



**Volume 7
Number 1
2012**

ISSN: 1935-8156

<http://www.aisej.com>

Auditing the Systems Understanding Aid Project: An Integrative Assignment for Accounting Students

Susan L. Swanger

Western Carolina University

Beth H. Jones

Western Carolina University

Published by the AIS Educator Association
<http://www.aiseducators.com>

© 2012 AIS Educator Association

AIS Educator Journal

Editor

David R. Fordham, James Madison University

Associate Editors

William Heninger, Brigham Young University

Joann Segovia, Winona State University

Editorial Board

Lola Adebayo, University of South Carolina, Aiken

Jane Austin, Oklahoma City University

Roberta Barra, University of Hawai'i

Sarah Bee, Seattle University

Ronnie Daigle, Sam Houston State University

Del DeVries, Belmont University

Guido Geerts, University of Delaware

Susan Harris, University of Texas at Austin

David C. Hayes, James Madison University

Harry Howe, SUNY Geneseo

Carol Jessup, Southern Illinois University at Edwardsville

Bonnie Klammer, North Dakota State University

Connie Lehman, University of Houston Clear Lake

Rose Martin, California State University Pomona

Richard Newmark, University of Northern Colorado

Carolyn Strand Norman, Virginia Commonwealth Univ.

Gary Schneider, Quinnipiac University

Ting Wang, Governors State University

Marcia Watson, Mississippi State University

Skip White, University of Delaware

Past Editors

Arline Savage, Cal Poly State University San Luis Obispo 2004 - 2007

Stacy Kovar, Kansas State University 2007-2009

All materials contained herein are copyright AIS Educator Association, all rights reserved. Permission is hereby granted to reproduce any of the contents of the AIS Educator Journal for use in individual courses of instruction, as long as the source and AIS Educator Association copyright are indicated in any such reproductions. Written application must be made to the Editor for permission to reproduce any of the contents of the AIS Educator Journal for other uses, including publication in textbooks and books of readings for general distribution.

Published by the AIS Educator Association

Conference Chair & President: Ron Premuroso, University of Montana

Vice President : Kathryn Klose, University of Maryland University College

Training Chair: Constance "Conni" Lehmann, University of Houston, Clear Lake

Research Chair: Gary Schneider, Quinnipiac University

Auditing the Systems Understanding Aid Project: An Integrative Assignment for Accounting Students



Volume 7, Number 1
2012
page 27-51

Susan L. Swanger

Western Carolina University, swanger@wcu.edu, 828-227-3525

Beth H. Jones

Western Carolina University, bjones@wcu.edu

ABSTRACT

Accounting educators strive to prepare graduates for work in their chosen field. Various teaching methods can be employed to best accomplish this goal. One valuable tool is the use of active learning tasks that simulate external work environments. This paper describes the collaboration between an AIS and an Auditing professor who used an integrative task that spanned their two classes over two semesters. The authors had their AIS students complete Arens and Ward's Systems Understanding Aid (SUA) project (Arens & Ward, 2008). The following semester, students in the auditing class audited the records and financials that had been generated by students the previous semester. The project was designed to facilitate course integration and teamwork by having groups of students play the role of corporate accountants, then act as independent auditors.

Keywords

accounting information systems, AIS, class project, case study, auditing, course integration, integrative case, SUA, systems understanding aid, internal control, simulation.

A set of instructions for instructors is available for use with this case. If you are member of the AIS Educator Association, please go to <http://www.aiseducators.com> and follow the links for the AIS Educator Journal. If you are not a member of the Association, please contact the author directly at the address provided above to obtain these materials. Please provide a means for verifying your credentials as a faculty member so that we may protect the integrity of the solutions materials.

BACKGROUND

Accounting curricula are under continual pressure to graduate students with skills necessary and relevant to the workplace. As early as 1986, the American Accounting Association's Bedford Committee report concluded that "accounting education as it is currently approached requires major reorientation between now and the year 2000" (American Accounting Association Committee, 1986). Their views were reiterated in 1989 in the "Big 8 white paper" which found accounting graduates lacking in several areas, including needed communication and both intellectual and interpersonal skills (Big 8, 1989). Business schools have responded to such criticisms by adding courses, requiring more writing assignments, focusing on engagement, encouraging internships, finding other means of bringing the "real world" into the classroom, and so forth. The accounting profession in many states responded by requiring new CPAs to have 150 hours of college credit.

While there have been many changes in accounting education, there is continued criticism of the educational process and a discrepancy of expectation between accounting educators/students and accounting firms/business enterprises (Albrecht & Sack, 2001; Douglas et al., 2010; Kranacher, 2007; Seigel et al., 2010). One persistent theme is the lack of integration across the business curriculum (Bohanon, 2008; Manoj et al., 2010). Within the accounting area, there has been a call for more incorporation of technology (David, MacCracken, and Reckers, 2003) and ethics (Molyneaux, 2004) into accounting, and more integration across the accounting functional areas (Cheng, 2007). The American Institute of Certified Public Accountants (AICPA) has developed, for use by accounting educators, a core competency framework that defines skills (hereafter referred to as AICPA Core Competencies) for entry into the accounting profession. As accounting educators, we must continue to respond to the business community, always improving programs if we expect to produce competent, employable graduates.

The project described in this paper addresses the college graduate preparation problem through course integration, simulation, and team learning. Numerous researchers have shown that when students take an active role in the learning process, student learning is optimized (Smart & Csapo, 2007). More specifically, the learn-by-doing approach of group projects results in active learning with far greater comprehension and retention of information, higher levels of student motivation and achievement, development of critical reasoning skills, improved communications skills, and stronger interpersonal and social skills than is found with traditional lecture-style teaching methods (Hansen, 2006, citing Ashraf, 2004 and Williams, Beard, and Rymer, 1991; McEwen, 1994; Pithers and Soden, 2000; Ma, 1996). Course integration can also improve student learning. When the same project materials are used in two different courses taken sequentially, students have the opportunity to reinforce what they previously learned and expand their understanding by working with the material from a different perspective (in our case as preparer and auditor). A further advantage for students is to gain perspective from two different faculty members collaborating during the teaching process.

PROJECT PREPARATION AND PURPOSE

Early spring 2010, for reasons discussed in the preceding section, the AIS and auditing instructors (the authors) at a mid-sized regional university decided to collaborate on a class pro-

ject. The project would involve the Systems Understanding Aid (SUA) project (Arens & Ward, 2008) and would span both the AIS and auditing classes, which are offered sequentially at our university. The goals of the project are listed in Table 1.

| Table 1 Project Goals | |
|--|---|
| Project Portion: | Objectives: |
| All students | <ol style="list-style-type: none"> 1. Work effectively as a team member 2. Participate actively in the learning process 3. Evaluate team member performance |
| Completing the Systems Understanding Aid Portion | <ol style="list-style-type: none"> 1. Reinforce understanding of the functions of the accounting cycle and how individual functions are integrated into an accounting system 2. Familiarize students with typical source documents and accounting procedures in a small company 3. Increase understanding of internal controls |
| Auditing the Systems Understanding Aid Portion | <ol style="list-style-type: none"> 1. Reinforce concepts introduced in the AIS class related to <ol style="list-style-type: none"> a. Source documents b. Internal control documentation, in particular manuals and flowcharts c. Segregation of duties and other key internal controls 2. Familiarize students with steps in audit planning 3. Provide practice identifying internal controls, and distinguishing key testable controls 4. Provide an opportunity to <ol style="list-style-type: none"> a. Conduct tests of controls, including the consideration of results of the testing on the audit plan b. Conduct substantive testing in key audit areas such as cash, accounts receivable, fixed assets, and accounts payable c. Prepare a set of audit working papers 5. Provide practice of written communication through memo writing 6. Reinforce financial accounting concepts by evaluating presentation of the financial statements and by drafting the Accounting Policy footnote for the financial statements |

Over the course of the two-semester course sequence, the following specific AICPA Core Competencies were addressed: Functional competencies of decision modeling, risk analysis, reporting, research, and leveraging of technology; personal competencies of professional demeanor, problem solving and decision making, interaction, leadership, communication, and project management; and Broad Business Perspective competencies of strategic/critical thinking and the legal/regulatory perspective¹.

¹ For more information on the AICPA's Core Competency Framework, see <http://www.aicpa.org/InterestAreas/AccountingEducation/Resources/CurriculumDevelopment/CoreCompetencyFrameworkandEducationalCompetencyAssessmentWebSite/Pages/default.aspx>.

PART I - COMPLETING THE SYSTEMS UNDERSTANDING AID

During the spring 2010 semester, the Accounting Information Systems (AIS) students completed the Systems Understanding Aid (SUA) project (Arens & Ward, 2008) as part of their required coursework. This consists of a practice set with a half-month of transactions plus month-end and year-end procedures.

Ten projects were completed by thirty-nine students working in groups of three or four. Students were allowed to work on their projects during the first two classes (the systems class meets once per week, so this was equivalent to six hours class time). While not sufficient to complete the project, the first evening gave students time to familiarize themselves with the project requirements and to get started. The following week allowed them additional time to work and gave them a chance to have questions answered that arose during the week. These two classes were informal, with each group working at their own round table and the faculty member talking to individual groups and occasionally asking for everyone's attention in order to explain something important to the entire class.

Students completed Transaction set A of the Systems Understanding Aid, which includes ordering goods, receiving and paying for them; doing payroll for the three employees; filling customer orders, billing, and receiving payment; customer returns; borrowing money from the bank; writing off an A/R; and various other transactions. Students made entries into special journals and subsidiary records manually and filled out all the related paperwork (purchase orders, bills of lading, invoices, paychecks, and so forth). This was followed by month-end and year-end procedures, which included reconciling the bank statement, posting from the journals to the general ledger, making adjusting entries, generating financial statements, reconciling subsidiary ledgers with control accounts, and other such manual tasks. Throughout, there were approvals required (such as on the merchandise return forms and purchase orders) and acknowledgments needed (such as when "Nancy" signs the receiving report to acknowledge receipt of goods). All document copies were required to be filed appropriately.

At this point in their degree program, most AIS students at our university have only taken the first Intermediate Accounting class. Although they have not spent much time on internal control concepts before working on this project, they can still complete it by following the flowcharts and step-by-step procedural descriptions. The AIS instructor believes this is a valuable project in and of itself, but additional value lies in the fact that it ties in so well with topics covered in AIS throughout the semester. Here are some examples:

- When covering the chapter on the elements of internal control, the instructor refers back to SUA, asking students how they would describe the *control environment* at Waren Sports Supply (Waren), the fictitious company used in the SUA project. She asks for examples of *control activities* in place at Waren, discusses the manual *information system* used, asks students what *risks* might be present if Waren decided to computerize its accounting records, etc.
- The AIS instructor finds it particularly useful to apply the concept of separation of duties to the three employees at Waren. Students are asked such questions as, "The way the duties are separated, could one person steal inventory and cover it up by issuing a credit memo? By recording a fictitious sale? Could they write themselves a check and cover it up by debiting

‘miscellaneous expense?’ Could they ‘lap’ the accounts receivable?” Using their SUA flowcharts, they are able to see the preventive and detective controls in place arising from separation of duties.

- In the chapter on the sales process, the instructor brings related documents from SUA to the classroom. Because they have filled out sales orders, bills of lading, a credit memo, an account statement, etc. and recorded these transactions in the journal and subsidiary ledgers, they have a better understanding of this material than if they were simply reading from the textbook without being able to reference their SUA project.
- When studying the chapters on the expenditure and payroll processes, the same is true.
- This project also ties in with the Excel portion of the systems class. The first of several Excel exercises is a simple worksheet and is due the week before the SUA project is due. The simple worksheet prepares them for the more complicated Excel worksheet with financial statements that is part of the SUA project.

The SUA activities help bring the real world into the classroom. Although most businesses use some sort of computerized accounting system, in the authors’ opinions, the paper and pencil nature of the project for recording transactions helps students better understand the flow of information through an accounting system.

After the AIS students turned in their SUA packets, faculty retained the projects, removed all identifying information from them, and used them for the fall 2010 audit project. A new project was added to the Auditing class that required students to audit the books of Waren Sports Supply.

PART II - AUDITING THE SYSTEMS UNDERSTANDING AID

During part II of the project, called the Waren Sports Supply (WSS) Project, collaboration between the two faculty members was key. Before the semester began, the AIS and auditing instructors went through the SUA packet, deciding to divide the auditing project into three distinct assignments. In the first part, students would identify internal control strengths. In the second, they would test internal controls, and in the third, they would complete the audit process with substantive tests and written reports.

Auditing students were placed into teams of three or four. Each audit team had at least two members who had previously taken the AIS class where they had completed the SUA project. The auditing instructor devoted a part of one class meeting to discussing group dynamics and expectations of team members. Students were informed that they would be able to rate their teammates confidentially at the end of the series of assignments, and the rating forms themselves were provided to the students at that time (Exhibit 1 — Exhibits are found at the end of this article). Students met in their groups initially to pick a name for their group and to elect a group leader. Students enjoyed this initial exercise and generated names such as The A Team, Ethical Minds, The Fraud Squad, and Control Freaks.

Waren Sports Supply Part 1

Each audit team received an initial packet of general information from the Systems Understanding Aid case. Each packet contained introductory information, flowcharts, and portions of the procedures manuals from the SUA project. Instructions, as reproduced in Exhibit 2, required students to identify and report in a given tabular form the internal control strengths for WSS, and also to indicate the strengths in the flowcharts/manual, using sequential S-1, S-2... notations.

The AIS and auditing instructors created an answer key for this part of the assignment, coming up with a total of forty-five identified strengths. This list will be used by the AIS instructor to help direct class discussion when studying internal control. The auditing instructor used the identified strengths during the class debriefing, which was held when the graded submissions were returned to students.

After discussing the internal control strengths, the auditing instructor then led a brainstorming session about which strengths could be considered “key” strengths, characterizing them as to preventative, detective, complementary and redundant in nature. Finally, the discussion was directed toward determining which strengths could actually be tested in an audit setting, and the types of audit evidence and procedures that auditors would employ.

Waren Sports Supply Part 2

In the second part of the assignment, each audit team was given written instructions as reproduced in Exhibit 3 along with a unique set of “client” materials from the prior semester’s SUA projects. Students were specifically instructed not to alter, deface, or destroy any of the client’s original documents. The materials included the following:

- The WSS balance sheet, income statement, and statement of cash flows
- The WSS working trial balance, with adjustments posted
- The journals and general ledger
- The year-end bank reconciliation, aging of accounts receivable, fixed assets trial balance and accounts payable trial balance
- All source documents from the SUA files

Using the “client” materials, the teams tested for the appropriate functioning of internal controls for one transaction involving each of the following areas: Revenue, Accounts Receivable Write-offs, Sales Returns, Cash Receipts, Purchases on Account, Cash Disbursements, and Payroll. Each team created an audit working paper to document their testing, and prepared a memorandum to file summarizing their findings and conclusions with regard to internal controls. When the graded submissions were returned to the audit teams, the instructor again held a debriefing where the varying results were discussed in class. Relevant teaching points from this session included the following:

- Circumstances where WSS manager (Ray Kramer) was not doing his job in overseeing the financial reporting function of WSS. Internal control functions were not being carried out, or at times were being performed in a manner that did not follow company policy and circumvented the internal controls.
- Instances where WSS accounting personnel were engaging in “force balancing.”
- Testing one transaction from each cycle is not a sufficient sample size. Not only is the sample too small, but it only covers the last two weeks of the year

under audit. Results cannot be projected to the entire year.

- Some cycles may have strong internal controls that are operating as designed, while others in the same company may be weak or improperly designed.
- The effect on other auditing procedures, such as expanded year-end testing, was discussed in light of the varying results from the audit teams.

At this point, the auditing and AIS instructors met to discuss the second part of the assignment. The purpose of the meeting was to determine if any adjustments/improvements could be made in the AIS class given what the “auditors” were finding. Two adjustments will be made in the SUA assignment during the spring of 2012 on the basis of this meeting. First, there is the issue of “force balancing.” The AIS instructor had allowed students to see the answer-key journals after they had completed all their journal entries. Two problems were occurring. On occasion, students would copy the totals from the answer-key journals without correcting the line(s) on the journal that had the errors in them. Also, some students would correct the journals properly but not correct the source documents. In the future, the AIS instructor will look at the completed journals and identify any errors. The students must then fix the errors themselves, re-add and re-post. This will mitigate the problem of force balancing on journals, which is particularly confusing to auditing students. Once that is corrected, even if there remain a few errors unfixed on related source documents, the auditing students should not have as much difficulty detecting those problems and reporting on them.

A second issue is with missed steps. For example, Ray Kramer does not initial his approval on a document. To address this issue in future semesters, students will be asked to role-play. One will be Nancy, one Jim, and one Ray. (If four students end up in a group, Jim’s duties will be divided between two students in a pre-determined way). The authors see two possible advantages: (1) if someone misses their steps, they can be held accountable (less chance of social loafing) and (2) all students in the group will be expected to participate (less chance that one student will take over). The authors hope that with an actual role-play, the students will get a better understanding of the separation of duties concept, but concede that perhaps shifting ledgers and journals around will create more confusion than clarity. This role-play requirement will be implemented and evaluated in spring 2012.

Waren Sports Supply Part 3

In the third part of the assignment, teams were given instructions (Exhibit 4), a notebook with dividers and tabs, and an audit program (Exhibit 5). Audit teams were to perform traditional tracing, vouching, footing, and recalculating procedures related to the audit of cash, receivables, fixed assets, and payables. They prepared a full set of audit working papers that included the internal control documentation and testing from parts 1 and 2 of the project, as well as memoranda related to their audit conclusions and the type of audit report they would recommend be issued. They also prepared and included a draft of the client’s Footnote 1, Accounting Policies.

As with the internal control testing in part 2, the audit teams had widely varying results, depending upon the “competence” of the SUA teams in the prior semester. Once again, force balancing seemed to be an issue in the various trial balances and the financial statements themselves. The instructor-led debriefing was a lively discussion, covering such topics as improper financial reporting; indicators of fraud; the role of management in oversight of the financial reporting process; and the various reporting options available to audit teams, including qualified,

adverse, and disclaimer opinions. One group recommended complete withdrawal from the engagement.

As they had done at the completion of step two, the auditing and AIS instructors met to discuss the project at the conclusion of step three. The main issue needing to be addressed in the AIS class was again that of force-balancing. The AIS instructor had given students the correct trial balance figures after they completed their work, but before they submitted their projects. The original purpose was to give students a chance to locate their errors and fix them through the entire accounting cycle—source documents, journals, ledgers, and worksheet. Many students did use this as an excellent learning opportunity. There were those, however, who would simply use the correct trial balance figures without tracing their errors back and making corrections. Therefore, in future AIS classes, the correct trial balance amounts will not be distributed to the students.

Project Grading

Each of the three parts of the assignment was separately graded using a rubric included in the Teaching Notes. Due to the largely unstructured nature of the project, (and in many cases, to having no clear right or wrong answer to the auditing issues raised by the audit teams), the projects were graded based upon completeness, effort, the ability to follow instructions, and written communication skills. Overall grades for all three parts ranged from a low of 81.25% to a high of 100%.

QUESTIONNAIRE RESULTS

Likert-scale Questions

After completing the projects, auditing students were asked to fill out a short questionnaire. The responses are shown in Exhibit 6 and summarized below. Overall, student attitudes were quite positive, especially considering this was a first run-through of the project.

Do students believe this simulation project was successful in its attempt to cement AIS concepts and convey auditing concepts? As shown in Table 2, the survey results indicate a resounding ‘Yes.’ Overall, students agreed that the project was a valuable learning experience and felt more confident in their knowledge. In particular, there were two critical aspects of auditing where students felt more confident: Internal Controls and the Audit Process. In addition, a large majority of students disagreed that they were ‘more confused now about this material than I was before doing the project,’ and all but one disagreed with the statement that ‘the material had no value.’

Attitudes toward other aspects of the project are summarized in Table 3. Seventy percent of students found the project interesting and felt the project should be repeated in future semesters.

The raw data (Exhibit 6) reveals that there were a few students who had a difficult time with the project. Five, and at times, six students, responded that they did not enjoy the project, did not have sufficient time, felt lost, had no interest in learning anything else about the material, and did not feel more confident about doing audit work in the real world.

Students do not seem to mind the idea of group work and very strongly agree that hands-on simulation is an effective teaching method (Table 4). In addition to the three questions in Table 4, students were asked how they best like to learn new things. As seen in Exhibit 6,

Table 2
Value of the Learning Experience

| Questions dealing with the value of the learning experience: | Agreed or disagreed | Average response 5=strongly agree 1=strongly disagree |
|--|--|--|
| The project helped me gain a better understanding of internal controls. | 91% agreed or strongly agreed | 4.09 |
| This project helped me better understand the audit process. | 83% agreed or strongly agreed | 4.04 |
| This project allowed me to apply concepts discussed in class. | 74% agreed or strongly agreed | 3.78 |
| This project made me feel more confident that I could do audit work in the real world. | 56% agreed or strongly agreed | 3.35 |
| I'm more confused now about this material than I was before doing the project. | 85% disagreed or strongly disagreed | 2.09 |
| Learning this material had no value to me. | 78% disagreed or strongly disagreed | 2.04 |

Table 3
Other Student Attitudes

| Other questions on student attitudes towards the project: | Agreed or disagreed | Average response 5=strongly agree 1=strongly disagree |
|---|--|--|
| I thought this case was interesting. | 70% agreed or strongly agreed | 3.70 |
| I recommend using this project in future auditing classes. | 70% agreed or strongly agreed | 3.61 |
| I was provided sufficient time to complete the project. | 65% agreed or strongly agreed | 3.43 |
| I enjoyed working on this project. | 52% agreed or strongly agreed | 3.39 |
| I felt hopelessly lost working through this project! | 52% disagreed or strongly disagreed | 2.74 |
| I have no interest in learning anything else about this material. | 57% disagreed or strongly disagreed | 2.57 |

question 16, nineteen out of the twenty-three favored 'hands-on' learning, one preferred to read about it, two preferred lecture/talks and one preferred watching someone else. Their clear preference is for simulation.

| Table 4 Group work and Simulation | | |
|---|-------------------------------------|---|
| Questions dealing with group work and simulations: | Agreed or disagreed | Average response 5=strongly agree 1=strongly disagree |
| Simulation (hands-on with simulated problems) is a valuable way to learn about something. | 96% agreed or strongly agreed | 4.43 |
| I enjoy team-based projects. | 48% agreed or strongly agreed | 3.04 |
| I do not like to learn in an environment that requires working with a team of students. | 70% disagreed or strongly disagreed | 2.39 |

Open-ended responses

The final question on the survey was open-ended: "Please provide any other comments you believe would be helpful to us in further developing this learning project." All but five students wrote responses. A summary of their comments is presented in Table 5. Comments concur with objective responses, further demonstrating that most students saw value in their experience.

Other than comments about the workload, which may or may not be a criticism, and negative group work comments, there were only three areas of complaints about the SUA auditing project. (1) Five students complained about inadequate directions, two of whom said they were only confused by the third assignment. As a response, in the future, directions will be clarified and improved as faculty members learn where students have difficulty. (2) Consistent with the results of survey question fifteen, four students said they needed more time on the project. One of those said only part three required more time. The last part of the project was admittedly close to the end of the semester, and consideration will be given to the timing of the assignment and the length of time to be allowed for completion. (3) Four students had concerns about the disparity in quality among SUA projects. They felt it "wasn't fair" that some groups had "good" SUA projects and some had "messy" ones. One student commented "I felt overwhelmed because this seemed like accounting triage rather than auditing." This problem is easily addressed: as more SUA projects are created in the AIS class and retained by faculty, those few that are poorly-prepared can be eliminated.

WERE THE PROJECT GOALS MET?

The instructors had many goals in mind when they developed this project. These goals are listed in Table 1. As this project was designed as a teaching case more than a research study, there was no control group, nor were pre- and post-measures taken to determine degree of learning. Nevertheless, some inferences can be made regarding goal achievement.

Teamwork

One goal of this project, in both the AIS and audit classes, was to enhance teamwork skills and get students to actively participate in the learning process. Team members were

| Table 5 Open-ended Responses | |
|---|--|
| Positive comments: | |
| <ul style="list-style-type: none"> • Great opportunity to learn how to complete an audit. • Great experience. • I recommend using it in the future. • I enjoyed working on the project and my group learned a lot (2). • I enjoy hands-on projects. • Good because I am a hands-on, visual learner. I was able to apply class concepts; I would have been lost if I was not able to see the work that I was doing. • Do a more extensive audit project that is used throughout the semester (2); it should be big enough to require audit sampling (1 of the 2). • Try to do another one of these exercises. • Project was long and complex/difficult, but helpful and I learned a great deal from it (2). | |
| Project criticisms: | |
| <ul style="list-style-type: none"> • Inadequate directions (5) • Needed more time (4) • Disparity of SUA project quality (4) | |
| Other comments: | |
| <ul style="list-style-type: none"> • Big workload (3 made this comment in addition to the 2 who said 'project was long but I learned a great deal') • I was glad I had taken the AIS class first. | |
| Comments on the group work aspect of the project (both positive and negative): | |
| <ul style="list-style-type: none"> • Learned a lot from my teammates (2). • Good to use this as a group project; it is important to know how to work effectively in groups. • It was hard to split up the work because there was only one package and we wanted to keep everything together for fear of losing/misplacing documents. • As always when doing groupwork, some do not pull their weight. • Hard to find a time to meet. • Not enough help from my teammates. • The person in our group who had not had the systems class was totally lost and couldn't contribute. | |

asked to rate themselves and their teammates at the completion of each project. In the AIS class, students self-selected their team. In the audit class, they were assigned teams by the instructor in such a way that each team had at least two members who had already taken the AIS class. Overall, results were very good. In the AIS class, nine out of the ten groups worked very well together, as indicated by their self-reported Team Evaluation sheets. However, in one group, a member was reported to be a slacker by the other two members. In the auditing class, five students received teammate evaluations indicating a lower level of contribution to the overall project. Despite the presence of these “weaker” teammates, the auditing groups were able to resolve differences, overcome obstacles, and submit projects on a timely basis, with

none of these particular teams scoring lower than 90%, and one of these teams achieving 100% on the project itself.

Goals for SUA Completion Portion

Goals to be achieved during the completion of the SUA assignment in the AIS class focused on source documents, internal controls, and recordkeeping procedures. Evidence supporting the idea that students were learning from the SUA project is anecdotal, but persuasive. First, out of ten projects turned in, seven scored 90% or above (good to excellent), one scored 85% (marginal), and the last two projects scored 80% (poorly done). The Grading Sheet used is presented in Exhibit 7. In the authors' opinions, scores in the 90% range could not be achieved without a proper understanding of source documents, internal controls, and recordkeeping procedures.

Another subjective gauge is the students' interactions while they are working on SUA, both with the professor and within the groups. Conversations, questions asked, the level of concentration, and the tone in the classroom certainly leads the instructors to believe learning is taking place, except in the case of some of the more obvious 'social loafers.' Engaging them can be a challenge; however, as mentioned previously, the 'role-play' approach will be attempted in the spring of 2012.

Supporting evidence regarding learning can also be found in the questionnaire when comparing responses of those students who have taken AIS prior to the auditing class to those who have not. While this does not distinguish between what students learned in the AIS class aside from SUA versus what they learned from SUA, it is still worth mentioning.

On all but three questions, response patterns were similar. The three questions where responses differed indicated (1) students who had taken AIS were more likely to recommend using the project in future semesters, (2) students who had taken AIS were more likely to feel they had sufficient time, and (3) students who had not taken AIS were more likely to feel lost (see Table 6).

Finally, two of the open-ended comments indicate the value of taking the AIS class (and presumably doing the SUA project) before trying to audit Waren's books:

- I was glad I had taken the AIS class first.
- The person in our group who had not had the systems class was totally lost and couldn't contribute.

From this, we presume that students who had completed SUA knew more about the flow of information (so tracing and vouching was easier) and had a better understanding of internal controls. As an aside, on the basis of this evidence, we have decided to make the AIS class a prerequisite for the auditing class, because we believe auditing students need the background provided by both the SUA assignment and the AIS course to fully benefit from the auditing curriculum.

Goals for SUA Audit Portion

As discussed in the background section, research has shown that student learning is optimized when students take an active role in the learning process. Given this, it is not surprising that practice sets, real-world case studies, and other simulations are commonly used in auditing courses to engage students in the learning process. When students participated in the Waren audit simulation, they had the opportunity to review concepts introduced in SUA, mainly those

Table 6
Questionnaire Response Patters
Students Who Had AIS and Those Who Had Not

| Survey Question | Student back-ground | Disagree or Strong-ly Disa-gree | Neither | Agree or Strongly Agree |
|---|---------------------|---------------------------------|------------|-------------------------|
| 13. I recommend using this project in future auditing classes. (Students with AIS tended to agree) | Had AIS class | 2 13.3% | 1 6.7% | 12 80.0% |
| | Had not taken AIS | 2 25.0% | 2 25.0% | 4 50.0% |
| 14. I felt hopelessly lost in working through this project! (Students with AIS tended to disagree) | Had AIS class | 9 60.0% | 3 20.0% | 3 20.0% |
| | Had not taken AIS | 3 37.5% | 2 25.0% | 3 37.5% |
| 15. I was provided sufficient time to complete the project. (Students with AIS tended to agree.) | Had AIS class | 2 13.3% | 1 6.7% | 12 80.0% |
| | Had not taken AIS | 3 37.5% | 2 25.0% | 3 37.5% |

of internal controls, source documents, and accounting records. They were also required to plan and carry out an audit of these records, including reviewing internal controls, conducting substantive testing, documenting their work in audit working papers and writing a memo regarding their findings. But any good audit practice set could have afforded students this experience. What are the advantages of this particular project to meet these goals?

One of the major advantages of the Waren Sports Supply project is that new data is available each semester. The auditing instructor can use the same instructions and same grading rubrics each time, but the students cannot simply copy from previous semester's students. Along the same line, a second advantage is that not all SUAs in the auditing class will be the same. Some may differ due to errors made, but some will be different because SUA numbers are different each year. So as our bank of projects grows, the number of different SUAs used in the audit class will grow. These slight differences add to the richness of the overall audit experience.

A third advantage is that students have seen these records before—they have actually generated records similar to the ones they audit. (Not all students had taken AIS, but as mentioned, we plan to remedy that by making AIS a prerequisite to auditing.) Using the SUA project rather than other simulations results in (1) less start-up time because students are familiar with the records, (2) a second chance to go through the recordkeeping process, giving students the opportunity to more thoroughly understand a manual accounting system, (3) the ability to close the loop on the financial reporting process as they determine the appropriate audit report to be issued (a “cradle to grave” concept).

The SUA audit project proved valuable, even to those choosing not to pursue a career in

auditing, in that it helped confirm this decision. Case in point: One person said, “This class/assignment has confirmed my thoughts that I do not want to pursue the Masters of Accounting program nor the CPA exam.” The student reported no interest in learning anything else about the matter, felt hopelessly lost working through this project, yet recommended using it in future auditing classes!

CONCLUSIONS

Overall, we believe the objectives of this project were met. For successful completion of both project portions, students had to use organization, communication, and teamwork skills. Their accounting skills were refreshed as well, as they had to complete the entire accounting cycle from analyzing transactions through financial statements and closing the books. In the auditing class, the students then reviewed this material again. Internal controls were emphasized throughout the projects in both classes. Also, in the auditing class, students were given the opportunity to apply auditing procedures to a simulated company. Overall, students enjoyed the project, felt it was interesting and useful, and felt it helped them to understand internal controls and the auditing process.

Based on the results of this first iteration, plans are definite to continue using both the SUA project in the undergraduate AIS class and its continuation, WSS, in the auditing class. In the auditing class, the directions will be clarified in places, and more time will be allowed on that last audit part, as well. In the AIS class, students will role-play the functions in working through the SUA project and will not be provided the correct journals and trial balance figures.

As one would expect, simulation proved to be a valuable teaching method in the auditing classroom. Even more valuable in this particular simulation is the integration of material between AIS and auditing, which reinforces learning and provides an opportunity for students to see the entire financial reporting process. This quote from an open-ended comment sums up the intent of our entire effort: “Anyway, besides the insane amount of work, I really enjoyed the assignment. I thought it was cool in both AIS and Auditing to have this hands-on kind of project that brings everything together. I thought it was a valuable tool, and it was fun to see everything from creating the document, making entries, creating the financial statements, through auditing.”

REFERENCES

- Albrecht, W.S. and R.J.Sack. Mar 2001. The Perilous Future of Accounting Education. *CPA Journal* 71(2): 12-23.
- American Accounting Association Committee on the Future Structure, Content, and Scope of Accounting Education. Spring 1986. Future Accounting Education: Preparing for the Expanding Profession. *Issues in Accounting Education* 1: 168-195
- Arens, D. and A. Ward. 2008. *Systems Understanding Aid 7th Ed.* Okemos, MI: Armond Dalton Publishers, Inc.
- Ashraf, M. 2004. A Critical Look at the Use of Group Projects as a Pedagogical Tool. *Journal of Education for Business* 79: 213-216.
- Big 8 White Paper. 1989. *Perspectives on Education: Capabilities for Success in the Accounting Profession.* New York: Arthur Andersen & Co., Arthur Young, Coopers & Lybrand, Deloitte Haskins & Sells, Ernst & Whinney, Peat Marwick Main & Co., Price Waterhouse, and Touche Ross.

- Bohanon, C. 2008. Persistent Themes in Colleges of Business. *Journal of Education for Business* 83(4): 239-245.
- Cheng, Kai-Wen. 2007. The Curriculum Design in Universities from the Perspective of Providers in Accounting Education. *Education* 127(4): 581-590.
- David, J. S., P.M. MacCracken, and J. Reckers. 2003. Integrating Technology and Business Process Analysis into Introductory Accounting Courses. *Issues in Accounting Education* 18(4): 417-425.
- Douglas, M.P., R.F. Dombroski, R.M. Garner, and K. Smith. Jun 2010. The Accounting Education Gap. *CPA Journal* 80(6): 6-10.
- Hansen, R. 2006. Benefits and Problems with Student Teams: Suggestions for Improving Team Projects. *Journal of Education for Business* 81: 11-19.
- Kranacher, M. Feb 2007. The Great Divide: Academia and Practice. *The CPA Journal*. Retrieved March 31, 2011 from <http://www.nysscpa.org/cpajournal/2007/207/essentials/p80.htm>.
- Ma, C. M. 1996. Suggestions for the Improvement of the Current Accounting Education. *Education Change Correspondence* 17:55.
- Manoj, A., M. Myring, R.E. Davis, and A.D. Truell. Winter 2010. Factors Influencing Success in Integrating the Four-year Business School Curriculum: Implications for Business Educators. *Delta Pi Epsilon Journal* 52 (1): 4-15.
- McEwen, B.C. 1994. Teaching Critical Thinking Skills in Business Education. *Journal of Education for Business* 70(2): 99-103.
- Molyneaux, D. 2004. After Andersen: An Experience of Integrating Ethics into Undergraduate Accountancy Education. *Journal of Business Ethics* 54(4): 385-398.
- Pithers, R. T., and R. Soden. 2000. Critical Thinking in Education: A Review. *Educational Research* 42:237-249.
- Siegel, G., J.E. Sorensen, T. Klammer, and S.B. Richtermeyer. Spring 2010. The Ongoing Preparation Gap in Accounting Education: A Call to Action. *Management Accounting Quarterly* 11(3): 41-52.
- Smart, K.L. and N. Csapo. 2007. Learning by Doing: Engaging Students through Learner-centered Activities. *Business Communication Quarterly* 70(4): 451-457.
- Williams, D. L., J.D. Beard, and J. Rymer. 1991. Team Projects: Achieving their Full Potential. *Journal of Marketing Education* 13:45-53.

EXHIBIT 1 **TEAM MEMBER RATING FORM**

You have 20 points to allocate between all of you in a 3-member group and 26 points for a 4-member group. Enter the names at the top of the columns, then rate yourself and each of your teammates on a scale of 0 to 3, with 3 being the highest possible rating and 0 being the lowest possible rating. See example on following page.

| Item | Attribute or characteristic | <i>(Your name)</i> | <i>(Team Member)</i> | <i>(Team Member)</i> | <i>(Team Member)</i> |
|-------------|---|--------------------|----------------------|----------------------|----------------------|
| 1 | Is well organized and prepared for meetings | | | | |
| 2 | Completes assignments on a timely basis | | | | |
| 3 | Produces a high quality work product | | | | |
| 4 | Works hard toward the common goal | | | | |
| 5 | Accepts criticism & suggestions with grace | | | | |
| 6 | Willing to help others; flexible | | | | |
| 7 | Actively contributes to the project | | | | |
| 8 | Communicates well | | | | |
| 9 | Exhibits professionalism & honesty | | | | |
| 10 | Exhibits a positive attitude | | | | |

EXHIBIT 1
TEAM MEMBER RATING FORM
(continued)

EXAMPLE

| Item | Attribute or characteristic | EENY (Your name) | MEENY (Team Member) | MINEY (Team Member) | MOE (Team Member) |
|------|---|----------------------------|-------------------------------|-------------------------------|-----------------------------|
| 1 | Is well organized and prepared for meetings | 1 | 0 | 1 | 0 |
| 2 | Completes assignments on a timely basis | 1 | 0 | 1 | 2 |
| 3 | Produces a high quality work product | 1 | 0 | 0 | 3 |
| 4 | Works hard toward the common goal | 3 | 0 | 0 | 0 |
| 5 | Accepts criticism & suggestions with grace | 0 | 0 | 0 | 0 |
| 6 | Willing to help others; flexible | 1 | 0 | 2 | 0 |
| 7 | Actively contributes to the project | 3 | 0 | 1 | 1 |
| 8 | Communicates well | 0 | 0 | 1 | 0 |
| 9 | Exhibits professionalism & honesty | 0 | 0 | 1 | 0 |
| 10 | Exhibits a positive attitude | 1 | 0 | 2 | 0 |
| | Totals | 11 | 0 | 9 | 6 |

EXHIBIT 2

WAREN SPORT SUPPLY ASSIGNMENT PART 1

Familiarize yourself with the business of the company, the employees, and the documentation of the accounting systems and procedures, as shown in the handout.

Prepare a table that shows strengths in the internal controls for each of the transaction cycles (Sales, Sales Returns, Cash Receipts, Purchases on Account, Cash Disbursements, and Payroll). Label them consecutively, S1, S2, and so on within each cycle, then, in **RED PEN**, put S1, S2, and so forth to identify them on the flowchart itself and/or in the margin of the narrative description of procedures, as appropriate.

Turn in your flowcharts and handout, along with the table of strengths during class on Thursday, November 4, 2010.

Use the following format for the table:

| Strength Number | Transaction Cycle | Description of control strength |
|-----------------|-------------------|---------------------------------|
| S1 | Sales | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

EXHIBIT 3 WAREN SPORTS SUPPLY ASSIGNMENT PART 2

Test the internal controls for the selected transactions and activities that occurred during the period December 16, 2009 through December 31, 2009. Prepare a working paper that documents the testing of the various control features. When testing is complete, prepare a memorandum that summarizes your findings and documents your conclusions with regard to internal controls of Waren Sports Supply. Submit your working papers, memorandum, and supporting client documents during class on November 18, 2010.

Assume that the following transactions have been selected for internal control testing:

Revenue:

- December 19 sale to University of Southern Iowa
- December 22 write-off of receivable from Stevenson College

Sales Returns:

- December 19 return from Eastern Wisconsin University

Cash Receipts:

- December 23 check from Eastern Wisconsin University

Purchases on Account:

- December 16 purchase from Velocity Sporting Goods

Cash Disbursements:

- Check #1152 to Velocity Sporting Goods dated December 29

Payroll:

- December 31 Nancy Ford pay check

Make sure your working paper has appropriate headings and tick mark explanations. Use the following format for the body of the working paper:

| Test Item | Control Feature Tested | Control functioning? | | Comments |
|-------------------|--|----------------------|----|----------|
| | | Yes | No | |
| 12/19 sale to USI | Pre-numbered invoices issued | | | |
| | Kramer approves customer credit – initials customer PO | | | |
| | Nancy prepares invoice using approved price list | | | |
| | Adams reviews invoice for accuracy – initials | | | |
| | Sales journal totals properly posted to GL – indicated by check mark | | | |
| 12/22 write-off | Kramer approves write-off of account – initials in A/R subsidiary | | | |
| | Kramer initials in general journal | | | |

Exhibit continued on next page

EXHIBIT 3
WAREN SPORTS SUPPLY ASSIGNMENT PART 2
(continued)

| Test Item | Control Feature Tested | Control function- ing? | | Comments |
|--|---|---------------------------|----|----------|
| | | Yes | No | |
| 12/19 re- turn | Kramer signs customer request to return merchandise to indicate approval | | | |
| | Kramer reviews matched documents (including receiving report) & initials credit memo | | | |
| | CD journal, cleared check & CM amounts agree | | | |
| | Cleared check signed by Kramer | | | |
| 12/23 cash from EWU | Check included on prelist by Adams | | | |
| | Deposits made on a timely basis | | | |
| | Ford compares prelist to deposit slip & initials in CR journal | | | |
| | CR column totals posted properly to GL – indicated by check mark | | | |
| | Kramer foots CR journal – initials | | | |
| 12/16 purchase on acct from Velocity | Pre-numbered purchase orders used | | | |
| | PO approved by Kramer – indicated by signature | | | |
| | Ford prepares pre-numbered receiving report | | | |
| | Adams matches PO, receiving report, & vendor invoices – initials | | | |
| | Purchases journal column totals properly posted to GL – indicated by check mark | | | |
| Check # 1152 | Kramer reviews matched documents, signs check, cancels invoice, mails check to vendor | | | |
| | Cash disbursements column totals properly posted to GL – indicated by check mark | | | |
| | Kramer foots & initials CD journal | | | |
| 12/31 Ford payroll | Kramer approves time card – initials | | | |
| | PR calculated using employee earnings subsidiary – amounts entered in PR journal | | | |
| | Ford signs timecard to acknowledge receipt of check | | | |
| | Kramer signs check | | | |
| | Payroll column totals properly posted to GL – indicated by check mark | | | |
| | Kramer prepares bank reconciliation – bank reconciliation prepared for both November and December | | | |

EXHIBIT 4

WAREN SPORTS SUPPLY ASSIGNMENT PART 3

Using the audit program supplied, perform the required audit procedures. Submit your working papers, along with the client's financial statements and all client documents during class on December 7, 2010. Note that all working papers should be either copies of client documents or created by the auditor. Make sure that all working papers are well organized, that tick marks are explained, and that the audit program and working papers are signed off by one of the audit team members.

DO NOT MAKE NOTATIONS ON THE CLIENT'S ORIGINAL DOCUMENTS OR INCLUDE THEM WITH YOUR WORKING PAPERS!!

Working papers should be organized in a notebook when submitted. At a minimum, the following sections should be used:

- **Administrative** (including your final memo, draft of footnote #1, schedule of proposed audit adjustments, draft financial statements, working trial balance, & year-end audit program)
- **Internal Control Documentation**
- **Internal Control Testing**
- **Substantive Audit Procedures**

EXHIBIT 5
WAREN SPORTS SUPPLY PART 3 (CONTINUATION)

Waren Sports Supply
December 31, 2009
Year end audit program

| Audit Procedure | Workpaper Reference | Performed by | Date |
|--|---------------------|--------------|------|
| <p>General Procedures:</p> <p>Familiarize yourself with the client's industry, accounting systems, and policies by reviewing the company information included in the permanent working papers.</p> <p>Substantive Audit Procedures:</p> <p>Make a copy of the client's financial statements and their working trial balance to serve as audit working papers.</p> <p>Make a copy of the client's year-end bank reconciliation. Prove clerical accuracy. Perform audit procedures as deemed necessary. Trace ending balance to working trial balance.</p> <p>Make a copy of the client's aged trial balance of accounts receivable. Prove clerical accuracy. Ascertain that accounts are aged properly by reference to supporting documentation. Trace total to the working trial balance.</p> <p>Make a copy of the client's fixed assets trial balance. Prove clerical accuracy. Vouch totals to the property ledgers and trace totals to the working trial balance.</p> <p>Make a copy of the client's accounts payable trial balance. Prove clerical accuracy and trace total to the working trial balance.</p> | | | |

Exhibit continued on next page

EXHIBIT 5
WAREN SPORTS SUPPLY PART 3 (CONTINUATION)
(continued)

| Audit Procedure | Workpaper Reference | Performed by | Date |
|---|---------------------|--------------|------|
| <p>General Audit Procedures:</p> <p>Vouch all F/S amounts to the supporting trial balance.</p> <p>Vouch all items in the working trial balance to the general ledger.</p> <p>Ascertain that the working trial balance does in fact balance.</p> <p>Trace all general ledger items to the working trial balance.</p> <p>Trace all items on the working trial balance to the draft financial statements.</p> <p>Prepare a schedule of proposed audit adjustments. (Do NOT post the adjustments to the working trial balance.)</p> <p>Prepare a draft of footnote 1, Accounting Policies.</p> <p>Prepare a memorandum to file documenting your audit conclusions, including the type of audit report you would expect to issue.</p> <p>Put all memos and working papers in a binder or notebook (in logical sequence and appropriately referenced and signed off) and turn in by Tuesday, December 7, 2010.</p> | | | |

EXHIBIT 6 **QUESTIONNAIRE RAW DATA**

| | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|----------------------|----------|-------------------------------|-------|-------------------|
| 1. The project helped me gain a better understanding of internal controls. | 0 | 0 | 2 | 17 | 4 |
| 2. I thought this case was interesting. | 0 | 4 | 3 | 12 | 4 |
| 3. This project made me feel more confident that I could do audit work in the real world. | 2 | 3 | 5 | 11 | 2 |
| 4. Learning this material had no value to me. | 5 | 13 | 4 | 1 | 0 |
| 5. I enjoy team-based projects. | 6 | 2 | 4 | 7 | 4 |
| 6. This project helped me better understand the audit process. | 0 | 1 | 3 | 13 | 6 |
| 7. I'm more confused now about this material than I was before doing the project. | 5 | 13 | 3 | 2 | 0 |
| 8. This project allowed me to apply concepts discussed in class. | 0 | 1 | 5 | 15 | 2 |
| 9. I do not like to learn in an environment that requires working with a team of students. | 2 | 14 | 4 | 2 | 1 |
| 10. Simulation (hands-on with simulated problems) is a valuable way to learn about something. | 0 | 0 | 1 | 11 | 11 |
| 11. I have no interest in learning anything else about this material. | 4 | 9 | 5 | 3 | 2 |
| 12. I enjoyed working on this project. | 0 | 5 | 6 | 10 | 2 |
| 13. I recommend using this project in future auditing classes. | 0 | 4 | 3 | 14 | 2 |
| 14. I felt hopelessly lost in working through this project! | 1 | 11 | 5 | 5 | 1 |
| 15. I was provided sufficient time to complete the project. | 0 | 5 | 3 | 15 | 0 |

| | |
|--------------------------------------|---------------------|
| 16. The way I learn best is through: | |
| a. reading books or papers | 1 |
| b. listening to talks or lectures | 2 |
| c. watching what others do | 1 |
| d. through hands-on experience | 19 |
| 17. Gender | Male 9 Female 14 |
| 18. Have you taken AIS? | Yes 15 No 8 |

**EXHIBIT 7
SYSTEMS UNDERSTANDING AID
GRADING SHEET**

NAMES _____

| | Your Score | Possible Pts |
|--|------------|--------------|
| Source documents prepared reasonably correctly | | 5 |
| Journals prepared correctly; and in adequate form | | 5 |
| Ledgers prepared correctly; and in adequate form | | 5 |
| Adjusting entries correctly prepared and posted | | 7 |
| Closing entries correctly prepared and posted | | 4 |
| Bank reconciliation | | 3 |
| Internal controls/filing | | 4 |
| Excel worksheet and financial statements: | | |
| No hardcoding | | 1 |
| Worksheet completed correctly | | 2 |
| Balance Sheet completed correctly | | 2 |
| Income Statement completed correctly | | 2 |
| Cash Flows completed correctly | | 2 |
| Excel Trial balances: | | |
| Post-Closing trial balance completed correctly | | 2 |
| Aged accounts receivable schedule correct and in good form | | 2 |
| Accounts payable schedule correct and in good form | | 2 |
| Fixed assets schedule correct and in good form | | 2 |
| Total Points | | <u>50</u> |