IMPROVING PASS RATES IN INTERMEDIATE ACCOUNTING I
THROUGH STUDENT ENGAGEMENT

Craig Foltin, DBA, CPA
Assistant Professor, Department of Accounting
Cleveland State University
l.foltin@csuohio.edu

Heidi Hylton Meier, DBA, CPA
Chair and Professor, Department of Accounting
Cleveland State University

Jan Rose, MBA, CPA, CMA
Lecturer of Accounting, Department of Accounting
Cleveland State University

Peter Poznanski, Ph.D., CPA, CMA, CFM
Professor Emeritus, Department of Accounting
Cleveland State University

For Publication Consideration in:
Accounting Instructors’ Report
Improving Pass Rates in Intermediate Accounting I through Student Engagement

INTRODUCTION

After completing Principles of Accounting I (financial accounting) and II (managerial accounting), most accounting majors enroll in Intermediate Accounting. For many of these students it has been a year since they took Principles of Accounting I. For graduate students enrolling in Intermediate Accounting, it could be quite a few years since they initially took Principles of Accounting I. At Cleveland State University, Intermediate Accounting consists of the first 14 chapters of the Kieso et al. Intermediate Accounting text. For almost all students, the quantity and difficulty level of the material makes Intermediate Accounting one of the most difficult courses they will take in their degree program. Compounding this difficulty level is the elapsed time since they took Principles of Accounting I. Without a thorough knowledge of Principles of Accounting I, especially the basic concepts, many students are re-learning the material from Principles of Accounting I at the same time they are attempting to learn the new material from Intermediate Accounting.

Historically the class grade point average (GPA) for Intermediate Accounting ranges from approximately 2.00 to 2.40 on 4.00 point scale (prior two year ranges). This GPA is after a significant number of students have withdrawn from the class due to failing grades, and eliminating the grades of students who did not withdraw the class and did not take the final exam. For the prior two years, approximately 30% of the students who take the first exam withdraw from the course. To help students succeed in the class, it was decided to offer assistance at the start of the semester to help them relearn the basics from Principles of Accounting I. Some of the material from Principles of Accounting I is contained in Chapter 3 of the Kieso et al. Intermediate Accounting text, but in-class time is limited (the Intermediate Accounting course is for three credit-hours) in terms of how much time to spend reviewing financial accounting principles material without diluting the coverage of the Intermediate Accounting I material. Up until three years ago, Intermediate Accounting was a four-credit-hour course where instructors had the “luxury” of spending more time reviewing the material from the Principles of Accounting I course. Now students are faced with learning this complex material in an even shorter in-class time frame. This research examines the variables that have the biggest impact on the lack of success in Intermediate accounting, then identifies interventions and the impact on student success.

LITERATURE REVIEW

Smith et al. (1974) considered Intermediate Accounting to be the most important course in the accounting curriculum (p. 385). Because of its perceived importance, they addressed five issues which could contribute to students succeeding or failing. These issues are (1) transfer students (taking introductory accounting courses elsewhere); (2) the amount of time between taking

---

1 Unless otherwise noted, Intermediate Accounting refers to Intermediate Accounting I
introductory accounting courses and Intermediate Accounting; (3) students’ mastery of the basic concepts from introductory courses; (4) students’ aptitude for accounting; and, (5) curriculum issues, i.e., taking Intermediate Accounting after one or two introductory courses.

They developed a modular approach for teaching Intermediate Accounting. The material was broken down into modules for the two Intermediate Accounting courses. Each module was further broken down into two or three quiz modules. Each quiz module was further broken down into four to eight discussion units. In addition to the quizzes, students would take five modular exams for each Intermediate Accounting course, and a final exam. A grade of 70% (C-) would have to be earned on each exam before a student could proceed to the next module. This required students to retake exams if they did not achieve a 70%. One of the outcomes of the modular approach was that students used the teacher more as a resource, rather than the traditional role of the teacher as a taskmaster.

Frakes (1977) investigated introductory accounting course objectives considered to be entry-level requirements needed for Intermediate Accounting and analyzed these objectives along with other selected variables as predictors of success in Intermediate Accounting. Students from two different schools were the subjects. At one school the students tended to be traditional undergraduate students, while at the other school students tended to be non-traditional (e.g., older, married, working). Three independent variables were chosen to determine their impact as predictors of Intermediate Accounting performance: (1) level of achievement of introductory accounting material; (2) general academic ability; and, (3) demographic data (control variables). The results indicated that the level of achievement in introductory accounting and general academic ability were predictors of success in Intermediate Accounting. The results of the demographic data varied between the two groups of students, e.g., hours worked per week and marital status negatively impacted the level of performance in Intermediate Accounting.

Delaney et al. (1979) presented the results of requiring an admissions test to take Intermediate Accounting, and the results of the test with the grade earned. The test was developed by the faculty, containing both financial and managerial accounting questions. The financial accounting portion of the exam (Part One) contained 55 multiple choice questions. The second portion of the exam (Part Two) contained 33 multiple choice questions covering managerial accounting topics. The test questions were not specific to any particular textbook. Part One was used as an accept/reject criteria for students to take Intermediate Accounting. Part Two was used as an advising tool to give the students an idea of their ability to succeed in Cost Accounting. Part Two was not used in the accept/reject decision as approximately 50% of the accounting majors were transfer students, and some had taken Cost Accounting prior to Intermediate Accounting while others had not. If a student did not receive an acceptable grade on Part One, they were required to retake the first principles of accounting course (financial accounting) before they could take Intermediate Accounting.

Approximately 11% (36/322) did not pass Part One. Of those who passed (286), various correlations were calculated based on their performance in Intermediate Accounting. The number of questions correctly answered on Part One had a .525 correlation with the grade in Intermediate Accounting (grades of A, B, and C were defined as success; grades of D, F, W (withdrawal) were defined as failure, p.158). A profile was done on the 55 questions from Part One and the “top 38”
were chosen. Grades in Intermediate Accounting correlated at .523 with the “top 38” questions on Part One (p. 158).

Hicks and Richardson (1984), empirically assess the predictive value of variables that determine success in Intermediate Accounting. They used regression analysis to test the correlation between success in Intermediate Accounting and the students’ grade in introductory Accounting, overall GPA, and a pre-test. During the first week of class, the instructors reviewed and covered the accounting cycle and other basic accounting concepts. A pre-test was then administered in the second week of class counting for 10% of the grade. Results indicate that performance on the pre-test is the strongest predictor of student success in Intermediate Accounting. Overall GPA and the grade in introductory accounting are less significant predictors, with the grade in introductory accounting the stronger predictor of the two.

Danko-McGhee and Duke (1992) create a model which attempts to predict which students will be successful in Intermediate Accounting. Unlike our goal which identifies at-need students for interventions to improve student success, their goal was to provide screening mechanisms to pick only the best students positioned for success.

Regression analysis was used to determine the variables related to Intermediate Accounting course grades, and then they applied discriminant analysis to control for variables that could be used to screen students. They reviewed GPA, introductory accounting course grades, time elapsed since introductory accounting was completed, and their score on a pre-test. They found GPA and the pre-test score were the most accurate variables to screen out students.

Shoulders and Hicks (2008) used separate diagnostic exams that did not count towards the students’ grade for the course. This study also had an intervention component that involved individualized teaching assistance outside of the classroom. They call their method ADEPT (Analysis of Diagnostic Exam Prompted Teaching and Learning Cycle). The diagnostic exams were not intended to gauge overall preparedness of the student coming into the course, but rather given throughout the semester on a chapter by chapter basis. Up to twenty-three diagnostic exams could be taken by students. Students had to request the diagnostic exam, and take it in the professor’s office or a nearby room. The results and feedback were usually given immediately upon completion of the exam.

Results show that students that took part in ADEPT were more successful than those who did not participate in the program. Specifically, ADEPT students performed better in Intermediate Accounting, had higher satisfaction with the course, obtained better grades in Intermediate Accounting II, and every student who participated in ADEPT (23 students) completed their accounting degree.

As a response to university pressure to increase retention, decrease student time to graduation, and increase CPA pass rates, Sanders and Willis (2009) interviewed their students and determined that the best chance students had to succeed in Intermediate Accounting was to ensure that they were sufficiently prepared. In order to accomplish this, they developed a competency exam for Principles of Accounting I (PACE) and required all students entering Intermediate Accounting to take the exam.
Several different preparation tools for the PACE were made available to the students. These were provided on a voluntary basis, some of which were for a fee and included self-study tools, using the ALEKS program, boot camp, and the opportunity to audit Principles of Accounting I. PACE was administered in the first two weeks of the course, with some instructors requiring students to receive a passing grade of at least 70% on the exam to stay in the class. Other instructors just recommended that students not passing the exam should consider withdrawing from the the course. Results showed that the most noticeable difference was a sharp reduction in the number of withdrawal (W) grades in the course. The authors concluded that the PACE identified students with a weak foundation in accounting principles and it served as a “signal” to the student regarding their preparation to begin Intermediate Accounting, assisting them to make an informed decision about staying in the course (p. 327). The authors continued to refine the process by adding an informational website, using Beta Alpha Psi Students to assist in tutoring, and including the process as part of their assessment for their AACSB maintenance review.

Phillips et al. (2013) formed an “Intermediate Readiness Committee” (IRC) to address the failure rate and withdrawals from Intermediate Accounting. The IRC (comprised of Intermediate faculty) implemented a “barrier” exam requiring passing (70%) the exam in order to complete Intermediate Accounting. They investigated factors for the failures and withdrawals (such as principles classes taken at other schools, non-traditional and foreign students, etc.) and concluded that steps needed to be taken to help accounting majors succeed regardless of the reason behind the failures and withdrawals. Subsequently, a remedial software program (ALEKS) was required for those not achieving at least a 70% on the exam.

Students were informed via a letter of the content and purpose of the exam, and the undergraduate catalog was updated to include this exam as a prerequisite for Intermediate Accounting. Failure to pass the exam would result in a grade of F in Intermediate Accounting if the student chose to stay enrolled. Eventually, of the students that failed, nine out of ten students chose to withdraw – the one that did not withdraw earned an F for the course. Student perceptions of ALEKS were very favorable in that the students recognized that they needed preparation for Intermediate Accounting, and ALEKS provided them with a thorough review of the accounting cycle. There were more grades of A and B, and fewer grades of C and withdrawals after implementing the exam and the “developmental software.” Additionally, the Accounting Department also implemented an alternative course to replace the second principles course for accounting majors, focusing on financial accounting.

Campbell et al. (2013) examined various characteristics of accounting students at several large campuses of a large state university system using a five-year period to determine which students are most likely to be successful. Although they defined several measures of success, such as accounting and overall GPAs, performing well on professional exams, and their long-term performance in their accounting careers, the study focused on accounting and overall GPAs. They utilized gender, admit status, and Intermediate Accounting grades as independent variables taken from university archived data and based on previous research. They hypothesized that the Intermediate Accounting grade could be an indication of the student’s success in their accounting degree program. They tested hypotheses to examine significant relationships between the grades earned in Intermediate Accounting, gender, admit status, and accounting and overall GPA.
The results show that gender had no impact on overall GPA. However, the relationship between the grade that students received in Intermediate Accounting and their overall GPA was positive and significant, while the relationship between admit status and overall GPA was also significant, but negative. From these findings, Campbell et al. concluded that transfer students had lower GPAs than their native counterparts, and that the grade students received in Intermediate Accounting is a good indicator of “later student outcomes measured as the overall and accounting GPA at the time of graduation (p. 75).”

Sargent (2013) utilized psychological and educational theories regarding prior learning and prerequisite knowledge to develop steps to assist students to succeed in Intermediate Accounting courses. One of these theories, information procession learning theory, posits that prior learning is an “active ingredient” because the learning process is sequential and hierarchical, and that learning builds cumulatively (p. 582). She also draws on studies which have shown that enforcing prerequisites has improved performance in several academic areas, including math, chemistry, and economics. Drawing on these two theories, Sargent developed several remedial steps for Intermediate Accounting students.

Sargent then examined the performance of 415 Intermediate Accounting students enrolled over a period of three terms, and introduced a proficiency exam administered in the last two terms. Students were required to purchase Quantum Simulation’s online transaction analysis intelligent tutoring system as part of their course materials which was then used as the proficiency exam. Grading was done on an “all or nothing” basis. This accounting cycle project was then used as an indicator for “gaps” that may have existed in students’ prior coursework and as an additional benefit, freed-up more class time by enabling the instructor to remove this review material from the Intermediate Accounting class meetings.

Siagian and Khan (2016) attributed poor Intermediate I performance to: (1) failure of Principles of Accounting I to provide a solid foundation; (2) students taking Principles of Accounting I at another institution where there could be uncontrollable standards of quality; and (3) Intermediate Accounting is demanding and difficult

Poor Intermediate Accounting performance was a concern because Intermediate Accounting is the first step in a rigorous accounting education and future career in the accounting profession. To address these concerns, this university added a one credit hour elective accounting cycle course (ACC). This course was a “participant-based” learning approach using Excel spreadsheets and cases. The course required students to work on problems, actively participate in class discussions, and use their problem-solving and analytical skills to successfully complete the course. Eighty-one (81) students who completed Intermediate Accounting took the ACC (22), and the remainder (59) did not. The authors concluded that there was a probability of receiving a better grade in Intermediate Accounting for students who completed the ACC (there was no mention of obtaining a certain score in the ACC) compared to their Principles of Accounting I grade, Introduction to Managerial Accounting grade, and their overall GPA.

Student feedback was positive regarding the ACC. The ACC helped them understand the accounting cycle and its components which helped them prepare for Intermediate Accounting.
They overwhelmingly agreed that the Excel component significantly enhanced their learning experience.

**METHODOLOGY**

Based upon experience at Cleveland State and the literature review, a committee comprised of the authors was formed to put together student engagement mechanisms in the fall of 2017 which would increase pass rates in Intermediate Accounting. All four of the individuals had extensive experience with the introductory to intermediate transition. The initial focus was on the historical first exam results for Intermediate Accounting, specifically the material tested on from Chapter 3 (review of principles of accounting, financial), and a lesser emphasis on Chapter 4 (the income statement), and Chapter 5 (the balance sheet). Experiences have shown a majority of students had difficulty knowing basic debits and credits (for routine, adjusting, closing, and reversing journal entries), and the classification of accounts as assets, liabilities, equity, revenue, and expense. It was determined to focus the review material on these areas as well as some non-quantitative questions (e.g., What does the acronym GAAP stand for?).

To determine approaching this with the “best” review material, a quiz was administered on the first day of class (n = 75; n = 63 undergraduates; n = 12 graduates; n = 1 undergraduate who did not attend the first class). Undergraduate and graduate students were not separated in this study. The quiz consisted of four parts: (1) the effects of debits and credits on assets, liabilities, equity, revenue, and expense accounts; (2) preparing routine and adjusting journal entries; (3) non-quantitative fill-in-the-blanks questions; and (4) determining if accounts would be classified as assets, liabilities, equity, revenue, or expense. The current text used in Principles of Accounting I was examined to ensure the material was covered in the class. The quiz did not count towards the students’ grade. The quiz totaled 50 points, but that was simply an arbitrary number to facilitate the grading to better convert the results to percentages.

After the quiz was taken, Part 3 was eliminated, the fill-in-the-blank non-quantitative questions, from the analysis and future first-day quizzes. It was determined that the non-quantitative fill-in-the-blank questions did not really reflect what the study was attempting to accomplish in the review material.

The results were not surprising based on the historical data from prior Intermediate Accounting I test results. 36% (n = 27) of the students correctly answered the effects of debits and credits on the above mentioned category of accounts (mean score 68%). Only about 9% (n = 7) of the students answered all of the journal entry questions correctly (mean score of 60%). And 20% (n = 15) of the students answered all of the questions correctly on categorizing accounts as assets, liabilities, equity, revenue, or expense (mean score 72%).

**IMPLEMENTATION**

Once the focus was determined, (1) a review course was designed and implemented through WileyPlus free of charge available to all students enrolled in Intermediate Accounting; (2) tutoring
intervention was offered to review the basics from principles of accounting; and (3) a list of links to instructional videos was provided on principles of accounting (as well as Intermediate Accounting) topics. Exhibit 1 outlines the main concepts of the program.

Exhibit 1
Interventions to Help Students Succeed

A Flexible Four Pronged Approach

Quiz
To Determine
Knowledge Gaps

Tutoring
Face-to-Face

Accounting
Cycle Review
(ACR)
Online Tool

Videos
Suggested
Online Links

On the first day of class, students were made aware of the review materials. Students who had recently taken Principles of Accounting I were able to access the review material created by the intermediate intervention committee using WileyPlus. Special free of charge codes were provided by Wiley. The code was available for a one-month period to coincide with covering the review of principles of accounting held in the Intermediate Accounting class (Chapter 3 of the Kieso Intermediate Accounting text). Twenty-six students enrolled for the review course. Of the twenty-six who enrolled, thirteen students completed the review course.

Also, on the first day of class, students were made aware of the tutoring intervention sessions. It was decided it would be best to have a Graduate Assistant, who was also the Accounting Lab tutor, to hold the review sessions. The thought was that, if a faculty member ran the review sessions, especially one who was teaching them Intermediate Accounting, students would be less likely to attend and less likely to ask questions about the material from Principles of Accounting I that they were having difficulty with or did not understand.

The tutoring intervention sessions were held during the second week of classes. It was planned to have these sessions accommodate both the morning and afternoon students. Due to the Graduate Student’s schedule, it was not possible to offer the tutoring intervention sessions in the evening. It was determined that students who were enrolled in evening classes would not be able to attend the evening sessions as they would be taking Intermediate Accounting and possibly other classes in the evening. It was also decided that students who took classes during the day would be more likely to take the tutoring intervention sessions if they were offered enough times during the day rather than take them in the evening. There were two different sessions and each was two hours in duration. Each session was offered four times. The first session was on Monday from 10AM to
Noon and Noon to 2PM, and Tuesday from 2PM to 4PM and 4PM to 6PM. The second session was offered on Wednesday from 10AM to Noon and Noon to 2PM, and Thursday from 2PM to 4PM and 4PM to 6PM. The only thing requested of the students who attended was to sign-in.

Prior to the sessions, the Graduate Assistant met with the instructor of Intermediate Accounting to go over the material. The instructor and the Graduate Assistant held two “rehearsals” where the Graduate Assistant presented the tutoring intervention sessions.

The links to the YouTube instructional videos were posted on Blackboard (the Learning Management System used at CSU), 42 in total. Tracking statistics were kept to see how many students accessed the videos, and which videos were accessed. However, we cannot comment on which videos were accessed or definitively how often they were accessed as the students could download all of the links at one time. If they did this, the tracking statistics only recorded them as accessing the videos once. If they accessed the links one-at-a-time then the tracking statistics would record each time they used a link. We are surmising based on the tracking statistics that some students would access the links one at a time, while others downloaded all of the links at one time. To avoid this issue, we would have to put each video link in a separate file on Blackboard, for a total of 42 files. At this point, we are not sure if this would deter some students from using this resource. And of course, just because they downloaded or even accessed a link doesn’t necessarily mean that they looked at the video(s). However, tracking statistics were never mentioned to the students nor were they aware it was being used so there was no reason for them to access the links unless they planned to use them.

RESULTS

Twenty-six students enrolled for the WileyPlus review material. Of the twenty-six who enrolled, thirteen students completed the review course. After the one-month period that the students could access the review material, results were assessed. Two of the thirteen students answered all of the questions correctly. The most time spent by any one student who completed the review material was 654 minutes, and was by a student who answered all of the questions correctly. The other student who answered all of the questions correctly spent 73 minutes reviewing the material. For the students who took the review, their average score on the WileyPlus review material was 83%. The highest score was 100%, and the lowest score was 37% which was significantly lower than the next lowest score (61%).

The tutoring intervention sessions were not well attended. A total of seventeen students attended the first session; of those, only seven students attended the second session. Only two of the seventeen students who attended the first session were enrolled in the evening session of Intermediate Accounting. Of the seven students who attended both sessions, all seven students were enrolled in the day section of Intermediate Accounting.

Results showed that students who are attending classes in the evening are limited as to when they can come to school for the tutoring intervention sessions. After the tutoring intervention sessions were offered, the instructor for Intermediate Accounting asked students to write (anonymously) why they did not attend the sessions. For the evening students, the most common
response was they were unavailable to take the tutoring intervention sessions at the times offered. Most of these students work during the day which makes it difficult for them to attend anytime other than in the evening. Also, if they are taking two classes a semester in the evening, it usually means they will have classes on Monday through Thursday, limiting them even more. It does not appear that the tutoring intervention sessions will be well attended if they are offered on a Friday evening or weekend, and it would not be fair to ask of Graduate Assistants to come in on a Friday evening or weekend.

Based on the tracking statistics, the links to the instructional videos were very well-received by the students. Given the caveat above, the links were accessed 1,701 times by the students. While not a part of the study, the day which both the day and evening sections of the class accessed the links most frequently was Thursday. The day class accessed the links 29.10% of the time on Thursday; the night section accessed the links 28.64% of the time on Thursday. The day class met on Tuesday and Thursday, while the night section met only on Thursday. Perhaps the instructor’s references to the links during the class meetings had something to do with the most frequent day of accessing the links on Thursday. There was no way to determine which links were being accessed, e.g., the links for Chapter 1, Chapter 2, etc., but it is assumed that the students were accessing the links for a given chapter at the time the chapter’s material was being covered in class.

The most relevant statistic may be how students fared on the first exam in Intermediate Accounting I, which tested the review material. The first exam was worth 100 points, with 35 points specific to the review material. The first exam was more difficult than the first day quiz, but no attempt was made to “weight” the difficulty, rather basic statistics are reported. The number of students who took the exam was 73, therefore, three students enrolled did not take the first exam. The average test score on the review material portion of the first exam was 29.03/35.00 or 83%. This was higher than the historical scores on the first exam for the prior two years (24.7/35 or 71%). The historical exams and this exam were the same in terms of the content and presentation of the review material covered in class. Only the names used in the exam questions, the numbers, and a few of the required journal entries differed.

For twelve of the thirteen students who completed the review material on WileyPlus, their average score on the first day quiz was 49%. (Note: One student was absent the first day when the quiz was administered but the student completed the WileyPlus review.) The score on the WileyPlus review material was 83% (n = 13). Interestingly, the average score on the first exam for the review material was 79% (n = 13) significantly higher than their score on the first day quiz (49%), but less than their score on the WileyPlus review material (83%). But given they could spend as much time as they wanted to answer the questions in the WileyPlus review and use their book/notes compared to taking a timed in-class exam, could explain the difference.

The average score on the first day quiz for the students who attended both tutoring intervention sessions was 43%. Their average score on the review material for the first exam was 76%. This was less than the overall class average of 83%, but significantly higher than their result on the first day quiz. Also, one student (who later withdrew from the class) scored a 54% on the review material on the first exam. If that student’s score is dropped from the combined results, the average score on the review material from exam one for the six students goes up to 80%.
Based on the difference between the first day quiz and the test results, a positive outcome was that most of the students who accessed the review material and attended both sessions of the tutoring intervention were students who did, on average, poorly on the first day quiz. They realized they needed to spend additional time reviewing the principles of accounting material, and significantly improved their score from the time they took the first day quiz to the time they took the first exam in class, four weeks later.

Historically most students do not withdraw from this course until after the second exam which is before the last day to withdraw from the course (November 3). We were interested to see if the historical withdraw rate would change. For the prior two years, approximately 30% of the students who take the first exam withdraw from the course. At the end of the semester, the number of students who withdrew from the course was n = 20 (including the three students who did not take the first exam), or 26% (20/76). If the three students who did not take the first exam are excluded, the percentage goes down to 22% (17/76), compared to the historical average of approximately 30%.

Did the review to help the students succeed in Intermediate Accounting help the students for the remainder of the course? The total points that could be earned for the course was the same for each semester that comparisons were based upon, as were the method of testing and number of tests, and test content (chapters covered on each exam). The class GPA, after eliminating students who did not take the final exam, was a 2.52 on a 4.00-point scale. The range each semester for the prior two-years was a 2.00 to a 2.40 on a 4.00-point scale. Exhibit 2 summarizes key findings.

Exhibit 2
Results from Student Engagement

<table>
<thead>
<tr>
<th>Average % score on the review material portion of the exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Intervention</td>
</tr>
<tr>
<td>Prior 2 year average</td>
</tr>
</tbody>
</table>

- Compared to past classes from the prior 2 years
- First exam scores were higher
- Class withdraw rate was reduced to 22% compared to 30%
- Overall class GPA was higher
At the end of the semester, students who participated in the review were asked about the tutoring intervention sessions and the video links to provide feedback on usefulness. It was not required, it was done anonymously, and students were not given points for commenting. Eighteen comments were received, all but 2 of them positive. Since the comments were anonymous, it could not be differentiated between those who completed the review, took either or both of the tutoring intervention sessions, or used the video links, versus those that did not. Most students appreciated the extra material, and the most popular item of the three was the video links. In a way that is not surprising as there were links for the whole semester, whereas the WileyPlus and the tutoring intervention sessions were only for the material covered about three months earlier. Thus, there could have also been a recency effect, where the students were most complimentary about the material (video links) they used most recently and/or frequently, especially if they found it beneficial. This semester we are asking students to let us know of any video links that they find are useful that are not on the list.

NEXT STEPS

The analysis shows that the steps taken to assist the students to be better prepared for Intermediate Accounting were beneficial. Compared to past classes (two years) the first exam test scores that covered this material were higher, the class withdraw rate was lower, and the overall class GPA was higher.

While these positive results cannot be attributed as being solely based on the interventions, we do have to believe that it contributes to some of the students’ success in the class. We would like to expand this in the future and have more students participate. One consideration is to start the tutoring intervention sessions during the first week of classes, and try to offer them during the University’s “dead time” when no classes are being taught. The class review sessions would be difficult to do prior to the start of the semester as Graduate Assistants cannot work prior to the start of the semester. Another consideration is to provide the review and the video links prior to the start of the semester. Students are being made aware of this via email prior to the start of the semester as well as by early posting on Blackboard.

After discussing different ways of administrating the review material, the tutoring intervention sessions, and the videos, the real questions that need to be asked is “What did we learn from this,” and “What else can we do differently?” That question took us in a different direction than we envisioned when we first started. Exhibit 3 lists some potential changes to the accounting program that could further enhance success.
Exhibit 3
Future Areas to Consider for Implementation

<table>
<thead>
<tr>
<th>Future Area to Review</th>
<th>Implementation Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Material Section</td>
<td>Cover Chapter 3 first - the accounting cycle</td>
</tr>
<tr>
<td>Mandatory Review</td>
<td>Make the review module mandatory and as part of the course grade</td>
</tr>
<tr>
<td>Review Quiz Value</td>
<td>Assign a grade to review quiz</td>
</tr>
<tr>
<td>Stronger Emphasis Earlier</td>
<td>At least two weeks before class begin email campaign encouraging the use of the review module</td>
</tr>
<tr>
<td>Share Data with Students</td>
<td>Share data supporting that the use of the review module improves success in the course</td>
</tr>
<tr>
<td>Expand Data Collection</td>
<td>Add more variables – review specific materials within the modules to gauge effectiveness</td>
</tr>
<tr>
<td>Student Satisfaction</td>
<td>Provide a survey on student’s opinion of usefulness</td>
</tr>
</tbody>
</table>

In addition, course load restructuring should be reviewed. Most students take Principles of Accounting I (financial accounting) in the fall semester, followed by Principles of Accounting II (managerial accounting) in the spring semester, and then Intermediate Accounting in the following fall semester. We are thinking of letting students enroll in Intermediate Accounting in the spring semester following their completion of Principles of Accounting I in the fall semester. This could also be expanded to letting students who take Principles of Accounting I in the spring semester enroll in Intermediate Accounting in the subsequent summer or fall semesters. This may help them by taking Intermediate Accounting when the material learned in Principles of Accounting I is still “fresh.”

This can be beneficial to students in another manner. We sampled full-time students’ course schedules to see what else they are taking with Intermediate Accounting. We found that a number of students are also taking courses offered in the College of Business such as Cost Accounting, Taxes, Finance, and Operation and Supply Chain Management (OSM). Courses taken outside the College of Business include various Math classes which many students find difficult. Students are taking many difficult quantitative and problem-solving classes in the same semester as Intermediate Accounting I. By letting students take Intermediate Accounting after Principles of Accounting I, this would limit the accounting courses they can take to only Principles of Accounting II with Intermediate Accounting. Also, after taking Principles of Accounting I many students are sophomores and the more difficult classes such as Finance, OSM, Cost Accounting, and Taxes can only be taken when they reach junior standing. This can lead to a better mix of classes in the semester they take Intermediate Accounting by having them take more “reading” classes rather than all “problem solving” classes.

Along the same line, Intermediate Accounting is a class whereby students learn how to study and retain difficult material. This helps them learn how to prepare for two additional difficult financial accounting courses, Intermediate Accounting II and Advanced Accounting. By the time students take those two courses they should better know how to prepare for the courses and study the material. In essence, Intermediate Accounting is a “wake-up call” on what to expect in the future. By taking a lighter load of problem-solving classes, students should have more time to
prepare for Intermediate Accounting, as well as develop the skills needed for when they take more
difficult classes (e.g., Finance, OSM, Intermediate Accounting II, Advanced Accounting, Cost
Accounting, Taxes). Exhibit 4 lists a potential scheduling change.

Exhibit 4
Schedule Redesign

<table>
<thead>
<tr>
<th>Current Schedule (Full Time)</th>
<th>Proposed Schedule (Full Time)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Accounting</td>
<td>Economics (Micro/Macro)</td>
</tr>
<tr>
<td>Tax</td>
<td>Management</td>
</tr>
<tr>
<td>Finance</td>
<td>Marketing</td>
</tr>
<tr>
<td>OSM</td>
<td>Principles Accounting II</td>
</tr>
<tr>
<td>Intermediate Accounting I</td>
<td>Intermediate Accounting I</td>
</tr>
</tbody>
</table>

Finally, the decision was to reduce the chapter coverage in Intermediate Accounting by
shifting some material to Intermediate Accounting II. Currently, in Intermediate Accounting, we
cover chapters 1 – 14; in Intermediate Accounting II we cover chapters 15 – 24. Chapter 14 consists
of accounting for bonds payable, long-term notes payable, off-balance sheet financing, and troubled
debt restructuring (Appendix). These topics, for most students, are very difficult and take a
considerable amount of valuable class time to cover often leading to not covering them in their
entirety, or “rushing through” earlier chapters (e.g., Chapter 12 – Accounting for Intangibles) to
have the time to cover Chapter 14. Intermediate Accounting II instructors agreed that the chapter
14 material could easily be moved from Intermediate Accounting given the lesser number of
chapters and easier pacing of Intermediate II.

Removal of Chapter 14 from Intermediate Accounting would free up about three class
sessions which could be spent on chapters 1-13. Intermediate Accounting would be more
manageable for the students throughout the semester and in the final push at the end of the semester
(when Chapter 14 was typically covered).

CONCLUSION

Withdraw and failure rates for intermediate accounting classes have long plagued Cleveland
State University and other institutions across the country. Better student engagement, preparation
and interventions are necessary to improve this situation. This study has provided engagement
concepts which indicate that pre-quizzes, online and in-person reviews, and in class review quizzes
can improve student success rates. Future studies can build upon adjusting the interventions
outlined in this paper. In addition, this paper suggests other areas to review such as course schedule
design. The solution is not to weed out students who are likely to be unsuccessful as other studies
have suggested, but to better prepare and engage all students to decrease withdraw rates and
improve learning and grades.
REFERENCES
To assess student success through improved retention, HEQCO recommends that institutions first consider a number of factors, including academic selectivity, program mix, administrative policies, institution size, and characteristics of the student population. Interaction and engagement with university staff and can play a major role in retention. According to a 2009 survey by The College Board, about 83 percent of the U.S. institutions surveyed require first-year students to meet with advisers at least once each semester. Vincent Tinto, who has published extensively on student retention in the United States, suggests that social interaction and engagement with university staff and can play a major role in retention. In order to promote student success and persistence through graduation, Vincent Tinto suggests a...