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In 2010, the U.S. Department of Education (2009) reported that 2,452 associate degrees and 63,030 bachelor's degrees in psychology were conferred by public institutions, with 1,497 and 31,241 conferred, respectively, by private institutions. Introductory psychology, in particular, is one of the most popular courses available at the undergraduate level (Goldstein, 2010). The number of psychology bachelor's degrees awarded increased 17.3% from 2001 to 2007 (National Center for Education Statistics, 2008). Psychology has joined business, social science, history, education, and nursing as the nation's most popular majors (National Center for Education Statistics, 2008).

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Results from one nationwide study found that 40% of students enroll in an introductory psychology course during their first year of college (National Center for Education Statistics, 2004). The studies also found that introductory psychology, along with English composition, enroll 67% of first-year students and that no other course attracted more than 20% of first-year students. Despite this high enrollment, which exceeds most other academic disciplines, the components that significantly contribute to student retention of essential information and the assessment of overall successful completion of the course objectives are not well known (Lotkowski, Robbins, & Noeth, 2004).

For students of any academic background, the introductory psychology course is prerequisite for all advanced coursework. Introductory psychology is also one of the most popular options for community college students solely interested in fulfilling their social science elective (Goldstein, 2010). For these students in particular, the introductory course needs to be comprehensive, thorough, and facilitate critical thinking as this class may be the only scientifically-based analysis of behavior to which these students are exposed. These elements speak to the seemingly universal applicability of psychology, as even the most basic theories of psychology and human behavior encompass diverse academic majors and vocations.

REENGINEERING

The VCCS recently began a reengineering effort to "Advance Virginia's Community Colleges beyond the status quo, to serve more students and serve them better" (VCCS Rethink, 2013). With a reengineered course, the goal is to instill confidence that students are receiving relevant information for that particular subject area and that all defined learning objectives are introduced to students by the end of the course.

While the Reengineering Taskforce was focused on the implementation of this directive, smaller workgroups have worked since 2009 to identify and address specific needs within the process. A full overview of each of the 30 components of the VCCS Reengineering process is available at http://rethink.vccs.edu/progress. Among the various courses identified by the Taskforce, the online PSY200 was a logical candidate for the initial reengineering effort because of its consistently high enrollment rate and its relatively high percentage of non-productive student grades.

COURSE DRIFT

The primary goal of the community college is to "Give everyone the opportunity to learn and develop the rights skills so lives and communities are strengthened" (VCCS Mission, 2013). To help accomplish this, the VCCS has generated transfer agreements and secured guaranteed admissions with many four-year institutions throughout Virginia. These agreements entail that all institutions accepting VCCS graduates and transfer students feel confidence in the degree programs and learning outcomes provided by the community college. To ensure consistency with students' exposure to essential course objectives, regardless of the home campus, one aspect of reengineering was to identify high enrollment courses, such as Principles of Accounting (ACC 211), General Biology (BIO 101), and Principles of Psychology (PSY 200), and then create fully executable online, hybrid, and traditional template courses that would be universally available across all 23 VCCS institutions.

In a 2011 presentation at Northern Virginia Community College, Dr. Megan Bradley (Professor of Psychology at Frostburg State University) indicated that her institution's general psychology course required redesign to reduce inefficiency and contain costs. This redesign project focused on course drift as it related to the delivery of curriculum: a majority of students were in danger of leaving "school with a collection of courses . . . [rather than] with an education" (Murphy, 1991, p. 98). The redesign highlighted the need to produce better learning outcomes upfront, which in turn was anticipated to save time and money for the department and university as a whole (M. Bradley, personal communication, May 29, 2013). This effort incorporated the National Center for Academic Transformation (NCAT) standards for course redesign (redesign the entire course, encourage active learning, provide individualized assistance, incorporate ongoing feedback mechanisms, ensure adequate time for assignments, and monitor student progress) in order to reduce unproductive "D, F, and W" grades.

The Frostburg State redesign was able to eliminate course drift by creating standardized course content and delivery, which approximately resulted in course costs being cut by two-thirds. It is important to note that Frostburg faculty experienced some critical feedback from students because the redesigned course

was significantly different than its predecessor; additionally, the non-productive grade statistics remained about the same. Despite this, the final standardized course was deemed a success because it allowed for an aligned approach to the assessment of course learning outcomes, and it also contained an early-warning mechanism for identifying at-risk students.

Prior to adopting the reengineering initiative and the initial procedures for the redesign effort, the VCCS Reengineering Task Force took into consideration the NCAT standards. Counteracting course drift for PSY200 across the VCCS was necessary to clarify the focus of the course, to improve student achievement of intended outcomes, and to increase the confidence of transfer institutions in students' knowledge of the basic principles of introductory psychology. For PSY200 in particular, the target goals of the process included the following:

- Improve learning outcomes
- Increase student success
- Contain costs
- Improve adjunct faculty integration
- Facilitate SACS accreditation
- Increase data driven decision making
- Provide focused professional development
- Develop metrics for the articulated learning outcomes (ALO) implementation

The VCCS Rethink website (http://rethink.vccs.edu/progress) includes more detailed information about reengineering process.

ARTICULATED LEARNING OUTCOMES

One of the major components of the statewide reengineering effort is to improve student learning outcomes with the intent of reducing college costs that often burden students in terms of time and expense towards degree attainment. By creating system-wide learning outcomes that apply to each VCCS institution, student achievement, as well as assessment of that achievement, would be more efficiently facilitated and course drift would be minimized. During Spring 2011, the Reengineering Task Force began the implementation process and submitted a proposed budget and workgroup to the VCCS by that Summer. In Fall 2011, the goals, activities, outcomes, deliverables, timeline, and budget for the psychology ALO project had been approved; in December, the ALO workgroup conducted a system-wide survey to solicit feedback regarding the courses that should first engage the redesign process. This survey was intended to help analyze student's registration sequences and possible covariates that may impact success in the classroom. A Curriculum Committee (CC) that included faculty representatives from each college worked to identify multiple methodologies for assessing student learning and achievement. To implement this project, a grant was announced to fund three teams to create three courses using fully-functional lecture, hybrid and virtual formats for the selected courses.

Early in 2012, Principles of Psychology (PSY 200) was chosen to be the first to engage in the ALO process. The PSY200 CC was created and included representation from every VCCS institution. By the summer, Pilot Testing teams had been awarded grants to create the three versions of the course; the authors of this article were awarded the virtual course design grant. The issuance of grants to the design teams coincided with the completion of activities by the Psychology CC: the agreement on a final, revised course description; a prerequisite education recommendation; detailed student learning outcomes; a resource repository for teaching aids and supplements; a professional development plan for psychology faculty; and a student assessment of learning plan. Through Fall 2012, the Pilot Teams developed their courses; live testing of the Pilot courses was initiated in January 2013 for the Spring 2013 semester. Final delivery of the PSY200 ALO courses from the individual pilot teams to the VCCS commenced during in Summer 2013.

VIRTUAL CLASSROOM DEVELOPMENT FOR PSY 200

Indisputably, the virtual classroom has become a relevant and essential component of many institutions of higher learning, but online education often lacks consistency in design and delivery (Rovai & Wighting, 2005). With such considerations in mind, the goal of this project was to design the online version of introductory psychology as a viable learning platform, incorporating technology to facilitate learning and critical thinking. Accordingly, another key element of this project was to ensure ease of use by any prospective instructor at any VCCS institution.

COURSE DESIGN

The design for the online PSY200 was built upon a best practices model consistent with the Quality Matters (QM) rubric (Maryland Online, Inc., 2011). QM purports to ensure that online courses are developed with validity (of the course design) and reliability (of the course delivery and student experience) in mind. QM researchers have found that student learning and engagement in online classes is optimal when students perceive learning tasks to be challenging and interesting. To meet learning objectives in the online classroom, QM literature identifies three characteristics that must be present: (1) goal clarity, (2) feedback, and (3) a perceived balance of challenge and skill (Rossin, Ro, Klein, & Guo, 2009).

Research evidence demonstrates that students enrolled in online courses report better recall of information when these three characteristics are included (Rossin et al., 2009). QM research suggests course assessment components should direct learners to the aspects of a course that are of primary importance to the subject matter. Demonstrating knowledge regarding these primary items has been shown to be essential in successfully achieving learning outcomes (Kirkwood & Price, 2008).

Using the QM 2011-2013 standards, the development of the PSY200 course adhered to QM guidance to ensure that course design and content pertained directly to the stated learning objectives identified by the ALO CC. The PSY200 virtual classroom was developed with the primary focus upon student navigation and ease

of access throughout the course. In addition to student accessibility, the design centered on ease of facilitation for instructors at all levels of training, regardless of online learning platform background subject matter expertise. The resulting template is capable of immediate implementation with effectively no modification other than customizing due dates throughout the course shell and modifying the syllabus (e.g., instructor contact information, textbook information, and so forth) as necessary. In this way, the template has been set up to be both a stand-alone course shell or used as a semi-structured framework that can be easily adapted to the instructor's preferences.

While QM best practices dictated the internal design of the course, successful use of this template does not rely on knowledge of the QM program or QM certification. It is suggested, but not required at all VCCS institutions, that novice faculty users become T.O.P. (Teaching Online Program) certified so that they are familiar with navigating the online platform comfortably; however, additional preparation through a course such as Instructional Design for Online Learning (IDOL) is not required. For novice instructors in particular, this course template includes a handbook of standard operating procedures that provides step-by-step instructions for making all required edits prior to course delivery. The design of the course is equally flexible to meet the needs of more experienced online instructors who choose to use the template but retain their academic discretion with course materials and delivery. In this regard, instructors with advanced experience in online teaching may simply retain the framework (which provides linkages between weekly modules, assessments, assignments, and the embedded grade book) and edit the embedded components to fit their needs.

COURSE DELIVERY

As previously stated, the template for PSY200 has been designed to be applicable to and usable by all 23 Virginia Community Colleges. Delivered through Blackboard, the course allows for modification of its embedded components via a menu of standard options that can be adapted to suit the needs of individual institutions and instructors. The menu approach provides the user with multiple discussion and assignment selections corresponding to each major content area.

This menu approach incorporates flexibility for instructors who wish to exercise their academic freedom in administering the course; however, certain fixed assessments are required in order to establish objective benchmarks. For example, quiz and test questions are completely multiple-choice or true/false, which eliminates concerns over inter-rater reliability. Objective assessments are also based on best practices: the time available for exams is capped at one minute per question (Brothen, 2012); the questions are predominantly application-based (as opposed to rote memorization); and the Respondus Lockdown Browser is incorporated. These elements serve as safeguards to discourage unethical behavior (Krask, 2007; Mays, 2012; Sewell, Frith, & Colvin, 2010) and to minimize the possibility of open-book reference that is inherent in online testing. Instructors retain the option to place more or less weight on subjectively graded course; these various components are beyond the scope of this paper.

On a weekly basis, the instructor is still responsible for facilitating the course in a positive manner. As such, evaluation of discussion postings and other assignments in a timely fashion is necessary, as is monitoring and assessment of exam submissions and student participation in general. Instructors are advised to provide additional commentary as needed to personalize the course for optimal student engagement; however, in the instance in which an instructor's feedback may be lagging, the pre-populated weekly announcements can serve to maintain flow.

ASSESSING STUDENT OUTCOMES

As previously mentioned, the two pilot test courses were designed with weekly surveys embedded with each week's assignments. Two online sections of PSY200 were taught by two instructors at the start of Spring 2013. The survey was administered from Weeks 3-16, accounting for all 14 learning modules that appeared weekly. Each weekly survey (see Table 1) was identical: five Likert-scaled questions that assessed ease of course navigation, relevance of instructional materials, and course accessibility; additionally, two open-ended questions sought suggestions for course improvement and identification of areas of difficulty within content areas. These weekly surveys were voluntary and provided no credit towards a student's final grade. In addition, two discussion board assignments gave students opportunities for feedback: a mid-semester discussion board offered students extra credit and a chance to critique anonymously the course to date, and a final-week discussion board asked students to reflect on their experiences in the course. Additionally, the official end-of-course evaluation provided by a third-party vendor on behalf of the institution was conducted.

Table 1. Weekly Course Reaction Survey

Likert-scaled questions	
Question 1	I did not have trouble finding my way around the course this week
Question 2	I did not have trouble accessing course information and materials this week
Question 3	I found the chapter lecture and PowerPoint presentation to be useful in understanding course material this week
Question 4	I feel that this week's assessments (quiz, test, assignment) accurately related to the course material
Question 5	I found the instructions for this week easy to understand and follow
Short answer questions	
Question 6	Keeping last week's course content in mind, what aspects of the course do you feel worked well? What areas do you feel could be improved? Explain why.
Question 7	Keeping last week's course content in mind, which concepts do you feel were the most difficult to understand from the chapter? Explain why.
Likert Response Scale	
(1)	Strongly Agree
(2)	Agree
(3)	Neither Agree nor Disagree

Descriptive Data. Initial enrollment for both pilot testing courses was 26 per class on Day 1 of the semester (N= 52). At the time of final grading, enrollment had dropped by 23% (N= 40) after accounting for voluntary student withdrawals and administrative withdrawals throughout the term. Of these remaining 40 students, those who remained enrolled but were non-responsive for the majority of the course (N=4) are not included in these analyses. Of the remaining students after adjusting for non-productive withdrawals, almost 73% of students combined from both sections finished the course with a productive grade (defined as a grade of "C" or better, with "D, W, and F" grades being considered non-productive). No students requested an incomplete for the term. Table 2 provides an analysis of final grade results for the semester.

Table 2. Final Grades Overview

	n (Class 1)	% (Class 1)	n (Class 2)	% (Class 2)	Combined N (%)
Enrolled in course	26	100	26	100%	52 (100%)
Withdrawn (self or administrative)	7	27%	5	19%	12 (23%)
Based on initial enrollment on day 1 of the semester					
Productive final grade (A, B, C)	14	54%	15	58%	19 (56%)
Non-productive final grade (D, F, W)	12	46%	11	42%	23 (44%)
Adjusted enrollment after final withdrawal date for semester					
Enrolled after final Withdraw date	19	91%	21	81%	40 (86%)
Adj productive final grade (A, B, C)	14	74%	15	71%	19 (72.5%)
Adj non-productive final grade (D, F)	5	26%	6	29%	11 (27.5%)
Non-participative but enrolled (F)*	1	5%	3	14%	4 (9.5%)
Active student that still failed (D, F)	4	21%	3	14%	7 (17.5%)

* Students included in this tally had not been active in the online course at all for at least one month prior to the end of the term

The Weekly Reaction Surveys were completed anonymously and were not assigned any regular or extra credit. Thirty students (14 from Class 1 and 16 from Class 2) completed enough surveys to be included in the analyses. For data to be included, a student must have completed at least 20% of the weekly surveys (three over the span of the entire term). Table 3 itemizes the weekly response totals for each class. Only 11 of the 30 students (37%) completed at least 85% or more of the weekly surveys (missing no more than two of the 14 weekly surveys over the entire semester). It was also observed that frequency of students responding to the weekly surveys dropped as the term progressed. An average of 11.8 respondents per week participated during the first half of the term (surveys conducted between Weeks

3-8), as opposed to an average of 7.6 respondents per week during the latter portion of the term (surveys covering Weeks 9-16), with peaks in response prevalence occurring at the earlier stages of the course and at the end.

Table 3. Weekly Survey response rates

Survey	n responding from Class 1	n responding from Class 2
Week 2 (History/Research Methods)	12	14
Week 3 (Biological Bases/Neuroscience)	10	12
Week 4 (Sensation/ Perception)	10	15
Week 5 (Lifespan Development)	11	15
Week 6 (Learning)	12	11
Week 7 (Social Psychology)	11	9
Week 8 (Consciousness)	9	10
Midterm Feedback (Discussion Board)	11	10
Week 9 (Memory)	9	8
Week 10 (Thinking/Language/Intelligence)	9	6
Week 11 (Motivation/Emotion)	8	6
Week 12 (Personality)	9	5
Week 13 (Stress/Health/Coping)	10	5
Week 14 (Abnormal Psychology)	9	7
Week 15 (Psychological Treatment)	9	6
Final Week Feedback (Discussion Board)	14	15

When examining the proportion of students who reported favorably regarding Questions 1-5 (choosing response options "Strongly Agree" or "Agree") versus non-favorably ("Neither Agree nor Disagree," "Disagree," or "Strongly Disagree"), it was observed that the majority of respondents reported favorably regarding course access and navigation, relevance of learning materials and instructions, and relevance of the specific week's assessments. A composite score was also derived to represent all weekly responses from students (see Table 4). Across all 14 weekly surveys, a favorable response to any of the five Likert-scaled questions occurred in approximately 91.5% of responses, while an unfavorable response occurred about 8% of the time and a non-response less than .5% of the time. During any given week, about 80% was the lowest observed percentage of favorable responses, with the highest weekly percentage of favorable responses reaching 98%. Table 4 provides data based on composite scales that were created to represent the average of all student responses to all Likert-scaled questions for all 14 weeks of surveys.

Table 4. Composite of weekly survey score statistics

(N=14)	Favorable composite	Unfavorable composite	Other composite
Mean	91.49	8.22	.31
Median	91.80	7.35	.00
Mode	88.60	1.60*	.00
Minimum	80.40	1.60	.00
Maximum	98.40	19.60	1.20

* Multiple modes exist and the smallest modal value is shown

All students actively enrolled in the courses (N=40) were also eligible to complete the school's official course evaluation form online at the end of the term through the week after classes ended. Administered online through a third-party vendor, the survey contained 16 four-point Likert-scaled questions and two open-ended questions. Some questions are geared towards assessing course design and delivery, while others focus on instructor or student characteristics, textbook, and/or school policies; therefore only course-specific questions are reported in this article. Table 5 identifies these Likert questions and the response frequency (open-ended questions are reported on in the Qualitative Student Feedback section following).

Table 5. End of course school evaluation response frequencies

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
The course content was well prepared, organized and presented in a clear manner	12	3	1	0
The class sessions, activities, tests and assignments were related to the course content	11	5	0	0
The instructor clearly stated the policies, procedures, goals and expectations of the course	12	3	1	0
The instructor facilitated a positive learning environment	12	4	0	0

Eight students from each class (N=16) responded to the official course evaluation (40% response rate based on all enrolled students regardless of final grade or productive-grade status). On a scale of 1-4 with "4" representing "Strongly Agree" and "1" being "Strongly Disagree", the vast majority of respondents indicated they "Strongly Agree" that the course content was well-prepared and organized, that course objectives and assessments were aligned, and that delivery (of standardized components) was facilitated in a manner that aligned with the stated policies and from within a supportive online environment. With the exception of one respondent who disagreed that course content and policies were clearly presented, all other respondents endorsed "Agree" or "Strongly agree" to all other questions noted in Table 5.

Qualitative Student Feedback. In the Weekly Response Surveys, two short answer questions were included in addition to the five Likert-scaled items. These items were intended to provide students with a space to communicate suggestions and

feedback regarding both the course components and to share which content area topics were the most difficult to learn. Exploration of the short answer responses over the semester uncovered several recurring themes among students' reactions, including the following: ease of course navigation, course design helping to promote study preparation, satisfaction with course layout, applicability of course content materials, and clarity of course expectations.

Overall, student responses appeared to follow a trend in both course sections with several students reporting critical reactions in the beginning and midterm weeks of the semester. Many of these comments reflected concern for the multiple and time sensitive weekly participation and assessment components, with some students noting that this format differed from what they have experienced in previous online courses. Comments from surveys during the latter weeks of the term and comments provided during the final week of instruction reflected more positive feedback that included much less criticism of the weekly structure. This trend may reflect the students' unfamiliarity with such a course design and the time needed to adapt to course participation expectations.

Relating to the midterm and final discussion board activities that were assigned in order to obtain additional qualitative feedback, students were encouraged to report on anything they felt was beneficial or detrimental in the course. Analysis of comments revealed fairly consistent results with the course reaction surveys (and end-of-semester evaluations, described in more detail following). Table 6 includes common themes that were most prevalent from all open-ended student feedback over the 16-week semester, as well as (representative) sample comments.

Table 6. Prevalent themes from student comments

Theme	Sample Comment
Navigation	"I like that everything is under one folder. It makes it easier to access the material for the week."
Study Preparation	"I feel as though the quiz questions helped me to prepare for the test, I also believe that by taking the test early and re-taking it on Sunday [make-up test] allowed me to learn and better understand the chapter."
Course Design	"The course content was well laid out. I wouldn't change anything of how it was set up because it made it easy to understand and it had a nice flow to it when it came to which assignments were due."
Application of Material	"I feel that the discussion questions work well. I like the fact of being able to use examples from our own lives because it allows us to understand the content better."
Course Expectations	"I feel as though posting what is due and the due dates on the announcement board help a lot. It is the first thing to be seen when logging into the class which makes it easier to remember what is due."
(Anonymous) discussion board postings	"I like that we have quizzes and tests every week on each chapter rather than having a test every four weeks or so on multiple chapters." "I think that all the assignments should be available at one time so then that way it gives everyone time and opportunity to do them."

In the end-of-course evaluations, two open-ended questions were asked of students: one regarding their overall impressions of the course and another of the instructor. Similar to the Likert data reported earlier, only course-specific feedback is reported in this article as there were no student comments that were negative or indicative that the instructor caused any detrimental experience in the courses. These evaluations reflected similar feedback as before, with students reporting adjustment to assignment schedules and highlighting the value of the course design. As one student noted, the course was "organized, kind of rigid schedule, not real flexible but I adjusted." Contrary to the design's intention, another student commented that "at the beginning of the course, there is a lot of information repeated in several different sections making me want to skip a lot of the beginning information." Similar to the weekly survey results, students reported an overall positive learning experience and offered comments such as "I felt this class was very organized (and) provided a lot of opportunity to showcase what I had learned from the weekly readings and still it was very easy to understand what was expected each week" and "Though it was a more 'difficult' course, it was well organized making it easier to learn the material. I enjoyed it."

DISCUSSION

The VCCS has funded the reengineering of the online version of course PSY200 (Principles of Psychology) with the intent of creating a standardized template that can be used by any instructor at any of Virginia's 23 community colleges, independent of factors such as instructor readiness to teach online or choice of textbook. The VCCS does not mandate the use of this course to teach PSY200, although the template will be freely available for adoption or individualized adaptation. Technically, the course template could even be modified for use in a course other than PSY200 since intra-course links, the gradebook, and pre-populated announcement and assignment fields can act as placeholders and only discipline-specific content would need to be modified.

After designing the course based in part on QM best practices, two sections of the course were pilot tested successfully at one VCCS institution. Preliminary data indicated that the course was well-received by most students and was easy to navigate, factors which facilitated learning and critical thinking. Although many students commented about weekly assignments requiring multiple log-ins per week and an average of 23% of students were withdrawn, the majority that remained in the course completed the course successfully. A small percentage of students remained in the course but were non-participative, and the variables that actually contributed to their non-success are not known.

Preliminary analysis also suggested a relatively stable and consistent amount of course participation from students. For example, weekly completion of 2-3 objective assessments and a weekly graded discussion board assignment that required multiple logins per week were accomplished by many students. This level of engagement indicates that students were able to adapt to the course's design despite initial concerns of unfamiliarity with the course layout. We speculate that the initial design of the course facilitated student comfort with the weekly delivery

of material, in addition to comments indicating an appreciation for the graded, non-graded, and anonymous feedback mechanisms.

A possible explanation for this disparity in responses from the beginning to the end of the term may be the lack of student exposure to online instruction or courses that use a detailed (weekly) structure or QM-style design. Key features of QM design include multiple access points to reach similar information in the form of links and directions as well as structured assignment expectations and due dates, and there seems to be a delicate balance between what students perceive as a lack of direction versus redundancy. As such, feedback from open-ended survey items has been used in the creation or modification of course materials that are needed to clarify some of the more difficult concepts in the course.

While not exhaustive in nature, the results from this study provide some insight into the descriptive properties of PSY200 (online) students. For example, trends can be seen regarding specific times during the semester when activity tends to ebb and flow. Faculty can use this information in an effort to include more hands-on or interactive assignments as part of their course during the periods of slower activity and diminishing student participation. By examining response rates and response patterns to specific questions, instructors can make revisions to their course accordingly.

Some instances throughout the semester highlight a higher prevalence of non-favorable responses selected in the Likert sections of the weekly surveys. The open-ended questions provided some clarification; however, additional factors may have been present that have not been accounted for in the survey design. A host of external variables may (negatively) impact student performance in any given online course (Dutton, Dutton, & Perry, 2002; Means et al., 2010), and these factors tend to be magnified in the community college population given competing demands between schoolwork and work schedules, parental and familial obligations, active duty military, inclement weather, educational management website outages, and so on.

A number of additions to the template course were explored but not implemented at this time due primarily to logistical constraints related to the scope of the request for grant proposals. For example, a comprehensive item bank independent of any given publisher and based on test question difficulty would have been a major undertaking requiring several independent samples from across all VCCS institutions, with data being analyzed using advanced psychometrics techniques (e.g., item response theory; see Hambleton & Jones, 1993). Also related to objective exam questions, the course is currently set up so that students are able to see their response to a test question and if they were correct or not, but no direct feedback is provided. Research has shown that feedback tends to be an important component in long-term retention of essential information (Agarwal et al., 2008). Including either of these components could help minimize overall course drift and provide an empirical basis for assessing outcomes achievement using a longitudinal pre- and post-test design, since item comparability would ideally be identified.

CONCLUSIONS AND FUTURE RESEARCH

Based on student feedback and preliminary quantitative analyses, the online version of course PSY200 is an acceptable tool, and it is available for institutions and instructors across the VCCS. Novice online instructors need only to modify date settings and their syllabus before making the class available to students. Seasoned online instructors can also benefit from the template, should they wish to customize their assignments within a fully operational course framework. With the conclusion of the two pilot test courses, the template has been transferred to the VCCS for long-term housing.

During Summer 2013, the same instructors also began to modify the course for an eight-week session and collected additional data that can be used in an ongoing effort to develop progressive teaching methods that contribute to the teaching of introductory psychology online and higher education in general. More research is needed to better understand the confounding effects that socio-demographic variables have on student outcomes and student success in general, such as (but not limited to) age, academic status, income/financial status, literacy, and social support. As the online course template is fully ready for deployment, future research with additional instructors across other VCCS institutions should be conducted to replicate these findings and build a more comprehensive bastion of feedback from students and faculty alike in an ongoing effort to keep the course current and make it as universally applicable across all student cohorts as possible.

REFERENCES

Agarwal, P.K., Karpicke, J.D., Kang, S.K., Roediger III, H.L., & McDermott, K.B. (2008). Examining the testing effect with open and closed book tests. *Applied Cognitive Psychology,* 22(7), 861-876. doi: 10.1002/acp.1391

Brothen, T. (2012). Time limits on tests: Updating the 1-minute rule. *Teaching of Psychology,* 39(4), 288-292. doi: 10.1177/0098628312456630

Dutton, J., Dutton, M., & Perry, J. (2002). How do online students differ from lecture students? *Journal of Asynchronous Learning Networks,* 6(1) 1-20. Retrieved from http://www.alnweb.org/alnweb/journal/Vol6_issue1/ 6dutton.htm

Goldstein, R. (2010, March). Major developments in undergraduate psychology. *Observer,* 23(3). Retrieved from http://psychologicalscience.org

Hambleton, R.K., & Jones, R.W. (1993). Comparison of classical test theory and item response theory and their applications to test development. *Educational Measurement: Issues & Practices,* 12, 38-47.

Kirkwood, A. & Price, L. (2008). Assessment and student learning: a fundamental relationship and the role of information and communication technologies. *Open Learning,* 23(1), 5-12 doi:10.1080/02680510701815160

Krsak, A.M. (2007). Curbing academic dishonesty in online courses. *TCC 2007 Proceedings,* 159-170. Retrieved from http://tcc.kcc.hawaii.edu/previous/TCC%202007/krsak.pdf

Lotkowski, V.A., Robbins, S.B., & Noeth, R.J. (2004). *The role of academic and non-academic factors on improving college retention.* The ACT Policy Report. Retrieved from http://www.act.org

Mays, M. (2012). Misbehaving in online testing. In L.A. Wankel & C. Wankel (Eds.), *Misbehavior online in higher education: Cutting-edge technologies in higher education, Volume 5.* Emerald Group Publishing: Bingley, United Kingdom.

Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2010). *Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies.* Washington, D.C.: U.S. Department of Education, Office of Planning, Evaluation, and Policy Development. Retrieved from http://www.ed.gov/about/offices/list/opepd/ppss/reports.html

Murphy, J. (1991). Explaining "academic drift" in high schools: Strategies for improvement. *The High School Journal,* 74(2), 98-101.

National Center for Education Statistics. (2004). *The condition of education.* Retrieved from http://nces.ed.gov/programs/coe/2004/section5/indicator30.asp

National Center for Education Statistics. (2008). *Digest of education statistics.* Retrieved from http://nces.ed.gov/programs/digest/d08/tables/dt08_314.asp

Rovai, A.P., & Wighting, M.J. (2005). Feeling of alienation and community among higher education students in a virtual classroom. *Internet & Higher Education,* 8, 97-110. doi: 10.1016/j.iheduc.2005.03.001

Rossin, D., Ro, Y.K., Klein, B.D., & Guo, Y.M. (2009). The effects of flow on learning outcomes in an online information management course. *Journal of Information Systems Education,* 20(1), 87-98.

Sewell, J.P., Frith, K.H., & Colvin, M.M. (2010). Online assessment strategies: *A primer. Journal of Online Learning & Teaching,* 6(1), 297-305. Retrieved from http://jolt.merlot.org/vol6no1/sewell_0310.htm

Virginia Community College System (2013). Rethink: Reengineering Virginia's Community Colleges. Retrieved from http://rethink.vccs.edu/

Virginia Community College System (2013). Virginia Community College's mission statement. Retrieved from http://vccs.edu/WhoWeAre/Mission/tabid/102/Default.aspx

U.S. Department of Education, National Center for Education Statistics, 2008-09 Integrated Postsecondary Education Data System (IPEDS), Fall 2009.

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