Using Project-Based Learning to Connect Theory to Practice in Teaching Accounting Communication

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To prepare students for on-the-job writing, we use individual assignments that increase in difficulty, team reports and presentations to teach collaboration and adaptation to different audiences, and timed in-class case exams that require students to write memos and letters. The body of knowledge about project-based learning tells us that the best way for students to learn is through project-based rather than inquiry-based learning. With feedback from the business community who interview and hire our students, we offer a business communication class that connects theory to practice through project-based instruction.

According to Bransford and Stein (1993) project-based learning (PBL) is designed to engage students in sustained, cooperative investigation. Within this framework, students construct their own artifacts (i.e. formal report, consequential task, or PowerPoint presentation) to represent what is being learned (Blumfield, Soloway, Marx, Krajcik, Guzdial, & Palincsar, 1991). Both peers and professors can provide feedback to assist students with producing a better product. Within this context, the activity becomes authentic, and encourages students to reflect on and extend their knowledge, and ultimately to revise their artifacts (Blumfield et al., 1991; Brown & Campione, 1994; Cognition and Technology Group at Vanderbilt, 1992).

Aside from students' construction of artifacts, a key difference between project-based learning and inquiry-based learning is the emphasis on collaboration. In most traditional settings, inquiry-based learning is often an individual task (Blumfield et al., 1991; Bradford & Stein, 1993). While individual work accounts for 60% of students' work, all but the exams in the accounting communication course are project-based.

The major projects (Risk Analysis, Payroll Work Papers, Not for Profit Fund Raiser Persuasive Proposal) require both individual and team assignments. The "team" model of collaboration emphasizes student ownership over the successful completion of their assignments. Within this instructional design, instructors' roles shift from the traditional lecturer imparting knowledge to the masses, to guide and coach. This shift requires extensive up front preparation on the instructor's part.

Since accountants spend a great deal of time communicating in written reports and oral presentations, this course was designed to improve their communication skills so that they are able to present financial and business information effectively. Both content and execution are included in instruction.

Project-based learning as a teaching tool

During the last half century, educators have struggled to find the most effective teaching, learning, and assessment strategies for students. Since the process of effective teaching is sensitive to the educational context, the process and the product must be carefully designed and assessed (Gulbahar & Tinmaz, 2006). As several researchers have noted, using project-based learning (PBL) to "teach more effectively" is a learner-centered approach which requires students' active participation in the construct of their own learning (Gulbhar and Tinmaz, 2006; Frank, Lavy & Elata, 2003;Thompson & Beak, 2007; Doppelt, 2003). Instructors have witnessed how this "hands-on" approach has increased student involvement and has enhanced students' learning (Thompson & Beak, 2007; Thomas, 2000; Gulbahar & Tinmaz, 2006). This may explain why project-based learning has become a popular teaching tool during the past decade.

Thomas (2000) defined project-based learning as "a model that organizes learning around projects" (p. 1). Other researchers have defined project-based learning as learning by doing (Thompson & Beak, 2007), and as student-driven investigations of complex, real-life questions or problems (Blumfield et al., 1991; Helm & Katz, 2001). Some projects are long-term investigations spanning the entire semester, others are shorter units. However, all projects require teamwork and collaboration among students, and are designed to culminate in a substantive final product (Thompson & Beak, 2007; Thomas, 2000; Mishra & Girod, 2006).

Rhodes and Garrick (2003) noted that project-based learning is the way most people learn on the job. Therefore, effective project-based learning activities are grounded in practical activities that mirror real-world conditions. Outcomes attached to PBL activities include the development of appropriate workplace skills, and the potential to increase students' sense of responsibility for and control over their own learning (Thompson & Beak, 2007; Callison, 2006). In other words, project-based learning is a transformative experience that provides a rich context for connecting classroom experiences with "real life" workplace expectations. Mishra and Girod (2006) pointed out that real life experiences embedded in PBL learning activities assist students with honing the collaborative skills they need to actively participate in the development of learning artifacts such as publications, presentations, instructional software, simulations, and case studies within a team configuration (p. 209).

Several researchers have suggested that PBL is an effective teaching tool because it is situated within the dynamic of active student involvement (Frank, Lavy, & Elata, 2003). In other words, the context of PBL forces students become part of the construct of their own learning; students will "learn by doing" (Thompson & Beak, 2007, p. 280). There is evidence to suggest that active involvement in the learning process results in students learning at deeper levels, and retaining what they have learned longer than students who are "passive" participants in their learning (Bonwell & Eison, 1991; Rueda & McIntyre, 2002). In addition, the research suggests that PBL projects may contribute to a deeper understanding of key concepts because project-based learning projects deal with "real-life" problems which many students find more engaging than the traditional lecture/discussion format (Thompson & Bea, 2007).

Frank, Lavy and Elata (2003) pointed out that adapting the project-based learning approach requires immediate change to the curriculum, to instruction, and to assessment. The new role of a project-based instructor is no longer "…lecturing to passive students" but involves "…encouraging motivation, tutoring, providing resources, and helping learners to construct their own knowledge" (p. 280). Making this change is initially labor intensive for the instructor because it requires greater commitment and organization. Solomon (2003) emphasized the importance of establishing a classroom environment that is "risk-free…in which students can use a variety of earning styles, learn from mistakes, and give and get honest, non-threatening feedback" (p.22). Solomon also suggested the need to implement a variety of assessment mechanisms to provide feedback to students and instructors on a regular and predictable basis.

Thomas (2000) articulated five criteria for PBL activities.
1. PBL projects that are central to the curriculum, not peripheral.
2. PBL projects that are focused on questions or problems that "drive" students to encounter the central concepts and principles of a specific discipline.
3. PBL projects that involve students in a constructive investigation.
4. PBL projects that are student-driven to a significant degree.
5. PBL projects that are realistic, school-like.

The role of collaboration in project-based learning

Collaborative interaction among students provides an alternative to the traditional "sage on the stage" model. Because PBL is student-centered and student-directed, instructors will be required to make a shift in how they think about classroom structures, teaching roles, classroom environment and student assessment (Thompson & Beak, 2007). Instructors will have to move away from the traditional model of the "guru" leading "passive" learners down the path to enlightenment. PBL requires students to take the lead as "active" participants, while instructors' roles will shift to managers, facilitators, and coaches.

PBL activities tend to be complicated and challenging and require teamwork among students. Typically, PBL activities require longer time for completion because of their complexity and interactive nature. Many instructors may find that while students may initially be disturbed during the early stages of implementation of PBL, as time passes students' frustrations tend to dissipate as they release their "habit of waiting for step-by-step instructor-based commands" and embrace their freedom to learn by doing within a "team" context (Gulbahar & Tinmaz, 2006, p. 310).

We have observed our accounting students became more motivated as the semester progressed. We believe this is because they became more comfortable with the new dynamic of PBL, and embraced their "freedom" to manage their time more effectively, to think reflectively about their experiences, and to make the connections between their classroom work and what is happening in the workplace (feedback from students' end of the year evaluations).

Students would like more step-by-step instruction such as project templates and models, of course. However, the six-unit accounting courses do not provide them either, so eventually

students begin to understand that they are learning strategies that they will be able to use on future projects at work, where they will not have a teacher to guide them.

After assessing and reviewing our students' work, we found that PBL collaboration enhanced our students' skills in several ways. First, students learned the value of being active participants in the classroom and within their teams. Their PBL assignments required them to learn from one another and to teach one another within this collaborative learning environment. Second, students learned firsthand what steps were required to complete a large project from start to finish, and they gained the satisfaction inherent in successful project completion. Third, students acquired valuable interviewing skills because they were required to interview business managers during their payroll project. Fourth, students received hands-on experience using content analysis to consolidate the information they gathered for both their risk analysis paper and their payroll project papers. Both projects required presenting their findings in an oral report to the class, and in a coherent paper. Fifth, students' communication skills were enhanced each time they met face-to-face with a business manager or leader during their investigation of the payroll process, and again when they met within their individual teams to sort out their findings. Sixth, students' communication skills were enhanced because they needed to use communication skills during numerous team meetings, class discussions, and oral presentations. These discussions culminated in the added bonus of emphasizing student ownership of their PBL assignments. Seventh, students used and honed their critical thinking skills to consolidate their findings for each of their PBL assignments. Eighth, students learned about specific aspects of research. Ninth, students learned that the value of feedback was to use it to create a better product. Tenth, students learned about the complexities of team work and their chances for developing collaborative and leadership skills were enhanced.

According to Thompson and Peak (2007), collaborative learning is a positive predictor of personal development, understanding of science and technology, appreciation for art, analytical skills, and openness to diversity.

How the accounting curriculum uses project-based learning

A communication course, Reporting for Accountants, has been part of the accounting curriculum at SDSU since 1980. In 1995, we began teaching a four-unit version of this course that includes three oral presentations and emphasis on small group communication. The revised accounting curriculum also includes more emphasis on improving communication skills both in writing and speaking to prepare students for career needs to explain technical accounting material to various stakeholders from peers, to clients, to regulators. This was one of the first such courses nationwide; a course objective is to prepare them to talk about accounting information both analytically and descriptively.

Our accounting curriculum, revised to meet Accounting Education Change Commission goals, now uses teams extensively both in and out of class to teach students problem-solving and interpersonal skills. In keeping with the AECC recommendations (1990 Objectives of Education for Accountants: Position Statement #1), developing stronger computer and communication skills is also stressed. One strong point of our program is that subsequent Accounting courses require students to use the communication skills taught in the Reporting for Accountants course.

Integrating writing and speaking in several courses rather than offering communication only as a separate course is a very effective way of improving students' skills. Our students get several courses in which to apply what they have learned about critical thinking, problem solving, information competency listening, working in teams, and effective informational, analytical, and persuasive communication, both written and oral. Using assignments that include narrative and budgets, flowcharts, and accounting formats begins to give accounting students a simulation of writing skills required in their future careers. Team presentations of project findings give students needed practice in presenting accounting information clearly to a variety of audiences. They also learn to evaluate business sources, use professional document and visual design, and communicate technical material clearly to a variety of audiences. Critical thinking, active listening, and professional proofreading are important in fulfilling the assignments successfully.

The individual and team assignments in the reporting for accountants course

Accountants need to be able to communicate financial information in such a way as makes others understand and grasp the concepts represented by the numbers. Two major theme projects (article-based and not for profit) in our course have inter-related or nested individual and team assignments that require students to communicate and report accounting information. In addition, students complete the individual company risk assignment and team payroll work papers, two in-class case exams, and a final exam over the two texts and handouts on the course software.

Portions of each project are designed to overlap, in order to simulate a real-world time management dilemma. This helps students develop their abilities to juggle and prioritize a variety of assignments. We make this aspect of time-management explicit to the students and allow them to vent their frustrations with the multiple, overlapping demands. At the same time, we are aware of other course exam times and work to accommodate the students' schedules, so that projects are not due on the same day as other major exams.

These projects are structured in terms of the student role and the required components. We also provide students with copies of the rubrics used to grade the projects. The projects are open-ended within the structure provided, so that students are given an opportunity to make choices about organization, strategy and project goals.

Memo applying the content of an article to a reader's needs

One assignment requires students to first research, write, and turn in a typed memo summarizing a professional article for an accounting audience (for example, the accounting staff members in a controller's office or public accounting firm). The article summarized must be from a professional publication dated within the last few months and must be of interest to both accountants and their clients (for public accounting) or managers (internal accounting). Each memo will be graded as part of an individual's grade.

Meeting in teams, students read each others' summaries and discuss any points that are unclear. They then choose ONE of the team's summaries and revise it for a different audience (either clients or non-accountant managers within a firm). This revised summary is then given to each

of the other teams. All students read all the summaries and prepare for a day of oral presentations designed to occur in an office environment. The other class members are required to prepare questions as would a client (these are handed in and are part of a team's grade). Teams present their summaries and field questions from other class members.

Report to accounting firm on the company and industry risk of a potential client

Potential industry groupings used by large accounting firms include financial services, health services, entertainment and media, government and not-for-profit, retail merchandising, computers and software, and communications. Using different subgroups and different companies gives this assignment a different flavor every term (and encourages students to produce new work).

One major individual assignment is the company/industry report. Each team is assigned an industry category (for example, Utilities) and students each choose a different publicly traded company from an assigned list to follow during the semester, with a goal of assessing business risk and audit risk for a potential new client. An individual report limited to three single-spaced pages assesses these risks (students are asked to use headings and to make these papers look like professional reports). Possible attachments include a list of references used to collect information (required), comparative industry/company ratios from Factiva, Mergent, Standard and Poor's NetAdvantage, Datamation, or another business database, Value Line pages on the company and its industry, several years' results from the Form 10K, or information on product market share and competitors.

In addition to teaching business research skills (among more traditional sources, students use EDGAR, the SEC electronic filing Web site), this assignment integrates accounting course information into the communication course, reinforces team work skills, and gives students real-world experience in preparing information for business audiences. Report writing, document design, graphics development, and other communication topics become more relevant to students when they apply this material to accounting topics.

Payroll process interview, workpapers, and presentation

For this assignment, students contact a company and arrange an interview. This local company is usually one that a team member works for, but it can be a university auxiliary or department or a business close to campus. The team prepares questions to help obtain an understanding of the company's payroll cycle. We discuss writing effective questions about the various parts of the payroll process, such as employment activities, timekeeping, check preparation, and check distribution. The best early questions are open-ended (Can you tell me how you keep track of employee's hours worked?) rather than closed (Do you have a Kronos timeclock?). Teams then turn in a payroll work plan memo to the instructors detailing the interview company, date, time, contact person, and plan for individual work paper section assignments; the list of questions is attached to students' work.

The returned memo, with instructor comments included, is eventually placed in the finished work papers with appropriate headings required by the assignment. Based on information obtained in the interview, the team then documents the payroll system, using narrative descriptions, flowcharts, and strengths/weaknesses/recommendations parts in each section, followed by documents (company forms). The work papers show the team's analysis of the company's internal controls, strengths and weaknesses, and make appropriate recommendations. The completed paper includes an overall evaluation of the company's payroll process, complete strengths and weaknesses/recommendations charts with cross-referencing to the pages where the area was discussed, and a management letter to the company. The culmination of the project is a team presentation to the class acting as the accounting firm, in which each team describes the findings of the payroll process analysis of their companies.

In addition to giving students practice in using an interview to obtain information, the payroll project exposes them to formats used in accounting firms, gives them practice in flowcharting, teaches clear writing about a process with which the reader is not familiar, and requires them to write a tactful negative letter to a client.

Briefing memo, persuasive proposal, and presentation on a planned not for profit event

This project contains four segments that help students learn more about the not for profit community, fund raising, and persuasion. Students write *individual briefing memos* about self-chosen not for profits: (What does this organization do? Who else deals with a similar population or projects? What amounts of money come in and go out of the organization? Where does the money come from [large donors? lots of grants?]? Where does the money go [percentage to administration, fund raising, to actual projects?]? What projects has the organization accomplished lately?)To obtain this information, students perform Internet research, collect actual newsletters and brochures, and often interview organization employees and beneficiaries.

In teams of four to six students, students then choose one of their not for profits and develop a *persuasive proposal to a corporation* to obtain seed money for a fund raiser for the chosen organization. The proposal includes a persuasive letter to a specific person at the corporation; a two-page executive summary outlining the organization's goals, needs, fund-raising event, and the corporation's donation; a budget for the event showing all income (including in-kind donations of good and services) and all expenditures (including how the money earned at the event will be used); and attachments about the planned event (invitations, brochures, flyers, newsletter, program, schedule) and the capability of the not for profit to carry it off successfully (resumes, letters offering assistance, articles about previous successful events).

After delivering a copy of their proposal to another team assigned as their corporate board, each team gives a *10-12 minute board presentation* to the class and their board. Students need to reorganize their written proposal to be able to present it effectively, adding visuals that "sell" the proposed event and motivate the audience to donate to the chosen cause. After the presentation, the *board asks questions* written from members' reading of the complete proposal.

Students evaluate each team presentation through ballots that rate importance of cause, establishment of need, planning of event, and thorough budget, ending with the question: how

much money would you give this group? Instructors also give each team a feedback form to review immediately after the presentation. Final grades are posted on the course software later that week after all presentations have been completed.

How students learn through projects to present financial information effectively

Some of the accounting communication course learning outcomes include the following three:
- Analyze and interpret numbers' meaning appropriately for various audiences; *think* with the numbers.
- Identify economic, broad business, and financial risks of an industry/sector; competitive advantages; financial and non-financial performance. Use facts and information to create meaning and analysis rather than just list facts.
- Analyze the quality of information and evidence; find and evaluate relevant research sources, both print and electronic databases online, for three projects.

Project-based learning helps students conceptualize writing as something created for an audience rather than for a university class. In the company risk analysis, the not for profit briefing memo, and the persuasive proposal, students must use specific numbers to support their stated analysis and conclusions. One of the texts used, *A Plain English Handbook: How to Create Clear SEC Disclosure Documents*, published by the U. S. Securities and Exchange Commission, explains that "a plain English document is easy to read and looks like it's meant to be read." (U. S. Securities and Exchange Commission [SEC], 1998, p. 5)

By actually producing a risk analysis of a real company, gathering data from company records publicly available on the Internet and experts such as *Value Line,* then drawing conclusions about the gathered information, and writing it up in a memo report, students learn that companies within an industry share some risks and create others for themselves through their business model or circumstances of geography, personnel, acquisitions, or product development. They also begin to see that a company's results are fairly meaningless by themselves, but need to be compared with industry averages, with competitors, with previous years, to be truly meaningful in analyzing risk.

Writing a briefing memo about a local not for profit organization requires students to learn about the Internal Revenue Service's Form 990, the main tax reporting of not for profits. Using just the numbers in the revenue and expense sections don't give the full picture; it requires percentages and comparison to outside information such as the Better Business Bureau's recommended standards to actually show the boss how useful the not for profit is to the community. The not for profit persuasive proposal also requires students to write about financial details clearly as they use the budget designed for the planned event to show a potential corporate contributor how well-thought-out the fund raiser is and how successful it is projected to be.

The assignments created for the accounting communication course increase in difficulty as the semester progresses, giving new levels of understanding of how to communicate with clients about financial areas in which the clients are not experts.

Connecting theory to practice

The local accounting community that hires our students is very enthusiastic about the accounting communication course. We have three accounting firm principals who come to speak to the combined classes each semester about the importance of communication to accountants, how to

interview for information, and how to analyze a not for profit. These people and others in the accounting profession have told us that current students are now better prepared to communicate with clients and to perform the writing and speaking tasks asked of them on the job. Using realistic projects designed in collaboration with the accounting faculty and local accountants, our students are ready to succeed on audit teams, in tax practices, and in government and corporate offices because of project-based learning.

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