Teaching Introductory Psychology in the Community College Classroom: Enhancing Student Understanding and Retention of Essential Information

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Enrolling in an introductory course in psychology is a staple of many community college students' core curriculum. For those students who plan to pursue social science and humanities-related majors in particular, introductory psychology helps provide a solid base upon which future coursework at all academic levels will be built. For non-social science majors, a single introductory course may be their only exposure to psychology that does not originate from pop culture. For this reason, having an adequate understanding of the theoretical material is essential for future professional development, be it academic or vocational. Student demographics can vary greatly in community colleges, and student cohorts often range from early career students who are newly enrolled straight from high school, to seasoned professionals who want to switch careers, to older individuals who simply want to learn a new skill set. Regardless of their diversity, research indicates that among students who have not identified psychology as their major, introductory psychology is one of the most preferred electives, and is considered to be one of the most popular undergraduate classes across many academic disciplines (Goldstein, 2010). With this in mind, the goal of an introductory psychology instructor is to convey the most essential information in what typically seems to be too short a period, battling inherent time constraints and a myriad of student issues (Tinto, 2006; Wild & Ebbers, 2002). At the same time, the instructor must attempt to teach the subject matter in a way that is relevant and digestible to as many students as possible.

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Student Retention

The goal of any introductory course is to convey information from a source of authority with (firsthand) knowledge to individuals who, on average, have a novice understanding of the given material. It seems that many students in this circumstance have difficulty applying core concepts to real-world scenarios (Chaves, 2006), which decreases their motivation, and ultimately, participation in the course. The logical end result of such behavior is a negative impact on students' productivity, which might drive students to withdraw from the class or, at its worst, cause them to abandon higher education altogether.

Issues of involvement and retention relate directly—although not exclusively—to the instructor's approach in the classroom. In community college settings in particular, many students may not have the internal motivation to persevere through a plethora of academic obstacles. The instructor must also assume the responsibility to foster a safe and positive learning environment, where students can feel comfortable taking on this type of challenge. Overall, the aim is to help students make the leap from theory to real-world application.

Successfully progressing from a rote memorization model to engaging in critical thinking is an essential component for students in community college. Research suggests that the instructor's pedagogical approach has at least some impact on both student retention and information retention (Hagedorn, 2005; Jacoby, 2006; Wyckoff, 1998). In addition, other research highlights the significant importance of confidence and motivational factors inherent to individual students (Lotkowski, Robbins; Noeth, 2004). This further emphasizes the need for instructors to be aware of retention-related issues, and to create a productive learning environment.

Critical Thinking

Competency in many secondary school settings is defined by benchmarks based on rote memory (van Gelder, 2005). This is especially important, considering that almost half of all introductory psychology students nationwide are college freshman (Goldstein, 2010) and are therefore likely to be fully enmeshed in the rote memory style of learning. To help combat this problem, some school systems have incorporated protocols for the acquisition of critical thinking skills through curriculum development updates, but these initiatives do not appear to be implemented with any consistency from state to state, or even regionally.

Despite this, there is still widespread debate about this emphasis on higher order thinking skills at lower levels of education. For example, Maryland policy makers have tended to promulgate critical thinking skills in their statewide standards, while Virginia espouses a more basic-skills model (Ballatine & Spade, 2008). This variance concerning the optimal way to prepare students at the secondary school level is often oppositional in nature, as independent school systems and state or federal regulations (e.g., the No Child Left Behind Act) sometimes conflict in their philosophical approach to gauging student success and learning (Westheimer, 2008; Willingham, 2007). Likewise, many teaching certification programs, geared towards preparing teachers for employment in (public) secondary school settings, promote an adherence to established teaching curriculums. As a result, secondary school students may have little preparation for higher order cognitive skills, should they decide to continue on to higher education.

Regardless of whether or not individual school administrators can provide empirical evidence to show that their approach for progressing students through the secondary ranks is optimal, there is little debate that the goal of higher education is to exceed the limitations of rote memorization. For community college instructors who often teach students with minimal exposure to critical thinking skills, inconsistent administrative changes at the pre-college level may not translate into consistent gains in a college student's retention of information.

A Model for the Classroom

Much like the way a successful counselor must meet a client at their current level (Lambert, Hansen, & Finch, 2001; Okiishi, Lambert, Effett, Nielsen, Dayton, & Vermeersch, 2006), an instructor must be able to engage students in a manner that builds rapport, increases confidence in the instructor's proficiency, and promotes space for the students' academic growth. To this end, using a teaching strategy that is both time sensitive and provides an interactive component seems a good formula for increasing student retention. Current research supports this type of approach. When students actively retrieve information very soon after the initial lecture, retention is significantly increased. (Butler & Roediger, 2007; McDaniel, Roediger, & McDermott, 2007; Roediger & Karpicke, 2006). Furthermore, the use of cooperative, problem-based strategies forces students to engage in activities that foster learning. As a result, the student's ability to think critically about lecture material is increased (Tinto, 2005). As reported by Lyle and Crawford (2011), the *PUREMEM* (Practicing Unassisted Retrieval to Enhance Memory for Essential Material) procedure is one strategy that aims to attain student attention with minimal loss of class time, and it ultimately results in increased

retention of the subject matter. This particular study applied the *PUREMEM* procedure in an undergraduate statistics for psychology course. Their results indicated that when comparing multiple courses in an experimental design, there was a significant difference in exam scores, favoring students who had been exposed to the classroom strategy.

From this research, the authors of the present study sought to apply the available data and methods to enhance the delivery of an introductory psychology course. It was decided that for each chapter of the current textbook used by the psychology department at Thomas Nelson Community College (TNCC), five open-ended questions would be developed to correspond to the major constructs of that chapter. The questions were developed to facilitate critical thinking and produce a correct response, yet be concise enough to reduce potential ambiguity related to grading.

Initial Iteration

Referred to as *"Test Yourself" (TY)*, the procedure involved lecturing on a particular chapter (e.g., memory, sensation and perception, social psychology, etc.) for approximately two class periods, each one hour and fifteen minutes in length. The *TY* procedure was then administered at the end of the second lecture period. Table 1 contains sample questions that were derived for this first *TY* classroom trial.

Table 1.
Sample *Test Yourself* questions

Chapter/Topic	Question
Introduction	
Specialty areas	As a sub-discipline of psychology, how does psychiatry differ from other areas of psychological practice?
Personality	
Freud/Psychoanalytic	What is the general purpose of defense mechanisms?
Abnormal psychology	
Dysfunctional Behavior	When stressors overwhelm our ability to cope effectively, what is likely to happen?

Questions were presented on PowerPoint slides on the front screen via overhead projector, and students were provided a single sheet of paper with no lines, divided into five sections (one section for each response). One minute for each question was allowed, plus an additional minute with a slide containing all questions presented at the end, for a total of six minutes. After this time, papers were collected, and a class discussion with students ensued for approximately five to ten minutes. Since the goal was to involve students in a non-threatening activity, each question was worth a maximum of one extra credit point on the corresponding chapter quiz. Subsequent to this class meeting, the chapter-specific quiz was administered via the school's online course delivery platform.

During the Fall 2011 semester, introductory psychology students from one class at TNCC were included in *TY* field trial (N=31 at the beginning of the term, reduced to 26 at the end of the term). All students were enrolled in good standing at the time the course began, and no students audited the course. There was minimal sociodemographic information available due to the informal nature of the study; however, this sampling included 19% male and 81% female students. Their declared academic majors included social science and other science (n=12), legal-related majors, including administration of justice, legal assistant, and paralegal (n=6), liberal and general arts (n=4), pre-nursing (n=3), and business administration (n=1). As planned, questions were presented at the end of each chapter-specific lecture for the duration of the course. It should be noted that not all students completed all *TY* administrations or quizzes, due primarily to absence from class or withdrawal from the course.

Implementing Revisions

Throughout the term, qualitative data were informally obtained from enrolled students. Information obtained during the first few chapters, roughly corresponding to the first month, suggested that some students were overwhelmed by the open-ended questioning, and that some failed to associate *TY* with extra credit. This seemed to produce increased anxiety with these individuals. Throughout the remainder of the term, students commented that they were more comfortable with *TY* as they were exposed to successive trials. Overall, the major issues students identified with the procedure were largely related to the wording of some items. One issue that could not be accounted for was student preparation coming into a *TY* administration, and many students were not adequately prepared to respond to open-ended questions using critical thinking. By the end of the Fall 2011 term, student comments and other general observations were compiled and several changes were made to the *TY* procedure.

For the second iteration of *TY* in Spring 2012, it was decided that because so many students appeared ill-prepared at the onset of a new chapter's lecture, there was little opportunity to introduce important concepts ahead of any testing. As a result, the study was revised, and the open-ended *TY* questions were introduced prior to any chapter-specific lecture, rather than afterwards. No class discussion ensued after this first *TY* administration, and students were free to keep their written responses to the printed *TY* questions for the duration of all chapter-specific lectures. The demographic breakdown of this class included 52% male and 48% female students, with declared academic majors including social science and other science (n=11), nursing or other healthcare related (n=7), liberal arts, fine arts, and photography (n=5), pre-nursing (n=3), information technology and other business related (n=3), and engineering related (n=2). There was also one high school student taking the class for combined high school and college credit.

The goal of this change was to allow students to gauge their own progress throug the chapter's lectures, while still maintaining their motivation to receive extra credit, which would still be available during the post-lecture *TY* administration. The only difference at this point was that the post-lecture *TY* included the same open-ended questions, but with a four option multiple choice format. These multiple choice responses were purposefully deceptive and close in proximity, and included a caution that only the one best answer should be chosen. A sample of revised *TY* items and their corresponding multiple choice response options can be found in Table 2.

Table 2.
Sample of revised *Test Yourself* questions and post-lecture response options

Chapter/Topic	Question	Multiple Choice Options
Introduction		
Research methods	How do psychological researchers maximize generalizability and increase the reliability of their findings? By…	A. Examining every possible variable B. Proving causality **C. Systematically exploring a research question** D. Forming inconclusive hypotheses
Personality		
Defense mechanisms	How can a defense mechanism be bad?	A. Causes extreme actions B. Based on unconscious beliefs C. They lead to unintended consequences **D. Can lead to extreme reactions**
Neuroscience		
Brain structures	Why do the two hemispheres of the brain typically work together? To…	A. Increase brain power **B. Maximize performance** C. Decrease oxygen consumption D. Establish baseline homeostasis

Combined with their pre-test, the post-lecture assessment still appeared to require significant higher order cognition to arrive at a correct response, as gauged by student debriefing after each post-lecture *TY* administration. Further, informal interviewing of these students suggested that the two-pronged approach per chapter diminished their test-anxiety, and made them feel more supported. Having a clear direction at the start of a chapter also helped them to better focus on essential information. This particular group also noted that the post-lecture administration discussion helped them to better understand how to arrive at a correct response without guessing. This speaks directly to the objective of facilitating the students' critical thinking skills.

Concluding Remarks

Feedback from students from both semesters where the *TY* procedure was implemented in an introductory psychology classroom seemed to indicate a favorable attitude toward the process in general. After the revision of the testing procedure, there also seemed to be an easier transition to actual critical thinking. Through continual feedback with students and colleagues alike, and through anticipated data collection efforts, our goal is to continue to refine the *TY* questions on an ongoing basis, and begin to collect data to determine if *TY* does in fact yield positive results of student retention within the school, or retention of essential information in the classroom.

The *TY* method is a straightforward approach that can be easily modified and catered to any course; it does not need to apply exclusively to introductory psychology. In fact, the *TY* procedure was originally used in an undergraduate applied statistics course at a university. The transition from this to a community college classroom was not overly difficult, although it was somewhat time consuming. This type of classroom strategy appears to be a useful tool to facilitate critical thinking in the classroom, and to bridge the educational gap that faces so many students enrolled in a community college.

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