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 <u>HIGHLIGHT</u> (or <u>underline</u>) what you think is the most SIGNIFICANT SENTENCE in this reading. Explain <u>why</u> 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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