robust area for further consideration.

Individuals charged with the instruction of writing to underprepared students have a formidable task. The subject of remedial education in higher education is a controversial subject, often accompanied by finger pointing at secondary education, family support levels, or society in general. Questions remain as to the way we assess college readiness, and numerous initiatives are taking place throughout the country to address these topics. One topic that has not received considerable attention to date is the confidence level of English professors to carry out their instruction using recommended practices. If the professors are not sure how best to approach their task, their link in the education chain becomes weak.

Having identified this problem after an extensive literature review, I set out to do a case study to examine confidence levels in

using best practices to instruct underprepared students. To assess confidence levels, I designed a survey instrument and used in-person interviews to collect additional data. The sample included 12 faculty members from a community college in a northeastern state. Seven of the 12 survey respondents also participated in an interview. Overall, the data indicated that faculty members were confident in using the practices. Of note, some interview data did not reinforce survey data, providing a rich source of information for analysis.

This article reviews the major findings of this single-case study to explore and describe community college English faculty members' perceived self-efficacy (Bandura, 1997) using best instructional practices, as identified by the National Association for Developmental Education (NADE, 2009) to teach students who are underprepared for college. More specifically, the focus was on using NADE's best instructional practices within the context of teaching basic writing. The concept of perceived self-efficacy is defined by Bandura (1997, p. 3) as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" in actions related to particular tasks in a specified domain and context. In practice, self-efficacy is analogous to a person's confidence level, acquired through various methods described in Bandura's theory. The study was guided by one primary research question: What are community college English faculty members' reports of self-efficacy using best instructional practices, as identified by NADE, to teach students who are underprepared for college?

The best instructional practices for developmental educators, as identified by NADE, were cultivated in a cooperative effort by developmental professionals across the nation. This process involved an extensive review of the literature, dissemination at national conferences, and field-testing. NADE's standards for best instructional practice "reflect the current knowledge and research of best practice in academic support and developmental education" (p. ix) and mirror those identified by other researchers (Boroch et al., 2010; Carnegie, 2008; Chickering & Gamson, 1999; Schwartz & Jenkins, 2007; Simpson, Stahl, & Francis, 2004; Smittle, 2003).

The Mission and Role of Community Colleges

The primary mission of community colleges has been to offer universal access (Grimes & David, 1999) to higher education, effectively changing the way Americans have viewed college students. The ideology behind all community colleges is that they will be an integral part of their community, accept all students who desire higher education, and require minimal tuition. In terms of meeting this overarching mission, community colleges have shown success in eliminating or minimizing geographical and financial barriers. The downside associated with open access to a college education is that a large number of students fail to graduate, which serves neither the individual students nor the nation as a whole in preparing educated citizens for the workforce (Jez & Venezia, 2009).

Underprepared students constitute one of the most critical challenges facing community colleges today (Crews & Aragon, 2004; Levin & Calcagno, 2008). The two groups of stakeholders most closely involved in the issue of students who are underprepared are the students and the college faculty who teach them. Implications for students include success in meeting their academic and personal goals.

A study conducted by the Center for Community College Student Engagement (2009) revealed, among other key findings, that while 90% of entering students believed they have the motivation to succeed in college, a full 60% of them are required to enroll in at least one developmental course. Underprepared students do not have one uniform face; they are a diverse group including new high school graduates, displaced homemakers seeking to upgrade skills, unemployed persons trying to gain an edge in the job market, and immigrants who may possess the intellectual capacity to succeed, but not the language skills (Bailey, 2009). Although a negative stereotype exists to suggest that most students taking developmental courses in college are doing so because of inadequate secondary preparation, the research (Attewell, et al., 2006) points to broad issues that appear contradictory. Attewell et al. noted that 14% of developmental students took the most advanced curriculum in high school.

The Importance of Writing

Evidence of success in at least one English course is a requirement for every program of study offered in community colleges in the northeast state where the study was conducted. Furthermore, according to the National Association of Colleges and Employees (2010), solid communication skills appear repeatedly as a much sought after trait by employers. In order for community colleges to prepare students for the workforce, it is necessary to bring skill levels in English up to competency.

The research related to community college students, English, and developmental coursework is limited in terms of methodologically sound studies that thread the three components together (Bailey, 2009; Schwartz & Jenkins, 2007). Willingham and Price (2009) conducted a study of community college English faculty who teach vocabulary skills to underprepared students. Citing how a weak vocabulary compounds the other problems often faced by underprepared students, they explored different instructional strategies and concluded that a "superior teaching strategy does not exist" (p. 102). Willingham and Price further suggested that future research should focus on a wide variety of strategies.

The question remains as to whether community college English faculty members, the second major group of stakeholders affected by the issue of students who are underprepared, feel confident and capable in meeting the learning needs of these students. According to Murray (1999), "Many new faculty members will not arrive on campus with the knowledge required to be effective at working with a diverse student body" (p. 44). Darling-Hammond and Bransford (2005) asserted that educators need to know how to address the needs of their students. Faculty members need to believe that they possess the skills and abilities required to advance underprepared students from their entrance level to a point where the students are capable of college-level academic rigor. If they do not believe they are confident in their practice, their efforts may be negated by their own lack of confidence in meeting the demands of the job.

The recommended practices for working with underprepared

students, as detailed in NADE's self-evaluation guide (2009), serve to frame those responsibilities and define the actions and expected capabilities. Table 1 defines the five components for best instructional practices.

Table 1
Summary of Best Instructional Practices (NADE, 2009)

Components	Description
Student Outcomes	Evaluation and assessment processes (i.e., clarity in evaluation, variety in forms of assessment, timely and honest feedback) used by instructors (NADE, 2009).
Knowledge and Preparation	Essential and recommended pedagogical areas for instructors to hold strong competency in to achieve successful results with underprepared students (NADE, 2009).
Management of the Learning Environment	Essential and recommended ways for instructors to manage the course and class environment to achieve successful results with underprepared students (NADE,2009).
Teaching Style	Instructors' methodological practices (i.e., philosophy of teaching, non-judgmental toward students, encourage inquiry, confident in role as a teacher) to achieve.
Teaching Process	Instructors' pedagogical beliefs and attitudes concerning how to achieve successful results with underprepared students (NADE, 2009)

Results

My analysis of the survey data yielded 39 findings, which were determined by item response rates. The interview data yielded 35

findings; a finding was generated when four or more interviewees provided an example of a given practice. Taken together, the study yielded 74 findings. Each set of results is presented by its NADE component.

Student Outcomes

Overall, survey respondents (N = 12) reported being almost always confident in using best instructional practices related to the student outcomes component (NADE, 2009). All survey respondents indicated that they were confident in their ability to evaluate student performance fairly, use a variety of methods to assess student learning, and provide timely, honest feedback regarding students' progress.

All interviewees (n = 7) described instances of applying instructional practices related to student evaluation and assessment processes (i.e., student outcomes component). Emerson shared how he allowed students the opportunity to improve their work in exchange for a higher grade.

Knowledge and Preparation

Overall, survey respondents (N = 12) reported being generally confident in using best instructional practices related to the knowledge and preparation component (NADE, 2009). All survey respondents indicated that they were confident in their knowledge of basic writing, assessment of students' prior knowledge, sequencing of learning tasks, current research, and new technologies. Additionally, survey respondents indicated that they were confident in their ability to engage in self-reflection, share instructional strategies with colleagues, know their limitations in meeting students' needs, be aware of campus resources, and be able to make appropriate referrals as necessary.

The observations regarding the need for referrals often tied in with their understanding of their limitations; six interviewees spoke candidly about their limitations in meeting student needs. Interview respondents often learned of dire circumstances through students' writing.

Celeste commented that she works with many students

dealing with significant personal problems. Celeste asserted, "You can't learn if you're living in a car. You can't learn if you're getting beat up." She also spoke of a student sneaking into a church to sleep at night, "kids in and out of jail, or in and out of court" and how she was able to use her knowledge of resources to help in these situations.

Management of the Learning Environment

Overall, survey respondents (N = 12) reported being always confident in using best instructional practices related to the management of the learning environment component (NADE, 2009). All survey respondents indicated that they were confident in their ability to issue clear, understandable guidelines for learning, model professional and ethical standards, serve as a learning resource, and provide an environment that allows students to take risks and make mistakes. Five interviewees (n = 7) provided examples of how they create an environment that allows students to take risks and make mistakes. Jackie talked about how she holds group discussions in order to put students at ease in her class:

> We make sure that every single student is involved in the conversation. That's important. And we make sure that we prompt and let the kids talk, but we prompt and encourage and 'nobody's wrong' and all that respectful attitude kind of stuff. We do all of that.

Kenneth was insightful when he spoke of the importance of invoking critical thinking, but not in a way that puts students into a defensive posture. He said that "the only way really to have them adopt opinions or an approach that's on that mental level is think that they are not being made to look foolish or anything like that."

Teaching Style

Overall, survey respondents (N = 12) indicated that they were almost always confident in using best instructional practices related to the teaching style component (NADE, 2009). All survey respondents indicated that they were confident in the following areas of teaching style: their belief in their students' ability to learn, ability to be non-judgmental and respectful toward students, ability to encourage intellectual interactions through questioning,

ability to provide positive reinforcement, ability to demonstrate self-assurance, and ability to nurture students academically. Six interviewees (n = 7) provided examples of their belief in their students' ability to learn. Jackie spoke of her desire to help students, yet be mindful that the student has a responsibility to bear as well. She explained her view as follows:

> There's a lot of talk now about looking again at test scores and Accuplacer® scores, perhaps eliminating the bottom rung because some people think that some people aren't teachable. And that may be true, but [my co-teacher] and I were always on the page that we're going to do it. If the student is willing, we can help that student make progress. Usually, in my opinion anyway, what holds kids back is not their inability to progress, but their unwillingness to do the work. So, I mean . . . I can't do anything about that, if they don't show up, they drop out of class. Their body's present, but their mind's someplace else. Well, I'm not a miracle worker. I can't do anything with that. But I think that for the student who is willing, we can certainly move them along the path a little bit.

Teaching Process

Overall, survey respondents (N = 12) approached being always confident in using best instructional practices related to the teaching process component (NADE, 2009). All survey respondents indicated that they were confident in the following areas: their teaching process, including their ability to link learning activities to student learning objectives, vary teaching techniques, respond to a diverse student body, provide structured assignments, select an appropriate learning pace, be well-organized and well-prepared, help students learn organizational skills, demonstrate active listening, apply all levels of Bloom's taxonomy, provide instruction and practice in study strategies, promote transfer of learning, challenge students to learn, and foster collaborative learning. Four interviewees (n = 7) provided examples of how they challenge students to learn. Celeste illustrated the essence of how to do this though experiential learning that really "hooks" students into a holistic view of learning. She spoke of taking her developmental

writing students outdoors during a local music festival:

> So we talk about 'what is music.' You know, music is poetry. Music is communicating. We are able to talk about body language, the tune, the rhythm. There are a variety of ways of communicating. Even when you read . . . you read rhythmically.

Discussion

The importance of effectively teaching underprepared students the skills of basic writing cannot be overstated. Researchers (Maimon, 2002; Willingham & Price, 2009) have shown that students who do not possess strong mastery of reading and writing are less likely to be successful in postsecondary education. At the same time, employers demand a skilled, literate workforce (NACE, 2010). In order to connect workforce needs to learning outcomes in a collegiate setting, many students must first progress through one or more developmental English courses. It has been suggested that faculty members teaching developmental courses largely lack a comprehensive understanding of why they conduct their lessons in the manner that they do (NADE, 2009). Therefore, it would seem that faculty members who are confident in using the practices put forth by NADE should also garner a strong understanding of exactly how their actions might lead a student towards greater skill attainment. In the case of the study under review, faculty can best achieve this goal by reflecting on the areas where they tacitly acknowledge a lack of confidence.

In the main, faculty members participating in this study were confident in using best instructional practices as identified by NADE (2009). Nevertheless, the interviews did not always reinforce findings from the survey. For example, while nine survey respondents (N = 12) felt confident in linking learning activities to student learning objectives, only three interviewees provided examples of how they accomplished that in their courses. Similar discrepancies between the survey data and interview data occurred in the areas of assessing prior knowledge, selection of an appropriate learning pace, active listening behavior, use of current literature, inclusion of technology, effective use of questioning, and finally, application of all levels of Bloom's Taxonomy. The

significance for each of these seven areas is described in the NADE Self-Evaluation Guides (2009):

Assessment of Prior Knowledge. NADE's (2009) best instructional practices related to knowledge and preparation emphasize assessment of prior knowledge. Anderson (1981) suggested that prior knowledge is important for understanding and remembering new information. Bueschel (2008) highlighted listening to students as one method to learn about prior knowledge.

Selection of an Appropriate Learning Pace. The pace of the learning should be selected in a manner appropriate to the subject topic, goals and objectives, and student readiness (NADE, 2009). Because assessing prior knowledge seems to have an important role in the manner in which faculty set the learning pace, faculty members need to be able to gauge it among their students and build upon it (Holmes & Rosser, 1987). Experiential learning techniques could be one way for faculty members to access students' prior knowledge. They provide a means by which students can begin to see how their past experiences can assist them in their efforts to assimilate new information.

Active Listening Behavior. Bueschel (2008) stated that hearing about students' authentic experiences can provide faculty members with key knowledge. Faculty members should pay particular attention to their ability to listen to students as an overlooked means by which they might enhance underprepared students' experiences.

Use of Current Literature. NADE (2009) encouraged the use of research in both content and pedagogy as a recommended practice. Given the information-rich environment in which higher education exists, accessing up-to-date research seems relatively easy to do. Perhaps the part-time status of the majority of faculty members in this study prevented them from being able to give full attention to the matter; additional information would be needed to understand the reasons. Another area of interest would be an investigation into why faculty members, who arrive with a very high level of education themselves, are not inclined to review current literature.

Use of Technology. According to Schacter (1999), a large study carried out in 1994 by Kulik and Kulik in a postsecondary setting found that "students like their classes more and develop more positive attitudes when their classes include computer-based instruction" (p. 4). Given the popularity of technology (e.g., smart phones, netbooks), it would seem that technology-based instruction is an important tool for community college faculty members to embrace. In addition, due to the dynamic nature of technology, professional development might be an important consideration for administration.

Effective Questioning. Hannel (2009) stated that effective questioning can keep students interested, ultimately leading to greater student achievement. There are many basic tenets of questioning that serve to increase student engagement and learning, yet few teachers have been taught a practical pedagogy of questioning (Hannel, 2009). It would seem appropriate for professional development activities to include instruction in the art of inquiry so that faculty members could be both knowledgeable and confident when they employ those practices in the courses they teach.

Application of Bloom's Taxonomy of Educational Objectives. Bloom's Taxonomy is a model for faculty members to consider the rigor of what they teach. It includes various levels of critical thinking, from a very basic level through a synthesis of ideas that require higher-ordered critical thinking skills. Schulman (2002) cautioned educators to avoid falling into the belief that following a certain order "was the only legitimate way to learn something" (p. 40). Still, the rigor that Bloom's Taxonomy puts forth serves as an important model for educators to consider as they reflect on their lessons. In a similar way, The Council of Writing Program Administrators, together with the National Council of Teachers of English and the National Writing Project (2011) developed a framework which recommends that teachers craft assignments that elicit critical thinking from students. The creators of the framework stress the importance of critical thinking through writing at the postsecondary level given the number of students being asked to "move past obvious or surface-level interpretations and use writing to make sense of and respond to written, visual, verbal, and other texts that they encounter" (p. 7). It would seem

that their recommendations, along with the use of models such as Bloom's Taxonomy, should be taken into consideration by faculty members working with underprepared students.

In sum, there are many ways to improve learning outcomes for underprepared students. Targeting evidence-based areas, where faculty members have demonstrated a lack of confidence, would be a beneficial avenue of pursuit for professional development and scholarly investigation.

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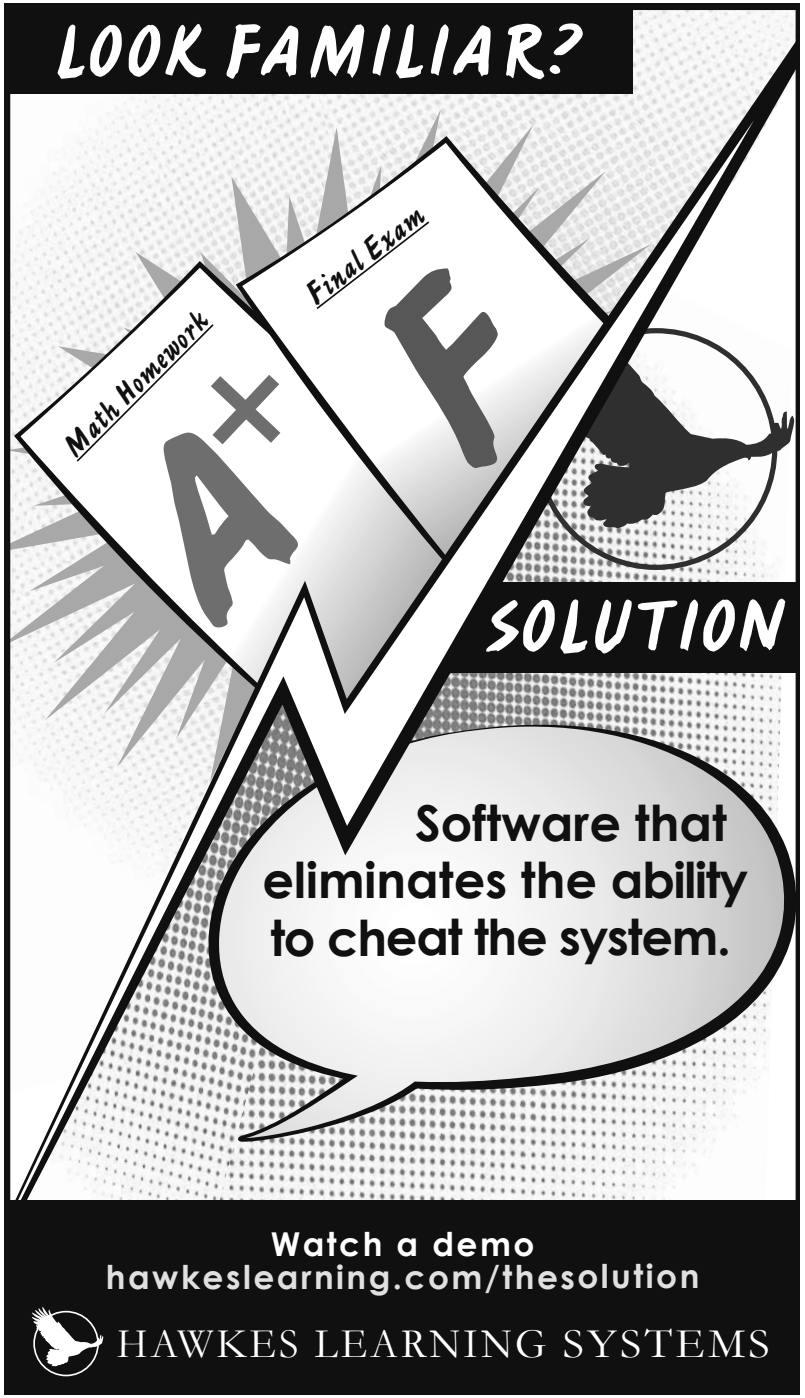

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Considering a Technological Redesign of Developmental Mathematics? It's Sixes

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As a remedy to the lack of student success in developmental mathematics courses, many institutions have been moving toward computer-based instruction as a means of replacing current lecture offerings. An increasing number of institutions have reported using technology as the primary instructional tool for mathematics courses, with digitized delivery systems gaining headway in many institutions. Indeed, a move away from traditional lecture-based instructional methods offers an array of pedagogical possibilities; however, the decision to redesign course offerings to include a strong technological component can be complicated. This article presents a balanced literature-based and practitioner-confirmed assessment to help developmental educators make informed decisions regarding the concept of computer-based instructional redesign.

Populated with large numbers of students who are ill-prepared to grasp the material at hand, developmental mathematics courses are particularly susceptible to student failure. Indeed, the National Center for Educational Statistics [NCES] (2003) reported that upwards of 50% of developmental students fail on their first attempt in remedial writing and mathematics courses. Consequently, many colleges and universities have joined with the National Center for Academic Transformation [NCAT] (2011) to design programs that use technology to improve student learning outcomes while reducing the overall cost of education. In doing so, NCAT has helped dozens of institutions implement models of

instruction by which schools such as Cleveland State Community College have seen success rates in developmental mathematics increase by nearly 20% (Squires, Faulkner, & Hite, 2009) by offering students a more self-directed learning environment via instructional software. According to NCAT, the underlying principle behind instructional redesign is simple: "Students learn math by doing math, not by listening to someone talk about doing math. Interactive computer software, combined with personalized, on-demand assistance and mandatory student participation, are the key elements of success" ("Redesigning Mathematics," para. 1).

So what is an institution to do? To invoke an overplayed, yet always effective query: "To redesign or not to redesign?" is certainly the question that will confront many developmental educators in the wake of perpetual student underachievement, continued fiscal uncertainty, and a rising generation of "wired" students. Using literature-based findings and my own first-hand experiences teaching within a computerized model of instruction have led me to conclude that "it's sixes" when it comes to implementing a technologically-based redesign of mathematics instruction: Six reasons developmental educators should become enamored with computer-based redesign are tempered by six deterrents that need to be carefully weighed by administrators and educators alike.

Six Advantages of Computer-Based Instruction

1. Mastery Learning: Advocated by Bloom (1968) since the 1960s, mastery learning emerged as one of the more prevalent educational theories because of its ability to increase student competence as well as confidence. The rationale behind mastery learning is that students learn best when they participate in a structured, systematic program of learning that enables them to progress in small, sequenced steps (Parkay, Hass, & Anctil, 2010). In terms of methodology, these steps generally include corrective feedback and additional time to correct errors until a cycle of teaching, testing, re-teaching, and retesting is established. In the decades following Bloom's original premise, mastery learning activities proved to be cumbersome and time-consuming for both teachers and students, and have ultimately been replaced with a curriculum that emphasized breadth over depth (Guskey, 2007).

However, the emergence of responsive technology has once again led to a renewed interest in mastery learning.

Cognitively-speaking, courses such as mathematics, whose understanding is largely predicated on the students' ability to comprehend and master the previous material, have the unique potential of benefiting greatly from a mastery-learning approach. In a computer-assisted, mastery-learning course design, students are allowed to redo homework assignments and retake randomly regenerated versions of quizzes and tests until reaching a predetermined level of mastery, usually set between 70 and 80%. Performing the work of a thousand instructors in the blink of an eye, computer-assisted instruction has the ability to determine students' knowledge of fractions and factoring before introducing them to more complex topics such as rational and quadratic functions.

In revisiting Bloom's fundamental conjectures, Guskey (2007) found that the benefits of mastery learning are not exclusively cognitive. The more time that students are allowed to take to digest and apply information before being instructed in the next set of curriculum objectives, the more that students will improve on a wide variety of affective measures, such as their confidence in learning, their school attendance rates, their class involvement, and their attitudes toward learning.

2. Instant Feedback with Individualized Tutorials: In terms of educational significance and practical implementation, where the benefits of whole-class instruction end, the boons of technological practice begin. Bennett (2001) suggested that direct education at the digital hands of a computer would equip each student with a private tutor throughout his or her educational career. Through frequent methods of assessment, the computer identifies information the student lacks and works privately with the student to correct any problems, while at the same time providing a cumulative review of critical concepts.

Frequent testing gives developmental students the opportunity to practice their skills and receive regular feedback concerning their level of understanding. Not surprisingly then, developmental students are more successful in courses in which

rich and recurrent assessment opportunities are provided (Boylan, 2005). To this end, a philosophical marriage between research-based best practices and the *modus operandi* of computer-assisted instruction provides students with the valuable practice and learning opportunities that accompany the frequent-testing models of mastery learning.

3. Self-Pacing and Control: Student placement into developmental courses is not always based on intellect and skill set. Many students placed in developmental mathematics courses are simply out of practice and in need of a quick review in order to be ready for college-level instruction (Boylan, Bonham, & White, 1999). In a technologically-based model of instruction, students are tasked with regulating their own learning by advancing in their courses at a self-determined pace. Increased mobility translates into the elimination of down time between classes and more time on task. Under this system of learning, it is theoretically feasible for students to complete more than one developmental course in a single semester. Conversely, other students can elect to take longer than one semester before mastering the course material. In other words, accelerated students are not hindered by a teacher's pacing, and slower students are afforded the time necessary to digest more difficult content areas such as fractions, story problems, or logarithmic functions.

Furthermore, allowing for self-directed learning effectively puts an end to students' tendency to blame their failing grades on teacher personalities, indiscernible accents, unfair tests, or personal vendettas. Essentially, class is in session wherever an Internet connection can be found. Halfway around the world on a dream vacation, or unexpectedly confined to a hospital bed, students are no longer subjected to the restrictions of a syllabus calendar. In a technologically-based model of instruction, students are in complete control of earning whatever grade they desire in the amount of time that they require.

4. Appeal to Different Learning Styles: Courses taught through instructional redesign are no longer limited to lectures as the primary means of instruction. Instead, through the equitable use of video, audio, animation, textual, and interactive examples,

multimedia offers the diversified ability to reach individual students by meeting their personal learning-style needs. In a sense, students are able to customize their lesson plans in ways that appeal to their learning styles and "speak" to them (Stiggins, 2007). In reviewing several online learning systems, Kennedy, Ellis, Oien, and Benoit (2007) noted that an appreciable advantage of interactive learning systems is that students can pause, rewind, and replay video tutorials over and over again, unlike the fleeting explanations of the traditional lecture.

5. Mathematics and Test Anxiety Implications: "I know the material… I am just a bad test taker." While many educators could willingly debate the existence of math anxiety, test anxiety, and mental blocks, the contention is rendered moot in light of mastery learning pedagogy where the high-stakes, anxiety-inducing model of assessment *of* learning is banished in favor of a much richer assessment *for* learning approach (Stiggins, 2007). What results is a paradigm shift in which failed tests are viewed as positive learning experiences, providing room for growth and understanding. Similarly, anxious students can be put at ease in knowing that they are no longer being assessed on how fast they can do the math; instead, they are being rightly assessed by how much they know.

The appeal of computer-based instruction, as interpreted by Bennett (2001), is that it helps reduce many of the societal fears and stigmas of public humiliation and embarrassment that oftentimes plague developmental populations, especially those students who fail to initially comprehend the material. Under an educational system directed by computerized tutorials, the "fear of trying" is eliminated as students are neither blamed nor teased for not knowing a particular answer. Computerized instruction praises success while providing encouraging hints when a student errs.

6. Money: Altruistically speaking, money would trail behind learning outcomes on a list of instructional benefits; realistically speaking, however, it would be naïve to even begin considering a department-wide overhaul without disclosing its effects on finances. At a time when state legislatures are growing hesitant with the idea of backing developmental education (Bahr, 2008), a

model of instruction is needed that saves money without skimping on student learning. With NCAT's dual mission of improving student learning while lowering educational costs, initial redesign teams were able to reduce educational costs within all departments participating in a 30-institution pilot study. More impressively, expenditures among the 30 schools were reduced by an average of 37% (NCAT, 2011).

Financial costs are absorbed in a number of ways, but primarily through the restructuring of course sections. Classroom meetings are either reduced to once-per-week or disbanded altogether as students are directed to work from home or from a centralized tutoring lab. Fewer class meeting times allow for more course sections per faculty member, which in turn reduces the large-volume dependency on adjunct faculty members that oftentimes characterizes developmental programs. Time that faculty would normally spend on grading homework, quizzes, and tests is exchanged for one-on-one help with students in the tutoring laboratory.

Six Deterrents to Computer-Based Instruction:

Before fully committing to redesign passive lecture halls into technological hubs, developmental educators should consider six cautions with respect to computer-based learning– each discerned from personal experiences working within a technologically-restructured environment--that could easily jeopardize successful implementation and ultimately lead to a failed endeavor.

1. Use Care when Interpreting Others' Results: Several institutions such as Virginia Tech, the University of Alabama (Witkowsky, 2008), and the University of Idaho (Miller, 2010) have been recognized for their pioneering efforts in getting computer-based models off the ground (NCAT, 2011). Their successes with intermediate algebra, college algebra, and calculus populations are often used as evidence that computer-based instruction is superior to traditional methods of instruction. However, developmental educators must be wary of the implication that an effective model of instruction for college algebra and calculus students translates into a similarly effective model for pre- and beginning- algebra students.

Illustratively, students in Butler and Zerr's (2005) high-achieving college algebra and calculus sections benefitted greatly from mastery learning initiatives and gave positive reviews of their course redesign experience, while Zavarella and Ignash (2009), in working with a population of developmental students, were unable to duplicate such laudable results, instead finding that access to technology does not guarantee success. Students in the computer-based developmental courses were twice as likely to withdraw as those in traditionally-taught developmental courses at the same institution.

In reviewing the research, it would be wise to seek out only those articles that studied developmental students and whose programs were grounded in the theoretical framework of developmental mathematics. In fact, in surveying the current literature on instructional course redesign, journal articles on empirically-tested program results are few and far between. In a meta-analytic review of developmental mathematics course redesigns, Hodara (2011) noted the overuse of anecdotal findings and urged for more rigorous, methodologically-tested results to be published.

2. Self-Efficacy of Developmental Students: Developmental mathematics students have less mathematical efficacy and ability than calculus students (Hall & Ponton, 2005). While it seems a bit redundant for research to confirm what conventional wisdom had already seemingly put in place, the idea that calculus students have a more powerful belief in their ability to succeed at the postsecondary level speaks volumes in behalf of research concerning self-efficacy. In studying the learning behaviors of students enrolled in a computer-based developmental mathematics course, Wadsworth, Husman, Duggan, and Pennington (2007) found that self-efficacy accounted for the largest variance in computer-based mathematical achievement.

In a digital environment, those students with low feelings of self-efficacy are more prone to avoidant behaviors such as absenteeism and withdrawal. Confirming the phenomenon of developmental-student recoil from computer-based instruction, Spradlin (2009) was unable to run inferential statistics on her

computer-based experimental group because of the high levels of attrition among those sections.

3. What Students Want: Despite being "plugged in" to the electronic media at a high frequency, surveys are beginning to show that technology as a means of instruction is not as welcome as educators might assume. Caruso and Salaway (2007) reported that while most students expressed a desire to see technology incorporated into their courses, the majority reported that they would like to see it used to a moderate degree (59.3%), with 20.4% saying they favor extensive use and 15% preferring limited use. Caruso and Salaway deduced that the current "wired" generation of students actually prefers courses that balance technology with traditional face-to-face classroom instruction.

Similarly, in a study exploring the concomitant effects of teacher presence and technology usage on student achievement, Witt and Schrodt (2006) found that courses abiding by the extremes of either of the two variables alienated their students in ways that produced negative academic effects. The curvilinear results of their research demonstrated that classrooms adhering to moderate levels of teacher and technological presence yielded significantly higher academic outcomes. Computer-based courses run without the presence of an instructor have the potential to overwhelm the average developmental student.

4. Student-teacher interaction, though essential, may actually decrease: In typical computer-based models of instruction, students are required to spend several hours each week in a centralized tutoring laboratory to ask questions and receive help from faculty members. One-on-one human interactions are billed as the main forms of formal instruction, with technology acting as an ancillary conduit for knowledge acquisition (Robinson, 1995). Though student-faculty interactions are critical in cultivating an effective technological learning environment , the sheer number of students in need of help at any given time may actually reduce and discourage future student-teacher interactions. The overwhelming demands of inquisitive students on a small handful of faculty members has forced one technologically-redesigned institution to counsel its faculty members to spend no more than one minute

helping students before moving on (personal communication, 2011). Such restrictions may unintentionally transmit a message of contempt towards students truly in need of human support.

5. Self-Pacing and Control: Listed earlier as an advantage to computer-based instruction, personal experience has also shown that self-directed pacing gives developmental students an astonishing level of freedom that few are capable of handling. In profiling the characteristics of developmental students, Boylan et al. (1999) determined that students who typically place into developmental courses also fall into one or more high-risk sub-categories. Whether that high risk stems from a learning disability, a history of being ignored in school, a lack of English fluency, a track record of poor choices, or the stress associated with the minutiae of an over-occupied adult, an increase in freedom further challenges those developmental students who lack the time-management skills and discipline to handle this freedom. For those developmental students who have always struggled in mathematics, forcing them to learn by reading from an e-text is not enough to replace years and years of bad academic habits. Teachers model positive behaviors and change aversive attitudes; computers do not.

6. Faculty ennui: The role of faculty in a restructured computer-based model of learning is radically different from the job description that originally brought teachers into developmental education. While many outsiders would applaud the idea of removing the traditional lecturer, the involvement of faculty members in an instructional redesign model is quite limited to little more than that of a qualified peer tutor. If there is one thing that first-hand involvement in computer-based instruction has demonstrated, it is that a career that once provided a sense of personal fulfillment has the potential to be reduced to a clock-watching job, existing from shift to shift. Preparing dynamic lessons is replaced with tracking student progress. Instructors answer the same question countless times each day which may try their patience. Administrators seeking to switch over to a computer-based method of instruction need to be prepared for faculty backlash and resentment from those who derive more "personal fulfillment from a professional teaching career than from a job as

an over-qualified peer tutor" (personal communication, 2011).

Conclusion

Providing a platform for mastery learning, instant feedback, self-paced control, diversified learning styles, reduced anxiety, and lower educational costs, there is little question that computer-based instruction has potential in the future of academia. But even with effective pedagogical tools on its side, concerns surrounding the nature and needs of both developmental students and faculty are enough to cause developmental educators to proceed with caution. It's sixes.

Concerning technological course redesign, Epper and Baker (2009) noted that "Emerging pedagogical themes suggested 'promising but unproven' instructional strategies" (p. 10). Those schools choosing to proceed with instructional redesign involving computer-based instruction may benefit from increased student achievement, but risk sacrificing those developmental students who sorely lack the efficacy, time management, and self-discipline skills that are required under a self-directed model of learning. Conversely, institutions electing to stick to traditional methods of teaching and learning will benefit from quality instruction provided at the hands of excellent teachers, but run the danger of pushing students along the mathematical hierarchy without their having first mastered requisite skills.

One potential route in balancing this risks-to-rewards ratio is to implement what NCAT (2011) terms a "buffet plan," in which student learning environments are customized based on background, learning preference, and skill set. Though relatively unexplored by NCAT and the body of research literature, the buffet model of instruction requires an intense amount of student counseling and advisement before determining the "best fit" type of instruction for each individual student (Zavarella & Ignash, 2009). While most institutions have chosen to put all of their eggs in one basket in regards to instructional delivery, the buffet model gives self-directed and high aptitude developmental students the option to participate in a computer-based means of instruction while those in need of more personal accommodations can register for lecture-style offerings--which could easily be supplemented with computer-based homework--depending on student preference. In this arrangement, it is possible for developmental educators to take advantage of computer-based instruction as well as traditional classroom instruction.

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Critical Inquiry: Using Text to Connect to the Academy

Tracy Daraviras
The New Community College at CUNY

When evaluating the effectiveness of their program, members of the Brooklyn College SEEK Department, a higher education opportunity program, decided to make their pedagogy more student-centered. They created a method of reading instruction, which they named critical inquiry. Its goals are to build community through teaching students to annotate, question, and reflect on text. The use of student-generated questions as the basis for classroom activity not only makes for livelier classroom discussions, it welcomes students to academic discourse, validates their experiences, and fosters confidence in their learning. The elements of critical inquiry are transportable and can be used in varied disciplines and skill levels.

More than half of first-year college students are deemed unprepared (Tritelli, 2003). In other words, their writing, reading, or mathematics skills fail to meet university standards (Miller & Murray, 2005), and as a result they are at risk for attrition within the first year (King, 2004). In an effort to address students' underpreparedness, as well as other issues related to student retention, many colleges and universities have established first-year programs that offer academic advising and orientation seminars that introduce students to the college campus and its resources, coupled with academic boot camps to introduce students to the types of reading and writing assignments they will encounter as undergraduates (Carter & Daraviras, 2010). "Critical thinking" skills have been at the forefront of many of these workshops (Hermida, 2009; Lovoy, 2004) in which students are

asked to take responsibility for their own learning, thus putting an end to the passivity that has become commonplace in their pre-college academic careers. It is of particular importance to equip those students who come from overcrowded, poorly funded schools, which did not have the means to adequately prepare them for college, with the skills to become active learners, and to see themselves as part of the academy.

Program Background

The SEEK (Search for Education, Elevation, and Knowledge) Department at Brooklyn College, City University of New York (CUNY) addressed the issues surrounding student underpreparedness and passivity by creating the critical inquiry method of reading instruction. SEEK is CUNY's legislatively mandated higher education access program. Founded in 1968, its goals include providing access to higher education to traditionally underrepresented groups, and assimilating those students to the culture of academia. Students not only receive financial aid packages, but they are also each assigned a counselor who will oversee their advisement for the duration of their academic careers, and they have access to a SEEK learning and study center. SEEK students admitted to CUNY's senior colleges are allowed one year of compensatory instruction (Maloney, 2003).

In teaching such students, SEEK faculty realized that in order to be successful in college, students needed to break the patterns that they began in primary school (rote skill and drill approaches to text) and become active participants in their learning. Instead of working with a deficiency model, faculty decided to build upon students' strengths and to use their experiences to create connections to text, hence to make academia accessible. Faculty looked beyond the basic skills assessment tests to the college's core curriculum as the basis for choosing themes and texts (Bell et al, 1993). Their work in creating the critical inquiry method of reading instruction was supported by three consecutive United States Department of Education, Fund for the Improvement of Post-Secondary Education (FIPSE), grants, beginning in 1995 with DEP I: Making the Core a Reality for Disadvantaged Students (Bell et al, 1993).

Fostering Connections to the Academy

In reflecting on their program, Brooklyn College SEEK faculty "determined that other academic demands must take precedence over test preparation in creating a model for compensatory reading courses" (Maloney, 2003, p 665). They realized the value of having students making connections to text, and to the academy, and looked to the college's rigorous core curriculum when they decided to revise the department's basic skills curriculum to meet the demands of the college and the university's mission (Bell, 1993). They decided that it was of utmost importance to train students to become academically literate, i.e., critical thinkers. Academic literacy, learning how to read, write, and communicate in the language and conventions of the academy is difficult for most first-year students, particularly those who may lack the reading and writing skills necessary to meet the demands of a college classroom.

> "At-risk students have even less connection to the academic community and neither the experience nor the confidence to attempt to mimic its conventions. Academic literacy, requiring analysis and synthesis of sophisticated texts, is not well taught by practice on discrete skills in a workbook" (Maloney, 2003, p 665).

Much of the reading students have completed prior to college has used a "surface approach . . . a tacit acceptance of information contained in the text" (Hermida, 2009, p 21). These patterns are often continued when students enter the university. Reading is completed for the fulfillment of an assignment. Text is often viewed as something to "get through" so that the questions at the end of the chapter can be answered quickly and correctly. Little thought is given to the elements beyond the summative identifiers of plot. Students approach text for the purpose of accumulating facts to prove to the teacher that they have "done the reading." It's a hunter/gatherer approach to text. Students hunt for the answers to summative questions, and once they feel they have gathered enough information, they move on. Hunt (2004) argues that reading for information becomes ingrained; students use that

same approach when reading for leisure as well; "this blindness to the functions of text beyond transferring information is an artifact of school, it's learned" (p 2). His conversations with teachers mirror this sentiment; there is pressure to "cover" curriculum in preparation for testing, and assignments reflect that stress. Instead of "covering" material, SEEK faculty wished for students to "uncover" material; an approach that involved making meaning from texts through questioning, as opposed to retaining facts for examinations.

Elements of Critical Inquiry

Choosing Texts

There are several elements that comprise critical inquiry. The first refers to texts. Texts are chosen thematically, with varying genres included, so that students will have ample opportunity to make comparisons and synthesize materials in their writing; particular attention is paid to subject matter relevant to the college's core curriculum. Themes are chosen to reflect the varying disciplines of the core. A sample theme is "Freedom and Responsibility." Readings in this theme have included, *Antigone, The Things They Carried; Narrative of the Life of Frederick Douglass: An American Slave, Written by Himself;* "The Declaration of Independence," "Lincoln's Second Inaugural Address," "Letter from Birmingham Jail," and "Theme for English B." Each spring, faculty and staff revise the reading list for the department's summer bridge program. It is here that students are first introduced to critical inquiry, and this mode of instruction is carried over into their freshman seminars.

Building Community

Community is another element inherent to the success of critical inquiry. Students are placed in learning communities, and collaborative work is a staple for this methodology. Increasing student-to-student interaction is a proven factor for raising student retention and attrition rates (Barefoot 2000). Students need to know that they are part of a community, that their insight is valued, and that they possess a wealth of knowledge to be shared with their peers. Instruction is student-centered and the students themselves are responsible for the execution of the

lesson. Therefore, it is vital that they come to class prepared and that everyone is involved; collaboration is key. Class size is limited to between twenty-five and thirty students, thus facilitating the learning of everyone's names. Forcing varied collaboration through the constant movement and shifting of seats so that everyone has the chance to work with different partners is necessary in this model as well.

Annotating Texts

Making sure that students are well-versed in the methodology is another critical element. Critical inquiry begins with the process of multiple reads. This is often a foreign concept to students, as is the notion of composing multiple drafts when writing. Students are asked to initially skim a text, to become familiar with it on a surface level. Next, they are asked to carefully read; to have a conversation with the text. Students are instructed to view this reading as an interaction with the authors.

Annotation is the means for carrying out conversations with text. Students are asked to annotate as early as their first read, noting elements of plot, tone, and style. The second read involves looking for language patterns, symbols, and vocabulary. Students are asked to note any words/phrases that they may not understand. They are taught to look for context clues to aid in developing understanding and to note words/phrases that they think are critical to the meaning of the texts and to identify a thesis and supplementary points. "By giving students the authority of choice and ownership of vocabulary, the power of the text shifts from the instructor to the students themselves" (Maloney, 2003, p 668). In addition, students are instructed to take notes on the text, in the margins or on post-it notes, commenting on anything that they may find interesting, important, or confusing. Highlighters are banned as students often get carried away in a meaningless coloring in of their texts. Instead, instructors ask students to contemplate what would provoke them to highlight a portion of text and to write the answer to that question in the margin. This technique, coupled with writing summaries, curtails unnecessary anxiety at final exam time and serves to generate a deeper understanding of the text.

Creating Questions

These notes that students make in their margins serve as springboards for teaching them to develop questions. Students are asked to re-read their annotations, along with portions of the text, and to use those notes to formulate questions that will serve as the basis for class discussion, written assignments, and assessment. As Maloney (2006) has noted, "When the emphasis on questioning shifts from the instructor to them, the students begin to use questions as guidelines for thinking about text. Students' investment in their questions demands that conversations begin with and are sustained by continuing references back to the texts under discussion" (p. 668).

Questions vary from literal-level, to interpretive, to evaluative, as students are encouraged to pose varied types of questions; literal-level questions are fact-based, interpretive questions are issues-based, and evaluative questions are based on general themes. A sample class activity involves having students work collaboratively to answer each other's questions, followed by selecting two or three questions to pose to the class as a whole, with the students leading the discussion and eliciting responses. Students may also be asked to prepare questions for sections of the text, followed by a piecing together or "jigsaw-ing" of the varied sections.

Writing for Greater Understanding

In addition to multiple reads, annotating, and creating questions, students are asked to write summaries and responses to texts. Summaries require students to pinpoint what they feel are key elements of the text, and in doing so, students gain a greater understanding of the text as a whole. Because they often find it difficult to reduce multiple pages into a few sentences, students are asked to write down key elements and then to see if those elements can be grouped into larger "bins" or topics. For each bin, the students are asked to write one or two sentences. Those sentences are then revised and organized into a coherent paragraph, one that could easily be understood by someone who has not read the initial text, thus forcing students to pinpoint and select critical elements of the text. In addition to summaries, students are asked to write responses to texts, encouraging them to grapple with themes or issues that they found either confusing, interesting, or particularly compelling. Writing is an essential component in generating meaning and understanding of text, and students are expected to make connections to and among texts, enabling them to see that no one reading occurs in a vacuum.

Conclusion

Allowing students to make connections and to move freely within and among texts is essential; it not only makes for livelier classroom discussions, it welcomes students to academic discourse, validates their experiences, and fosters confidence in their learning. Instructors have learned to relinquish control and to allow students to command their reading, thus giving them ownership and a greater connection to the university classroom. Since SEEK implemented the critical inquiry method, faculty have seen an increase in student engagement and retention, higher pass rates on university wide proficiency exams, and a decrease in the number of students on academic probation.

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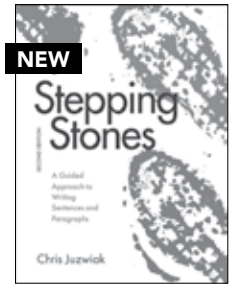

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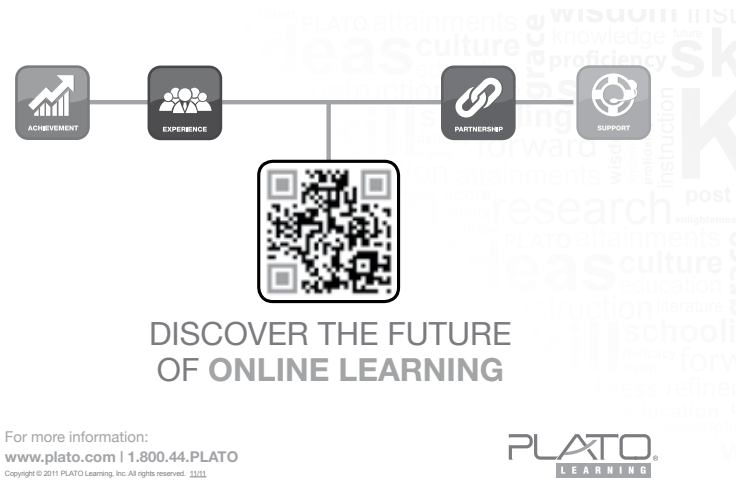

SSD 5-4-3: A Dialogical Writing Warm-up

Tom Mulder
Grand Rapids Community College

The Silent Socratic Dialogue 5-4-3 Writing Warm-up exercise motivates first-year developmental composition students through dialogical writing with immediate audiences.

"Wait, what? You want me to write in her journal?" Marc was incredulous.

When it became clear that I did, Sondra, his writing partner, echoed, "He's writing in my journal?"

The first time I assigned my twenty developmental writing students at Grand Rapids Community College their warm-ups, all went smoothly for the initial prompt: "Successes—write five sentences about your successes so far and those you anticipate achieving in college, work, family, friends, and hobbies. What have you accomplished, and what do you plan to achieve?"

Studiously, all twenty began, writing about athletic exploits, child-raising, mission trips, tours of duty, high school graduations, and overcoming criminal pasts. While they wrote, I walked among them, "eavesdropping," reading over their shoulders. When most had completed five sentences, I returned to the front of the room and made a point of watching the clock until the second hand floated to the top (or bottom), and announced, "OK, finish your

sentence, and then switch journals with someone in your group. Read each others' writing. Skip a line, and write a one-sentence question to keep the written conversation going."

"You want me to write in her journal?"

"Yes. Ask a question to keep the conversation going."

"He's writing in my journal?"

"Yes. Write a thoughtful question about something he says to gain background, dig deeper, expand or clarify an idea."

Most had begun reading, clearly interested in learning their partners' stories. Marc and Sondra shrugged and turned to each other's warm-ups.

Again, as students finished a few minutes later, I announced, "Quality control: Write your initials in front of your question in your partner's notebook." After a pause, I resumed, "Back in your own journal, read your partner's question, and write a four-sentence answer."

They responded to one another's questions, explaining high-school teams and league championships, children's ages and stages, countries visited and disasters averted, degrees, infractions, rehabilitations, and dreams.

"Switch again. Read each others' answers, and ask another question to follow up."

"Wait, another one?" Marc shook out his hand and rubbed it with the other. He grinned, "I know, keep the conversation going."

When most had a second question written, I said, "OK, now write your three-sentence answer."

For their third paragraph, many wrote about their aspirations at community college, recording similar experiences to relate to their partners' successes. Already in this first warm-up, many were becoming more dialogic and attentive to audience and form. Sondra, who had numbered each of her first five sentences in a list, wrote her four- and three-sentence responses in standard paragraphs, unnumbered, to match Marc's.

"Congratulations!" I concluded afterward. "You have completed your first Silent Socratic Dialogue: Silent because it's written, Socratic because it's purposeful questioning to prompt thinking, and dialogue because it's conversing, keeping the conversation going. Silent Socratic Dialogue is designed for good writing, questioning, and thinking."

"So SSD is Silent Socratic Dialogue?" Marc pointed to the SSD that I'd written on our classroom whiteboard's itinerary. "I figured the WW meant Writing Warm-up, but I thought SSD was going to be something Super Sonic."

Implementing the Silent Socratic Dialogue 5-4-3

"What's 'The Other Grand Canyon'?" Cara asked, responding to the teaser for my writing warm-up prompt, noted on the board. "I've always wanted to see the Grand Canyon." She and Marie, her writing partner, discussed possible candidates for another Grand Canyon. "Is it in the Upper Peninsula?" Marie wondered.

Beginning the class, I asked, "Who has been to Yellowstone National Park? Do you know about Old Faithful Geyser and Mammoth Hot Springs? Does anyone know why it is called Yellowstone?" After sharing my story of hiking beside the Yellowstone River through the Grand Canyon of the Yellowstone to the falls, I projected an image of Thomas Moran's famous painting that accentuates the golden walls of the canyon, designed to lure train passengers from New York's Grand Central Station over a century ago.

"Now write about your favorite outdoor place. Maybe it's someplace scenic where you remember an especially enjoyable visit, like hiking the Grand Canyon of the Yellowstone. Maybe it's another favorite spot. Describe it in such a way that your reader would want to go there—like the train travelers from New York."

The Silent Socratic Dialogue writing warm-up technique places college students in a dialogic setting in which they construct the texts that explore, inform, and challenge each other through a succession of questions and answers. It validates students' voices, ideas, and interactions as worthy of study while engaging them in the interrelationships of reading, writing, thinking,

and communicating (Elbow 369). Students engage in dialogue internally with themselves as they select and explore appropriate topics, such as choosing and promoting a favorite outdoor place. And they interact externally with one another as they write to respond to a variety of texts and purposes as their writing prompts, partners, and questions change daily. Their personal conversations empower students to try new roles, express their voices, construct new meanings, reflect on their understandings, respond to each other's experiences and perspectives, and pose challenging questions (Fecho 6).

Because the writing warm-up is a formative writing sample, I assess it for quantity, not quality. Sometimes I initial individuals' writings as they complete their sentences in class. Twice each semester, I collect their journals to tally sentences and assign grades based solely on sentence-totals, usually requiring twelve sentences (5 + 4 + 3 = 12) per day for a "Pass." Depending on a class's aptitude, the required number of sentences may be adjusted, but the number should be sufficient to stretch students' abilities and expectations. Periodically, after we've completed a writing warm-up, I'll remind students to review and count their sentences.

As they master the habit, students thrive on the variety-within-routine: they know what to expect, yet they anticipate the novelty of each day's new topic and partner. While guiding and redirecting as necessary, I try to keep my interjections at a minimum because my goal is to keep their writing student-initiated and self-sustained with less teacher-leading and dependence.

Just as students enjoy guessing what the titles of writing prompts may signal when they arrive at class, at times they want to continue their written conversations orally afterward.

After class, I overheard Marie, who wrote with Cara about their favorite places, catch up with Tina to ask, "Where did you go for SSD?"

Organizing the Silent Socratic Dialogue 5-4-3

To introduce another Silent Socratic Dialogue writing warm-up, I described the brown, Acme-brand, cowboy boots that I had

bought in Denver on a dare with some buddies. I shared a story of our wearing them for weekends on-the-town. I noted their comfort and convenience (no laces to tie), and their awkwardness (heels and no traction, designed for stirrups, not to negotiate snowy city foothills). "OK, now describe your own favorite footwear in five sentences," I assigned. "Boots, sandals, running shoes, slippers—what do you most enjoy? What stories can you share?"

Felicia was writing about wearing flip flops to Holland State Park beach, soaking up the sun at the Lake Michigan shoreline where she camped to celebrate graduation with other seniors from her high school. Mitch, her collaborator, chose his infantry boots because, even though they're not his favorite footwear, they reminded him of his pride in serving his country and his army buddies on a second tour of duty in Iraq.

Our daily writing warm-up generally follows the same SSD 5-4-3 format: 5 sentences—partner question—4 sentences—partner question—3 sentences. The instructions typically proceed along the same six steps.

1. Write five sentences initiated by a writing prompt. (4-8 minutes)

2. Switch journals with an assigned partner, then read the five-sentence warm up, skip one line, and write a one-sentence question to continue the conversation. Initial your question in your partner's journal for quality control. (3-4 minutes)

3. Write a four-sentence response to your partner's question. (3-7 minutes)

4. Switch again. Read the four sentences, and ask another question. (2-3 minutes)

5. Write a three-sentence answer. (2-6 minutes)

6. Read each other's answers. (Jensen 1)

I vary the times allotted each portion according to the speed at which students tackle each. At the semester's beginning, I generally allow more time to write, and steadily constrict it as the

semester progresses and students gain comfort and proficiency. Some demanding prompts may require additional time for students' explorations. The adaptive timing helps to assure them of completion, and it breaks what for many is a difficult undertaking into manageable parts, foreshadowing the writing process that we will apply to more formal essay writing later.

When they switch notebooks, I repeat, "Ask each other a 'thick' question, starting with 'Why…?' 'How come…?' 'What do you think about…?' or 'What would you do if…?' Avoid any question that can be answered with a simple yes/no or true/false because your partners need a four-sentence answer. Help them keep the conversation going."

When Mitch stopped writing to ask me, "How do you spell reconnaissance?" I suggested, "Don't pause for punctuation, spelling, capitalization, or corrections because you might forget a good idea. SSD is like a first draft, so keep writing what comes to mind. Add any related stories or situations you can, and give the names, places, dates, and details to make it relatable."

"What do you like most about Holland State Park?" Mitch asked Felicia.

"Why did you join the army if you knew we were at war?" Felicia wrote him.

Writing Dialogically

Responding to the prompt, "Home is where…," Thanh, who immigrated eight years ago, described the hilly, forested terrain of the Nguyen region of Vietnam. LaTysha, who was born and raised in Grand Rapids, wrote about her family reunions in Detroit. Less interested in Detroit's SMART buses, Thanh asked instead about The Rapid, Grand Rapids' public bus transportation system. "Which bus goes to Woodland Mall from GRCC? Does it leave the Lyon Street or Fountain stop? How would I get from the mall to 36th Street?"

As they interact, students apply thinking skills to adapt questions and responses to real audiences for Silent Socratic Dialogue. They have to communicate clearly, consider unanticipated questions, and address diverse perspectives. The SSD approach

gives students an immediate, live audience that brings real-world issues to classroom writing. GRCC's student population is diverse racially, ethnically, economically, vocationally, socially, and generationally, so each new pairing requires adaptations for audience.

Because students otherwise tend to clump, like-with-like when choosing themselves, and gravitate toward the same seats every class, I normally arrange the classroom furniture into groupings of four and randomly reassign students to new groups about every four classes. Within these quadrants, each selects a new partner to write with, choosing a different one until everyone has worked with all others: again, variety-within-routine. I've experienced that as they become more comfortable with one another and get better acquainted with more classmates, many students genuinely enjoy coming to class, even arriving early and staying late to chat, plan, and study together. Attendance patterns strengthen. Occasionally, some adopt the role of peer-monitor and text any group members who may be absent or running late.

Collaborative work contributes to developmental students' growth in social and emotional skills as well as gains in critical thinking. It involves all students as actively engaged participants when they are assigned new partners continuously. "[I]t does not sacrifice content but rather facilitates a deeper understanding of the material through directed analysis and relevant application of the information while simultaneously building EI {Emotional Intelligence} domains of self-awareness, social competence, and self-motivation" (Osterholt and Barratt 2010).

After Thanh and LaTysha finished their warm-ups, LaTysha turned to the other members of their group as well as a few other students from adjoining groups to get directions from campus to the mall so she could write them down for Thanh.

"Here, I've still got a ride left on my student pass. You take it. I don't need it." James, across the room, caught Thanh after class.

LaTysha and Marquis arranged to walk with Thanh three blocks to the Lyon and Division bus stop to ensure that he caught the Number 6 from campus to the mall.

Selecting and Designing Prompts

Confessing myself a Chicago Cubs baseball aficionado, I asked students to respond to the question, "Why do we love to watch or participate in sporting events?"

Dorothy, a retired grandmother of five, wrote about her through-thick-and-thin love of the Detroit Lions and her household's fall season, Saturday-night ritual of stocking the pantry and refrigerator for Sunday's game-time arrival of her brood and a few neighbors. She exchanged with Amber, a dually-enrolled high-school student, who professed no interest in the National Football League.

Besides the writing warm-up prompts in my introductions, I've used projections of art work, music clips, YouTube clips, NBC News mash-ups, current events, TV theme songs, movie soundtrack excerpts, film clips, kitchen utensils, courtroom judgments, cultural quirks, natural scenes, restaurant reviews, local festivals and events, museum exhibits, historical anomalies, biographical traits, aphorisms, and many others. Variety, albeit variety-within-routine, is the spice.

One of my current favorites involves projecting an essay from the website www.thisibelieve.org, such as Jennifer Thompson-Cannino and Ronald Cotton's "Finding Freedom in Forgiveness" or Sarah Adams's "Be Cool to the Pizza Delivery Dude." These essays have the advantage of printed as well as oral text, the authors reading their own aloud (Moran 75). The provocative themes readily elicit students' responses: "Which crime is unforgiveable: rape or condemning an innocent man to prison?" "Does the effort I expend on my job, more than the kind of work I do, determine my value as a person?"

"With all the concussions and brain damage, do you think football should be banned from high schools?" Dorothy asked Amber.

"What would happen to all the students who only come to school to play sports?" Amber rejoined.

Making a Difference

Just as I begin the semester asking students to write about their past achievements and projected accomplishments, I usually conclude with a short series of writing warm-ups called "Make a Difference!" challenging them to take on a mentoring role for new students, the position that most of them were in themselves just three months earlier.

Responding to the prompt, "Now that you're at end of the semester, what advice would you give to incoming college freshmen to ensure their college success?" Teresa was advising incoming freshmen to write and read daily because the practicing of these skills makes them better in every subject they take.

Stephen, her writing partner, recommended that new students attend all the classes because missing even one two-hour class makes it difficult to catch up. "Even if you have to hurry to get to class from work and you're trying to spend some time at home with your family, make sure you attend classes, so you don't give up your plans while you're trying to hold your life together day-to-day."

While Silent Socratic Dialogue is engaging with developmental composition students, I have used it in advanced composition, education, and content-delivery classes, too. Although I haven't attempted it yet, I expect SSD 5-4-3 could be adapted to online courses using discussion threads, instant messaging, or student group modules on a college's learning management system. SSD 5-4-3 also should work well with a flipped classroom model: as a collaborative classroom activity, it could be used to guide students in applying or analyzing course content learned individually out-of-class.

In addition, Silent Socratic Dialogue projects a confidence on the part of the instructors, assurance that they can facilitate a dialogic classroom, that their chosen pedagogy to develop a community of learners is worthy of pursuit in college, and that their students' interactions, ideas, and deportment are intrinsically valuable.

Concluding her paragraph, Teresa observed, "When your

kids and boyfriend see you spending your time studying, writing, and reading, if you stick with it and guard the time every day, they sometimes try it, too, so you're showing a good example for them as students, also."

"When you work full time, grab an energy drink and go straight to class every time, so you keep the door open to your future. To get your certificate or diploma you have to get to classes and do the work," Stephen finished.

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Book Clubs in Developmental Reading: Building Reading Comprehension, Fostering Reading Enjoyment, and Engaging Students

Michele Maldonado
Northeast Lakeview College

The use of book clubs in college developmental reading classes is an effective way to encourage reluctant readers to build and strengthen reading skills, foster reading enjoyment, and engage students. In addition, book clubs build a sense of community within the classroom as the students converse and share their interpretations of the reading material in a non-threatening environment. This article describes how to set up book clubs in the developmental reading classroom as well as how to facilitate their use to motivate students to read.

"Mrs. M, thank you for this class. At first I did not want to be in this class. I felt like this was going to be a complete waste of my time. I liked getting together with my group and talking about our book. I have never read a book before this class and it was fun."

--Student Comment Provided on Course Evaluation

In 2011 the ACT college admission test reported that only one out of four college-bound high school graduates was adequately prepared for college-level courses. Of those graduates, 52% of them passed the reading benchmarks provided by the testing organization. Students who do not have strong critical reading skills usually do not perform well on the placement assessments used to measure their ability to perform in college-level courses. Those

students are usually placed in developmental, or remedial, courses to help them strengthen their skills. Developmental courses, however, do not always count towards degree requirements and are often viewed as a roadblock by students.

However, developmental reading courses are often "gatekeeper" courses that must be passed as a prerequisite to other "college-level" courses, and students enrolled in these courses do benefit. Research indicates that those students who pass the required remedial reading course experience greater success in college over the long term (Cox et al., 2003, p. 189). Therefore, students who are given the chance to take developmental classes should be encouraged to stay in the course. It is also important for developmental reading course instructors to provide opportunities for students to become strategic readers and motivated to read (Nist & Simpson, 2000). Reading and education go hand-in-hand (Chall, 1996), with those individuals who read for pleasure having higher literacy ability (Atwell, 2006). Therefore, reading for pleasure, although not often emphasized in developmental reading courses, should be promoted to students as a way to increase literacy skills.

As a reading specialist and developmental reading teacher, I have encountered my share of students who come to class upset and discouraged because they are required to take another reading course. I have also had my share of students unmotivated to read. One strategy that can be used to facilitate learning and engage students in developmental reading courses is book clubs. Because many developmental students are not confident in their ability, they often do not feel comfortable with participation in discussion; thus, they feel uneasy when asked to talk about a book. However, when book clubs are incorporated into courses, especially developmental reading courses, students are given the opportunity to gain experience on how to discuss books, relate the material to their lives, make connections with other students in their classrooms and, possibly, discover the joys of reading for pleasure.

Theoretical Framework

Skilled readers self-regulate their reading (Paris & Myers, 1981). Good readers are able to automatically decode the text and use a variety of comprehension strategies to help them understand what the author is trying to convey. When good readers experience a breakdown in comprehension, they have the tools to fix the problem. This process of self-supervision is called metacognition.

Struggling readers need to be taught how to develop their repertoire of skills as well as how to employ them when they encounter a breakdown in their comprehension. Research has shown that when developmental readers are taught strategies that focus on cognitive and metacognitive processing, their reading comprehension improves (Simpson & Nist, 2000).

Instructors of developmental reading students should provide opportunities to enhance and practice the development of metacognitive skills through a supportive and nurturing environment. In addition, students should be given assignments that provide guidance and practice in developing metacognitive skills while building self-confidence (Vacca, 2002), and for students to become aware of metacognitive strategies, instructors must use effective instructional methods and materials (Paris & Paris, 2001). One such strategy is book clubs.

What are Book Clubs?

In Harvey Daniels' book Literature Circles: *Voice and Choice in Book Clubs and Reading Groups* (2002), Daniels explains that literature circles, or book clubs, are small temporary groups of students who work together to select a book to read, prepare for discussion individually, and then discuss what they have read. In the classroom setting, teachers serve as the facilitators of the book clubs, thus allowing for the students to take ownership of their roles in the learning community.

When I was first introduced to the idea of book clubs, I was a reading specialist at an elementary school. Immediately, I was drawn to the idea of encouraging students to guide and monitor their own learning. During the book club sessions, the students run the book club meetings; thus they select the text to read, determine the schedule for the book club role preparation, and

prepare individually for the discussion. This process gives all book club members a sense of accountability as they share their own ideas. When I first took this strategy into my developmental reading classrooms, it was greeted by some students with hesitance at first, but was embraced by most by the end of the semester - so much so that several students continued their book clubs after the semester had ended.

Book Club Group Formation and Book Walk

One of the first steps for setting up book clubs in the classroom is group formation. Book clubs are student-driven, so students are encouraged to form groups according to their interests. From the first day of class, I encourage group work so that students get the opportunity to work with their classmates. By the end of the first three weeks, students in my classes have participated in several cooperative learning activities. As a result, the students are prepared for working collaboratively in a book club setting.

Once the students are prepared to work in small groups, and I have an idea of the students' interests, I arrange a time for them to explore and select the reading materials for their book club. From the public and campus libraries, I bring in at least fifteen to twenty books representing a variety of genres. This activity is called a book walk. During the walk, students are given the opportunity to briefly examine possible selections for their book club. I do a short talk over each book which includes a brief description of the book and author. Group members are then invited to visit each station and document their findings on the Book Walk Form, which is provided below. At the end of the class period, students are given time to peruse the books, discuss possible selections, and are encouraged to reach a group consensus for their book selection. Once the book has been selected, each book club member is required to locate the book to bring to class by the next book club meeting. Students are given the option to purchase the book or check out the book from the library. On that day, I also have applications for public library cards available, and we discuss how to locate books on the online catalog system.

Book Walk

Book Title	Author	Comments

Preparing for Book Club Roles

In order to facilitate the book club roles, I provide each group member one copy of the Book Club Role Sheets, which are included at the end of this article. All of these forms are based on the materials presented by Daniels (2002). Participant roles include Passage Selector, Discussion Leader, Summarizer, Illustrator, Researcher/Connector, and Vocabulary Finder.

- The Passage Selector chooses important passages from the reading assignment and explains their importance.
- The Discussion Leader develops questions that will stimulate discussion within the group and ensures that each member of the group is given the opportunity to participate in the conversation.
- The Summarizer begins each meeting with a statement that includes the main idea and key points of the reading assignment.
- The Illustrator prepares a drawing or photo of important events related to the reading assignment.
- The Researcher/Connector conducts research on background information on the author, or historical period of the book.
- The Vocabulary Finder selects terms from the reading assignment to discuss with the group.

In order to better provide students an idea of what will be expected of them, I model how to prepare for each role using a short piece of text. This "think-aloud" process gives students an example of how they should conduct their preparation. Each student is required to serve in each role at least once during the

book club experience, thus giving everyone the opportunity to practice and build each of the skills promoted through the role process. It has been my experience that when I require students to locate and learn new vocabulary through the readings, create higher-level discussion questions, summarize the text, or prepare a visual that represents an aspect of the text, students are more likely to become engaged in the reading process. Finally, groups are asked to create a timeline of the book chapters and the dates they will discuss each chapter.

Individual Reflection and Final Presentation

After each book club meeting, students are asked to reflect on their preparation and participation Once students have reflected on those qualities that help them be a good participant, they understand the importance of coming to each meeting fully prepared. Many times, students have come to class unprepared and have told the other group members that they are unable to participate. Usually, their reflections indicate that they realize the importance of preparation to the book club process because they enjoy participation in the group discussion. Reflection holds students accountable for their own learning and provides the opportunity to document progress.

At the conclusion of the book club sessions, each group is asked to prepare a short presentation for the class. This presentation serves as an "advertisement" for their book to the other members of the class. Not many parameters are given for this assignment; however, I do provide examples from prior classes and require that students present as a group. Past presentations have included everything from Power Point presentations to character dinners. The presentations are always one of the highlights of the book clubs.

Discussion

At the end of each semester, students are asked to provide feedback on those components of the course that were beneficial to them. Of course, some student comments include an explanation that the book clubs involved too much work for them or that they "hate" to read and do not enjoy participation in discussion with

other individuals. However, most of the student feedback tells me that it is a worthwhile classroom activity. The student comment at the beginning of this article is just one of the many positive comments that I have received on student evaluations. Two more comments that follow are representative:

> The best part of this class was learning to be the discussion leader, summarizer, vocabulary and illustrator for a book club. I will use this skill in my other classes!

> I found that the book club facilitates the act of learning in different ways and that because when we share and work with group this method helps to understand some aspects of learning better than others. In my opinion the book club increase the student learning because this kind of activities make the students think critically and make them connect with the real life. [Comment by a student learning English as a second language]

Conclusion

The National Endowment for the Arts released a report entitled To Read or Not to Read: A Question of National Consequence (2007), which focused on reading for pleasure. It is not surprising that nearly half of all young adults surveyed do not read for pleasure. As developmental reading course instructors look for strategies to help their student prepare for college-level coursework, book clubs should be considered as an effective instructional tool. From my experience, book clubs have provided a structure in which reading comprehension skills can be strengthened, reading enjoyment can be promoted, and active student engagement can be achieved in a non-threatening manner. Personal experience has confirmed the benefit of employing book clubs in my classroom.

Name: **Date:**

Book: **Pages Read:**

Passage Selector

Find and record at least six especially important passages from the reading assignment. Select passages for many different reasons (the writing is particularly beautiful or has powerful language; it is funny; it is a turning point in the plot; it reveals how a character really thinks; it captures the theme of the reading).

Use the following chart to record your passages. At the meeting, you will read your selected passages out loud to your group. Be prepared to explain why you chose them and inquire about the other members' ideas about them.

Page and Paragraph	the passage	Reason for selection

Name: **Date:**

Book: **Pages Read:**

Discussion Leader

Develop at least six discussion questions (NOT short answer or yes/no questions) that will stimulate discussion in your group. To write good questions, try answering your questions yourself. Is there a correct answer? If there is, then it is not a good discussion question. To answer the question, do you have to think and organize your thoughts? If so, then it is a good discussion question. Use a separate piece of paper if necessary.

Discussion questions:

1.

2.

3.

4.

5.

6.

Sample questions:

Why do you think the author…?

What is/are the central theme(s) of the book so far? Why do you think so?

Did you find anything disturbing about____? Why?

What questions did you have about ____?

Remember: Apply your questions to the assigned portion of the book.

Name: **Date:**

Book: **Pages Read:**

Summarizer

Summarize the reading for today's meeting. The group discussion will start with your statement, covering the main ideas and/or key points of today's reading assignment. Write your summary, list the key points and be prepared to read them to the group.

Summary:

Key Points:

1.

2.

3.

4.

Name: **Date:**

Book: **Pages Read:**

Illustrator

Illustrate three important events or ideas in the reading assignment by drawing and/or finding a photo or other image that relates to it. You can make a sketch, diagram, flowchart, or even stick figures. Do research on the Internet to find a photo, drawing, or other type of illustration. Be sure to give credit to the source of your illustration. Bring your illustrations to share with your group. Be prepared to explain how your illustrations relate to the reading.

Name: **Date:**

Book: **Pages Read:**

Researcher/Connector

Research background information on the author and other relevant information such as the historical period dealt with in the book, the geographical location, or some of the issues or events in the book. You may do your research from the Internet, but don't just download information. Instead, choose information to share that will be helpful for understanding the book. Record the information below and record where the information came from (the name of the website or the book title and author). Finally, make connections between the reading assignment and what you already know (your life experiences, other books you are familiar with, or other events and issues).

Name: **Date:**
Book: **Pages Read:**

Vocabulary Finder

Choose at least five terms, or vocabulary words, from the reading assignment to discuss with your group. You can select words that are particularly interesting, appear often, or are not familiar to you but seem important. Use the chart below to record your words, where you found them in the book, and why you chose them. Write down the definition that is most appropriate for the context.

Word	Page Number	Definition and/or why you selected it

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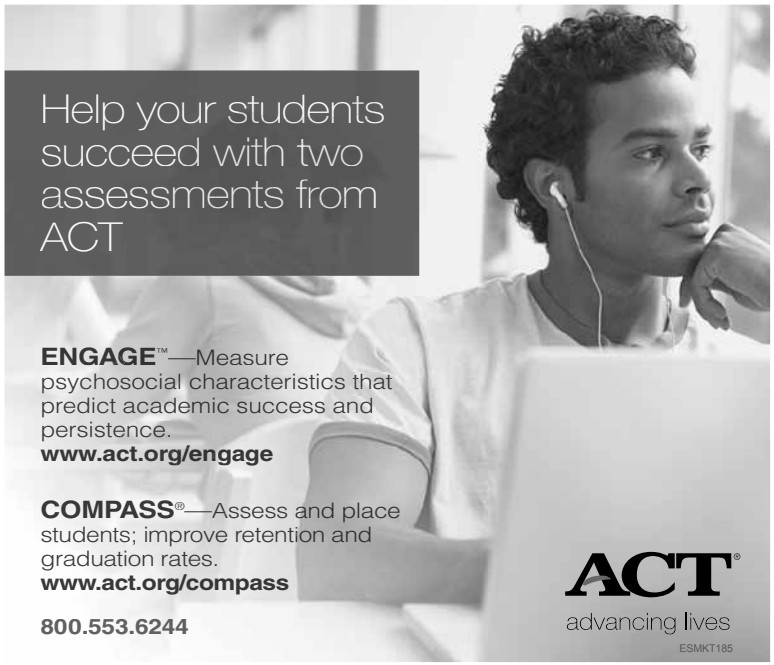

OUR READING TOOLBOX: The Reading-Thinking Connection in a Community College Developmental Reading Class

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The nature and role of developmental education classes are under tremendous scrutiny across the nation today. Specifically, students are entering community college and four-year institutions of higher education unprepared to understand and apply much of the reading material presented to them in college-level classes. This article describes the effectiveness of using OUR READING TOOLBOX: The Reading-Thinking Connection as a thinking-centered approach in community college developmental reading classes. This faculty-created intervention consists of a set of twelve specially designed tools that are systematically used with high-interest readings to engage the students' minds in critical-thinking activities. The tools are designed to help students acquire and generalize the skills they need to understand readings that they encounter in college-level academic courses that are reading-intensive. Three strategies for teaching and learning that proved to be particularly essential to effectively carrying out lessons using OUR READING TOOLBOX will be presented. Preliminary research on results and benefits of using this thinking-centered intervention will be discussed.

Introduction

"By 2020, America will once again lead the world in producing college graduates. And I believe community colleges will play a huge part in meeting this goal, by producing an additional 5 million degrees and certificates in the next 10 years" (Obama, 2010, p. 4).

President Obama's five-year initiative was designed to increase educational opportunities for economically challenged youth and young adults, as well as to help prepare many others for careers (Community College Research Center [CCRC], 2011). As optimistic as the President's initiative sounds, Bailey and Cho identify what many educators understand–meeting this goal will require "making significant progress on improving outcomes for students who arrive at community colleges with weak academic skills" (2010, p. 1).

Developmental reading programs at community colleges offer a variety of interventions to improve basic reading skills through textbooks, workbooks, and online activities for students who are underprepared. Strategies include self-paced and self-directed practice, rote memorization, peer teaching, tutoring and others. Many commercially distributed programs (e.g., KWL and SQ3R) "generally have not been strongly supported by empirical research that directly tests them" (Grabe, 2009, p. 231). The key question is to what extent do these approaches elevate the quality of students' thinking as a means to improving their reading comprehension skills? This article describes an effective thinking-centered reading intervention designed, implemented, and evaluated by faculty in a community college reading class to help students improve their reading comprehension skills.

Background

A recent study showed that close to 50% of first-time community college students in California tested into basic skills courses, an even higher rate than found nationally (CSS, 2007). The majority of these students were not ready for college-level work and a relatively small number of students attained proficiency during their time at a community college (Boggs, 2010; Boggs & Seltzer, 2008). More than half of the students who enter community colleges drop out before they earn a two-year degree and many never transfer to a four-year institution, much less attain a baccalaureate degree (Bailey & Cho, 2010). Although students who enter college deficient in basic academic skills are encouraged to enroll in developmental reading courses, more than two-thirds fail to do so, and many who begin these courses do not complete

the full sequence of courses (Bailey, 2009). Furthermore, students with deficits in basic reading skills, oral and written skills, along with related abilities for problem-solving, decision-making, and working effectively in teams are unaware of the reading proficiency level they need to succeed in a college setting or to compete effectively in a global economy.

OUR READING TOOLBOX: The Reading-Thinking Connection

Postsecondary students are increasingly perceived as being unskilled in thinking critically about what they read and write, and in making a connection with learning and life (Gerlaugh, Thompson, Boylan, & Davis, 2007). Effective approaches used for teaching developmental reading at the community college level are essential and must include opportunities to develop critical thinking skills in addition to learning the mechanics of reading and writing. Examining the effects of OUR READING TOOLBOX provided valuable data on a thinking-centered approach that can be used to address the academic challenges of students arriving at community colleges unprepared to succeed in college.

OUR READING TOOLBOX is a thinking-centered intervention used to teach developmental reading at a California community college. Dr. Suzanne Borman (professor of education), Dr. Sylvia Garcia-Navarrete (professor of reading), Dr. Joel Levine (dean of the School of Language and Literature), and Yuki Yamamato (professor of English as a Second Language) collaboratively designed the OUR READING TOOLBOX. The goal in developing this intervention for use in developmental reading classes was to create a systematic and practical design that would be readily applicable by students to help them better understand what they read in a variety of academic disciplines. This goal was fully in keeping with the notion that the purpose of education is to teach students to understand and actively apply new learning and to cultivate this knowledge beyond the classroom setting (Ritchhart & Perkins, 2008); therefore, OUR READING TOOLBOX was designed to provide teachers with a vehicle to help their students achieve these essential outcomes.

OUR READING TOOLBOX consists of a set of 12 tools that are specifically designed to bring the thinking-centered approach

to life by becoming a functional part of students' learning processes. Each tool is intended to focus the mind so students can independently analyze and interpret what they are reading. Thus, it equates "understanding" with "learning" the content at hand, rather than considering "comprehension" the act of simply recalling or locating de-contextualized or isolated facts on multiple-choice, matching, or fill-in the blank tests. "This power of concentrated logical thinking does not exist in the mind ready-made; it must be developed gradually" (Hendley, 1986, p. 84). By using OUR READING TOOLBOX, students acquire the standard comprehension skills such as identifying main ideas and supporting details and making inferences that are cultivated in a thinking-centered reading classroom.

Table 1 provides a brief description of the twelve tools that make up OUR READING TOOLBOX. Each tool is designed to engage the students in a specific type of intellectual activity.

Table 1 OUR READING TOOLBOX

Paraphrasing	Put sentences that they have read in their own words.
Headline Created	Create a headline (title) that expresses the main idea of the selected reading.
Significant Sentence Selected	Select sentences they think are most important in what they have read and tell why they selected them.
Vital Question Posed	Ask the author, or someone in the reading, questions they would really like to have answered.
Issue/Problem Identified	Identify issues or problems raised in the reading.
Purpose	State why they think the reading was written
S-E-E-I	State, Elaborate, Exemplify, and Illustrate concepts (words, ideas) in the reading which they need to better understand.
Conclusion	Identify what they think is the most important conclusion the author comes to in the end.
Assumptions	State what they think the author (or someone else) is taking for granted in what they have read.
Implications & Consequences	State what they think will happen if we follow, or do not follow, what the author (or someone else) in the reading is suggesting should be done.
Solution/ Recommendations	State what they think should be done to deal effectively with the issues or problems presented in the reading.
Speaking in the Author's Voice	State ideas or answer questions about what they read as if they were the author or someone else in the reading.

Implementation

This thinking-centered approach was implemented in several developmental reading classes beginning in 2008 at a large urban Hispanic-serving community college in Southern California with an annual fall enrollment of 20,000 students. The overall curriculum of these classes was based on OUR READING TOOLBOX as it was integrated into all lesson activities, homework assignments, and exams, to guide students and help them practice how to think more deeply about what they read. The typical lesson activity, homework assignment, and test consisted of a series of prompts, each derived from one of the 12 tools from OUR READING TOOLBOX. The prompts were designed to direct students' thinking as they read. The prompts and tools varied based on what the students were reading at a given time. For example, the *purpose tool* was used to help students determine what a writer was trying to communicate; the *issue/problem tool* was used to help students determine what problem the writer was presenting. The tools were gradually introduced, one or two at a time, to help students gain comfort and competence with the tool in any given lesson

before introducing another. The tools helped students approach what they were reading from a variety of directions (e.g., problem, conclusion, solution/recommendation), engaging and stimulating their minds to think about what was being communicated by the writer. Further, by responding to the prompts in clear and complete sentences, students then had an opportunity to have their "voices" heard by expressing their thoughts about what they understood.

During the first week of the semester, a pre-test was administered to each student enrolled in the developmental reading classes that were using this thinking-centered intervention. This pre-test consisted of 10 items that students responded to in writing to determine their level of understanding of a specific reading. Each of the 10 items that students responded to was based on one of the tools in OUR READING TOOLBOX. The purpose of the pre-test was to assess students' reading comprehension levels as a baseline measure before formally introducing them to OUR READING TOOLBOX. A "counter-balanced test design" was used to assure a measure of objectivity when eventually comparing these baseline scores with post-test scores obtained near the end of the semester. Thus, group one read a passage and responded to prompts for Test A, and group two read an alternate form of the test, reading a different passage and responding to prompts for Test B. Students completed the pre-test assessment during one regular 75 minute class meeting as part of the standard course curriculum. They received minimal directions to complete this pre-test so that authentic and objective results could be obtained for later comparison with post-test scores.

After experiencing the intervention for one semester, students took the alternate form of the test used for the pre-test as the post-test. In other words, students who took Test A now took Test B and vice versa. The purpose of the post-test was to assess students' exit levels of reading comprehension skills after completing the class based on OUR READING TOOLBOX intervention. The post-test was administered during the last week of the semester to each student still enrolled in the class with students given 75 minutes to complete it. As with the pre-test, the post-test consisted of 10 items that students responded to

in writing to determine their level of understanding of a specific reading. Each of the 10 items that students responded to was based on one of the tools in OUR READING TOOLBOX. Examples of three of the items that appeared on the pre- and post-test are shown below as they were used in connection with a specific reading:

1. Identify the MAIN PROBLEM/ ISSUE raised in the reading.
2. Select and HIGHLIGHT (or underline) what you think is the most SIGNIFICANT SENTENCE in this reading. Explain why you think this sentence is the most significant one in the reading.
3. PARAPHRASE the sentence you selected above. In other words, say the exact same thing in your own words.

As students used OUR READING TOOLBOX, it became clear that "traditional skills" (e.g., identifying main ideas and supporting details and making inferences) were routinely being practiced by use of the various tools as follows: 1) *issue/problem tool* encompassed and fostered the identification of main ideas, implied main ideas and inferences. In the second prompt, *significant sentence selected tool*, encompassed identifying supporting details and argument, summarizing, and critical reading. The third tool, *paraphrasing*, encompassed summarizing, note-taking, and outlining. Students holistically and systematically acquired the standard comprehension skills with this approach as they found themselves needing to read and understand the text so that they could provide thoughtful responses to the prompts.

Lessons carried out in the "test" classes (those in the study) were based on prompts derived from the tools to immediately involve students in thinking about what they were reading. The daily lessons were designed in the following way: an opening activity, a main activity, a closing session, and homework. Students read excerpts, articles, and material from a variety of academic disciplines and responded to prompts accordingly. The length of these readings varied from one to five pages depending upon the function they served in a given lesson. The readings tended to be longer for the main activity and homework, and shorter for the

opening activity and closing activity. As students worked through the activities of each lesson, they learned how to use each tool. For example, they learned the *paraphrasing tool* by putting sentences they read into their own words. The *headline created tool* required them to create headlines (titles) that expressed the main ideas of the selected readings and they mastered the *significant sentence selected tool* by identifying what they thought was the most important sentence in the readings and then explaining why they selected it as being the most important.

Students were given specific directions to guide them through the lesson activities. The instructor stressed independent thinking by asking students to complete activities to the best of their abilities as they worked on their own so that when they worked collaboratively, they could bring their own ideas to contribute to the group. Instruction emphasized the integration of reading and writing, requiring students to articulate their thoughts about what they read in clear, complete sentences. The tools engaged the students' minds while reading, without the mechanics-oriented, drill-and-skill process. Using the thinking-centered tools of OUR READING TOOLBOX, students not only read words, but rather, they thought about those words in specified ways using the individual tools for the purpose of understanding what they read and then expressing their own thoughts about those readings. Students improved their reading performance and ability to think effectively throughout the broad array of readings they encountered as demonstrated by the quality of their responses to the series of prompts for each reading completed as the semester progressed.

Evaluation

As part of an evaluation of OUR READING TOOLBOX, faculty and staff analyzed both quantitative and qualitative data to provide a comprehensive overview concerning the effects on students' academic performance and their perceptions of the classroom environment and course activities, the art of reading, and of themselves as learners when using OUR READING TOOLBOX. As an important evaluation component, students completed a questionnaire that contained the following three sub-scales: (1) Classroom Environment and Course Activities, (2) the Art of

Reading, and (3) Themselves as Learners. Each student responded to six questions for each of the sub-scales. The purpose of the student survey questionnaire was to gain insight into students' perceptions of the classroom environment and course activities, the art of reading, and of themselves as learners in a community college developmental reading course, such as information concerning students' attitudes, their sense of involvement and participation, their motivation and interest, and their sense of purpose in daily lessons and activities in and outside of class.

The responses to the 18 survey questions were ranked on a scale from one to five, with five points being the highest possible score. An item analysis of responses obtained from this survey revealed that items under the areas of Meaningful Activities (M = 4.60), Useful Feedback (M = 4.67), and Tools were Helpful in Class and in Life (M = 4.77) had the highest mean scores. Items that came under the areas of Reading is Essential in Life (M = 4.13), Interest in Reading (M = 4.17), and Look Forward to Reading (M = 4.18) had the lowest mean scores. This analysis clearly indicates that students felt they had a very positive learning experience using OUR READING TOOLBOX in that even the "lowest" scores reported were towards the high end of the scale.

A thematic analysis of students' responses concerning their experience of using OUR READING TOOLBOX was another component of the evaluation. After a semester of using this approach, students said they felt empowered by being able to take ownership of their learning. Further, they related that reading and learning this way was relevant to real-world issues and/or to personal experiences to which they could connect meaning. This approach allowed for deeper instruction as students focused completely on "thinking and doing," delving deeper into what was being communicated to them through the various readings and then engaging in collaborative dialogue.

Further analysis of three open-ended questions included in the questionnaire yielded several themes. The first theme, "creating a culture of learning," emerged as students related how they valued the way the instructor provided modeling and guidance, allowed for flexible group work, and assisted them in

learning how to work effectively. In writing about their experience in these classes, students repeatedly made the following types of comments, comprising the sub-theme "awareness." "Before, I was only reading words without understanding." "I now understand the purpose for reading." and, "When I began using OUR READING TOOLBOX, it opened up my eyes to how much I could not comprehend." Use of the tools fostered students' ability to express or articulate creative thoughts about what they read.

"Development of comprehension skills" was the other theme that emerged. Students expressed how their ability to read was affected by this experience using OUR READING TOOLBOX with comments, such as "It made me a better reader by learning techniques that are useful to break down the readings and understand them completely." Each tool focused students' on independently analyzing and interpreting the readings, learning the materials, and then expressing their own ideas, demonstrating a deeper understanding of the material and a command of an effective process that they could generalize to other environments.

Strategies for Teaching and Learning

Effective instructional practices are essential in creating a high-quality learning environment that allows for students' involvement in the active exchange of ideas. Students enrolled in developmental reading typically come with various learning challenges that impede their academic success. One of these challenges can be lack of self-confidence that may be related to previous academic failures. In conjunction with various tools from the Toolbox, and to address this need for effective instructional practices, the instructor of the classes in the study chose three specific strategies for teaching and learning to further help establish a culture of thinking. The three strategies which proved to be particularly important were "calling on students," "name tents," and "randomly assigned seating."

Calling on students maximized students' involvement in class. Their attention level increased as they realized they had to be prepared to participate when called on. Students benefitted from this strategy as it helped them create a sense of self-confidence versus a sense of learned helplessness, leading to

passivity and mental inactivity. Students' responses on the open-ended questionnaire indicated that students believe that calling on them helped them realize they could think on their own and be able to express their thoughts because others were interested in hearing what they had to say.

Name tents served several purposes. The use of these name tents helped facilitate the "calling on students" strategy as well as with classroom seating and were used from the first to the last day of class. Having these name tents on the first day allowed the instructor and other students to call each student by his or her name. They were also an effective way to take attendance as it was easy to note who was not seated behind the name tent when class started.

Randomly assigned seating was also facilitated by the use of name tents. At the end of each class, name tents were collected and at the beginning of the next class, they were randomly placed on students' desks. Students benefited from this strategy because it allowed them to meet and work with different classmates throughout the semester. Desks were set up in a seminar configuration as this gave students the opportunity to see and hear each other as they shared their thoughts and ideas. Carrying out these strategies on a day-to-day basis helped students develop self-confidence and created a community of learners able and willing to intelligently discuss their thoughts about what they were reading.

Conclusion

OUR READING TOOLBOX was designed to help students develop thinking skills by utilizing a set of tools that actively engaged their minds in deeper thinking for the purpose of understanding and retaining knowledge beyond the test or duration of the course. OUR READING TOOLBOX supported positive student outcomes and accelerated students' progress for those enrolled in the developmental reading classes studied. Most importantly, the innovative, thinking-centered curriculum and teaching methods used in this intervention helped students improve their reading abilities. The initial program evaluation provided promising data about the effectiveness of using OUR READING TOOLBOX as

a thinking-centered intervention for teaching developmental reading.

Two major conclusions resulted from analysis of the preliminary data collected. First, students demonstrated a significantly higher level of comprehension and thinking ability after using OUR READING TOOLBOX. The act of continually applying various tools to substantive readings during class work, on homework assignments, and for exams throughout the semester gave the students an opportunity to learn how to think deeply about and understand what they read. Second, through extensive guided practice using these meaningful intellectual tools and strategies, students successfully acquired standard comprehension skills such as identifying main ideas and supporting details and making inferences–all of which were cultivated in a thinking-centered reading classroom.

Overall, OUR READING TOOLBOX contains a set of thought-provoking tools that can be used to strengthen students' reading comprehension abilities by improving the quality of their thinking about what they are reading. OUR READING TOOLBOX provides educators with an innovative way to meet the needs of their students who come to college with varying skills and abilities.

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Developmental Reading and Nursing Program Partnerships: Helping Students Succeed in Reading-Intensive Coursework

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While clinical competence and hands-on ability are crucial to nursing, students in college-based nursing programs face almost certain failure if they lack skills and strategies for textbook reading. Faculty and staff at a small liberal arts college with a two-year nursing program used focus groups consisting of first-semester and final-semester students to identify 17 reading strategies used by successful students. Underprepared readers must be taught these same strategies for how to deal with the intense reading associated with undergraduate nursing, and such instruction should be mandatory and provided prior to entry into nursing coursework. Developmental reading educators are urged to partner with their colleagues in nursing to support underprepared readers who aspire to become nurses.

Introduction

Wolkowitz and Kelley's (2010) research has identified knowledge of science and a strong reading ability as two of the major factors contributing to nursing students' initial academic success. While hands-on ability is crucial to nursing, students face almost certain academic failure if they lack skills and strategies for textbook reading. Mount Aloysius College[1] – a comprehensive, co-educational, liberal arts and sciences college founded in west central Pennsylvania in 1853 by the Sisters of Mercy—is home to approximately 2,500 students. Small class sizes and a solid reputation in the health sciences attract many of our students,

1 We wish to thank the Nursing Division, the Office of Admissions, and the Office of Institutional Research for their assistance with this article.

including those who choose the two-year associate's degree in nursing. Some, however, struggle. Nursing students who utilize tutoring services often report to tutors and instructors that they find it difficult to complete the assigned readings outside of class, and those who provide tutoring services to nursing students note that struggling students often demonstrate ineffective approaches to learning from their textbooks in conjunction with time management issues.

Two-year nursing programs at undergraduate liberal arts and sciences institutions are reading- and testing-intensive programs. Students who aspire to earn nursing degrees quickly find themselves overwhelmed if they cannot manage their assigned textbook reading. Nursing programs like the one offered by Mount Aloysius College require students to demonstrate hands-on ability, but the students must also understand the reasoning behind medical procedures and pass classroom examinations based on textbook content. Nursing students are further required to be well-versed in the natural and social sciences, and so they must be prepared to handle the reading demands of their pre- and co-requisite content classes, including anatomy and physiology, chemistry, microbiology, and psychology.

Developmental reading educators have an important role to play when it comes to preparing these aspiring nurses. We believe that developmental reading educators can provide an invaluable service to underprepared students by collaborating with nurse educators to provide mandatory, effective remediation prior to students' entry into a nursing program. In this article, we will offer our rationale for such instruction, we will share what we learned as a result of focus group interviews of nursing students, and we will offer some suggestions for developmental reading instructors.

Mandatory Reading Strategy Instruction for Nursing Students

A question of pedagogical and programmatic importance at our institution is this: What can be done to facilitate academic success in a demanding pre-professional health science program that requires a high level of skill and strategy for textbook reading? Underprepared students need explicit instruction on necessary textbook reading skills and strategies prior to their entry into the

nursing program, which, due to the quick pace and intensity of the lessons, does not allow them extended amounts of time to decide how best to handle the reading load. Students who are neither skillful nor strategic textbook readers run a high risk of failure, and the task facing educators is to select and implement preventive measures that offer those at-risk students the opportunity to succeed. Our argument is that mandatory placement into developmental reading courses is an efficient and effective means of preparing students for what lies ahead, provided that such courses offer students the opportunity to engage with the kinds of texts they will deal with as students in an undergraduate nursing program. Learning to engage with authentic texts in ways that successful nursing students report doing is critical for the underprepared reader, and reading educators should take every opportunity to share with underprepared readers what successful nursing students actually report doing to master course content.

We are not the first researchers to propose interventions that would benefit underprepared nursing students. Cramer & Davidhizar (2008) and Symes, Tart, Travis, and Toombs (2002), writing for *The Health Care Manager* and *Nurse Educator*, respectively, recognize the need to incorporate reading, studying, and test-taking strategies into the nursing curriculum. While Symes et al. (2002) are primarily concerned with improving academic performance within a nursing program, Cramer & Davidhizar (2008) take on the issue of improving performance on the nursing licensure examination (the NCLEX-RN). DiBartolo and Seldomridge, in a 2008 article for *Nurse Educator*, outline a number of additional research studies dealing with efforts to improve NCLEX-RN pass rates. In their conclusion, DiBartolo and Seldomridge (2008) argue "that nursing programs planning to implement intervention strategies should require participation and offer them to all students" (p. 82s). This appeal for nursing students' mandatory participation in remediation was also made in the earlier article by Symes et al. (2002). More recently, at the Michigan Developmental Consortium's 2011 spring conference, Dr. Kay McClenney, Director of the Center for Community College Student Engagement, expounded upon the need to make remediation and participation in other essential student services mandatory because, as she put

it, "students don't do optional." Students, if given the choice, will often avoid the developmental courses into which they have been placed, as noted by Boylan in his 2009 article published by the *NADE Digest*. Undergraduate nursing programs demand a high level of sophistication when it comes to reading and test-taking, and because students may underestimate the demands of such programs, it is essential that those deemed at-risk be required to enroll in a developmental reading course wherein they gain practice with the fundamental skills and strategies that successful nursing students incorporate into their own reading and studying routine.

Effective developmental reading courses are designed with content area courses like nursing in mind (Mealey, 2003). As educators who provide tutoring and classroom instruction to both nursing students and developmental students, we wish to offer our support for cross-disciplinary collaboration between developmental education departments and nursing departments to aid in the retention and training of capable but underprepared nursing students. Cross-disciplinary collaboration between developmental education and nursing has been of benefit to students at our institution by enabling us to identify the reading and study strategies required for academic success in nursing and to promote our students' use of these reading and study strategies in a mandatory developmental reading course.

Nursing Students' Reading and Study Strategies Uncovered

Underprepared students need to know what reading and study habits are required for success in nursing, and perhaps the best way to learn about the demands of an undergraduate nursing program is to ask nursing students. Indeed, nursing students' insights regarding reading and studying in their program should be shared with all students—especially those identified as at-risk or underprepared—who intend to pursue nursing as a major. First-semester (n=7) and final-semester (n=10) nursing students at our institution volunteered to participate in separate focus group interviews and in so doing, they shared their insights on the reading and study skills required for success in the two-year nursing program. Analysis of the transcripts generated from these

group discussions of 17 total students uncovered 17 strategies for mastering course content:

1. Re-reading and reviewing the text.
2. Answering end-of-chapter questions.
3. Cross-referencing instructor-generated notes and the instructor's lecture with the textbook.
4. Predicting potential test questions when reading.
5. Highlighting and underlining critical portions of the text.
6. Creating personal study notes from the textbook.
7. Analyzing text structure while reading (e.g., distinguishing between main ideas and supporting details).
8. Analyzing pictures, charts, graphs, tables, diagrams, etc., to increase comprehension of concepts discussed in print.
9. Skimming the chapter prior to reading it more carefully to get a sense of the material.
10. Reading prior to class in order to follow the (textbook-focused) lecture more easily.
11. Gauging comprehension by taking online tests; using electronic sources of information (e.g., CD-ROMs, DVDS, websites) to improve comprehension.
12. Referring to other print sources to gain background knowledge or strengthen overall comprehension (e.g., workbooks, handbooks, other textbooks).
13. Making flashcards to allow for self-testing.
14. Reciting information aloud to assess comprehension.
15. Studying with classmates in pairs or groups.
16. Recording (textbook-based) lectures for later reference.
17. Connecting clinical experiences to textbook reading, and vice-versa, thereby reinforcing the textbook's role in achieving professional competence.

It quickly became clear that success in the undergraduate

nursing program required a high level of engagement with textbooks. None of the students interviewed deemed it likely that students would be able to pass their classroom examinations without properly utilizing their textbooks.

Students named a total of 17 strategies to master course content, but perhaps most interesting is the fact that the beginning students, of whom all but one graduated from the program, were as capable as those nearing graduation when it came to identifying effective reading and study strategies. Fourteen of the 17 strategies listed were mentioned by students in both the first-semester and final-semester groups; therefore, it is evident that students, in order to increase their likelihood of success, must from the very beginning approach the study of nursing in a manner that pushes beyond the "surface-level learning strategies" on which students so often rely (Beyeler, 2003; Holschuh, 2003), especially students who are "average [or] low-performing" (Holschuh, 2003, p. 327). Surface-level approaches to mastering nursing content do not lead to a positive outcome for the learner, and this must be made clear from the very beginning—prior to the first day of any nursing course.

The students who volunteered for the focus group interviews were highly engaged in the conversations that took place. One student viewed participation in this study as being beneficial to nursing education and the profession of nursing. He saw it as his obligation to further teacher-researchers' understanding of how students need to read and study in order to become graduate nurses. Perhaps the best indicator of participants' motivation and academic engagement is the fact that only one of the 17 did not graduate from the nursing program. The student in question did not pass the freshman nursing course and disclosed to the faculty prior to dismissal from the program that weak study habits were to blame. All other students who were interviewed, though, successfully completed the two-year nursing program.

The focus group participants, with only one exception, had not taken a developmental reading course at our college. But while these randomly selected volunteers were largely able to score high enough on our institution's placement exam to test-out

of developmental reading coursework, there are clear implications for students who wish to matriculate into the nursing program but who must first enroll in a developmental reading course. Over 30% of pre-nursing students enrolled during the 2011-2012 academic year at our college were required to take developmental reading. The students who constitute this 30% need to be taught the reading and study strategies that are used by students who are academically successful within the two-year nursing program. Providing these useful strategies prior to students' entry into the nursing program is essential given that the curriculum is not forgiving of those with weak reading and study habits.

Pedagogical and Programmatic Implications

As the focus group data indicate, students must be prepared to draw from a number of effective reading and studying strategies in order to be successful in a reading-intensive, testing-intensive, two-year nursing program. Developmental reading educators can play an important role in preparing students for success and aiding in their retention. (For additional background on retention in nursing programs, see Deary, Watson, & Hogston, 2003; see also Uyehara, Magnussen, Itano, & Zhang, 2007). We believe that developmental reading educators and nurse educators should be working together in an effort to reach those students who have the potential to become competent nurses but lack an awareness of or appreciation for the reading and study strategies required for academic success in undergraduate nursing. We encourage developmental reading educators and nurse educators to begin talking to one another about ways in which they might work in collaboration to promote and reinforce reading and study behaviors vital for students' success.

Developmental reading educators and those who oversee developmental education programs must make certain that their courses "employ a content-based, strategic-learning approach" that relies on "chapter-length, naturally occurring, intact texts taken from content areas" as opposed to isolated skills instruction that students are less likely to deem relevant to their other coursework (Mealey, 2003, p. 210). We cannot overstate the importance of making reading and studying from textbooks the

focus of attention in the classroom. Effective developmental reading instruction takes into account students' reality. In the case of nursing, students must pass multiple-choice examinations on textbook-based information. Students who cannot learn from the book and pass the examinations will not become graduate nurses. At the same time, nurse educators must make certain that the textbook-centered reading and study strategies discussed in the developmental reading classroom are reinforced in the nursing classroom, as there is evidence that students hesitate to use strategies not valued by content instructors (Sherman, 1991, as cited by Beyeler, 2003, p. 313).

As a result of the focus-group research conducted on our campus, those intent on becoming nursing students now have an opportunity to learn exactly what their fellow students are doing to succeed. Furthermore, they are given opportunities to practice effective reading and study strategies using authentic nursing, anatomy, biology, chemistry, and psychology texts. We encourage others to engage in similar efforts to make sure that underprepared nursing students are made fully aware of what they must do in order to increase their chance at success.

Our focus group data also help to establish greater context for the recommendations offered in two research articles that are required reading early-on in the semester for students enrolled in developmental reading: Lynch's (2007) "I've Studied So Hard for this Course, But Don't Get It!" and Van Blerkom, Van Blerkom, and Bertsch's (2006) "Study Strategies and Generative Learning." These articles are used in our developmental reading classrooms to impress upon students at the beginning of the semester that their ideas about what is required for academic success in terms of reading and studying in college may not be accurate. We advise educators to ground their classroom discussions of effective reading and study habits in what they have learned from their own successful students as well as from published research. We also advise that the reading courses that introduce students to these effective reading and study habits be mandatory for at-risk students. Developmental reading educators and nurse educators must work together to train and retain capable but underprepared nursing students. Students who lack the skills and strategies

required for proficient textbook reading—or who misjudge the important role of the textbook within the nursing program—face almost certain failure. Developmental reading educators working at institutions with nursing programs are therefore strongly urged to partner with nursing faculty to support students who aspire to nursing as a career but who lack the skills and strategies needed to survive in a reading- and testing-intensive academic environment. Such collaboration is in the best interest of our students, who desire meaningful employment in a noble field; our academic institutions, in whose interest it is to produce graduates who are job-ready; and the nursing profession itself, which deserves only the most competent and caring of individuals to fill its ranks.

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