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North Carolina School of the Arts

Cutters

When she raises her hand, I try to look at her eyes rather than the raised ridges vining along her arms, the scars that show she's a cutter, or was once, but I know they're there, and I think of my daughter wanting to help her mother and grabbing a knife, how in school we played "bloody knuckles" smashing cards onto our hands until they bled and sometimes sliding one slightly from the pack so it slit like a razor, all those nights drinking, driving, throwing our bodies around like airline luggage. Someone once told me, *What a person needs in this world is a sharp knife and the will to use it* as if the problems of our lives were Gordian knots, each solvable with a quick slice. I used to believe it. But now, when my student's arm rises, I call on her, even if other hands are already up, as if my attention could bind, at least for a moment the damage we do to ourselves we can never cut away.

Learning to Fall

“I think today we’re learning to fall,”
one girl tells her friend who has asked
what they’ll be doing in drama class,
and I’m tempted to say, “That’s funny.
We’re doing that in here too” because
even though teachers pretend to train
artists, scientists, modern Dadeluses,
our job, despite what brochures
and course catalogues say, is not
to teach them how to fly, but fall.
Each student is really an Icarus,
the only question being how far
they’ll get before the inevitable
descent and whether they’ll survive.
But, I say only, “Let’s get started”
and I begin writing on the board
as they groan, pull out books,
brace themselves for questions
that will tumble them earthward.

Dispersal

As my student reads a poem about dandelions,
I think about how this spring my five year old
has turned each walk into a dandelion hunt.
She gathers the yellow ones into bouquets,
but she prizes the white puffs most. Seeing one
she sprints to it as if afraid someone else
will get there first, then she carries it back
to me before blowing. How old was I when
Mrs. Nelson, who lived alone, started screaming
“Stop! Stop That!” at seeing me whistle
white seeds into the air as if I was the one
responsible for ruining her yard and her life?
We used to ask each other, “Do you like butter”
as we rubbed the yellow flowers on our chins,
or we would flick them from the stems as we sang,
“Momma had a baby and her head popped off.”
My college RA made dandelion wine and played
music by the great stride pianist Willy the Lion
When the student finishes reading, I want to say,
“Dandelions are cool.” “My daughter loves them.”
“I once egged an old woman’s house.” I want
to suggest poetry itself depends on the pleasure
of phrases floating on air then taking root; instead
I tell them, “We don’t have much time left,” then
softly blow the question, “What do people think?”

Writing the Waves of Scholarly Whitewater

Kim Riordan
University of Minnesota Duluth

Writing, for me, is a lot like canoeing up stream.
Requiring vision and stamina to stay on course.
Determination. How else will I teach if I don't publish?
It is invigorating, arduous. Intense.

Sometimes I paddle. Hard.
Words come in torrents. Gushing.
My fingers fly over the bow of my keyboard.
I hold my breath. Eyes closed.

At times my writing finds itself in a rivulet, dry patches.
Worse, mud.
Not enough water to float my boat.
The fantasy I'm going somewhere, even when I'm portaging.

Often, I just want to float; look up at the sky.
Peer into the depths. Bob along.
Meander up a tributary. Where might this little brook take me?
Follow the current; the creek less traveled.

There are serious consequences for this floating.
I have returned from daydreams and found I have drifted further than I meant to.
Only fervent paddling will get me back to where I began.
The "undo" function becomes my trawling motor.

There are eddies in the water, turning me around.
Beguiling. Confusing and disorienting me.
I have been tricked by these whirlpools before.
Risked a roll over. Steady, steady.

For long spells I put my canoe away; Favored safer modes of travel.
Walked the banks.
Relied on the spoken word.
Spell check is so much easier on land.

Capsized. I have been dragged under, held too long. Flaied to the surface.
Sputtering and cursing.
Somewhere I lost my watch, my dry matches, and my point.
What direction was I headed? Whose idea was it to take this trip?

There are buoys along the way, colleagues and mentors on my voyage.
They edit me, "you're going down the wrong stream."
At times they reassure me I'm going in the right direction.
Even if it is up stream.

I usually arrive at the end exhausted. Exhilarated. Sunburnt.
Wondering if I'll ever go again.
Knowing I will.
Beginning to plan the next trip.

Contributors

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Undergraduate Teaching Assistantships: Good Practices

Carol Roderick

Carleton University

Abstract

This article presents research aimed at developing an understanding of good practices associated with the use of undergraduate teaching assistants and at assessing performance at Renaissance College, University of New Brunswick relative to these good practices. Through a review of the relevant literature and qualitative interviews with undergraduate teaching assistants and faculty members at the College, seven good practices emerged. Results from this study can inform teaching and learning by providing a foundation for faculty members at the College and in other contexts to reflect upon their experiences and enhance their practice.

Introduction

The contemporary higher education context is characterized by reductions in government spending, increases in tuition fees, concerns about institutional accountability, and demands to make education relevant to the workplace. These and other forces have led to growing pressures on post-secondary institutions to attend better to the quality and relevance of their students' experiences and related educational outcomes (Andres & Finlay, 2004; Mount & Bélanger, 2001, 2004; Wellen, 2005). Administrators and faculty members have had to adopt creative instructional strategies that use fewer faculty resources, yet enhance educational quality and student engagement (Cook, 2002). Student engagement reflects the assumption that "the greater the student's involvement in college, the greater will be the amount of student learning and personal development" (Astin, 1999, p. 529). Several studies correlate student engagement with student learning and success (Astin, 1999; Tinto, 1997, 1998; Scott, 2007). Undergraduate teaching assistants may be a valuable resource for increasing student engagement and improving educational quality. They may decrease faculty-student ratio and increase the potential for faculty-student interaction.

The use of graduate teaching assistants is a well-established practice in higher education in Canada. In recent years there has been growing use of undergraduate students as research assistants (Hogan et al., 2007), but the employment of undergraduate students as teaching assistants has been less common. The literature contains relatively little about undergraduate teaching assistants or the impact of undergraduate teaching assistantships on student learning (Cook, 2002). It is well established, however, that the integration of peer assistants and tutors into courses benefits student learning (Fingerson & Culley, 2001; Topping and Ehly, 1998). Typically undergraduate teaching assistants have functioned in limited contexts with little to no formal training (Park, 2004). They may serve many roles from assessing student work, demonstrating laboratories, facilitating tutorials, or helping to manage course attendance and group work.

This article reports on a study designed to examine the use of undergraduate teaching assistants at Renaissance College [RC] at the University of New Brunswick. RC is home to Canada's first and only undergraduate interdisciplinary leadership studies program. The College mission is to provide high quality education for students, educate leaders for the new millennium, and provide an exemplary model of post

secondary education. The program is defined by collaborative teaching, active learning, and explicit learning outcomes. Students follow an intensive and comprehensive curriculum to complete a Bachelor of Philosophy in Interdisciplinary Leadership Studies. Courses and internships offered during two consecutive summers allow student to complete their degree in three years. Students are exposed to a multitude of perspectives, with courses in areas such as: World Views and Religions; Natural Science, Technology and Society; Cross-Cultural Perspectives of Leadership; Images and Insights; Mathematical and Economic Approaches to Problem-Solving; Citizenship and Community Issues; and Integrative Forum. Forty percent of the program's academic credits are electives taken outside the College leading to a minor in a traditional discipline.

RC has been gradually increasing the use of undergraduate teaching assistants to improve student learning by making a greater amount of help available to students than could be provided by faculty members alone; to provide opportunities for senior students to become more engaged in the program and learning more about its content by becoming teachers themselves; and to provide opportunities for students to develop the coaching and mentoring components of leadership. By modestly reducing the number of electives courses, the College has created the resources required to raise the number of undergraduate teaching assistants from 1 in 2005/06, to 11 in 06/07, and 22 in 2007/08. The aim of this study was to develop an understanding of good practices associated with the use of undergraduate teaching assistants and to examine the performance of the College relative to these good practices. RC will use this knowledge to improve practices at the College, develop goals for the use of undergraduate teaching assistants, and to disseminate information on good practices gleaned from both experiences at the College and from the relevant literature.

Methodology

Data for this qualitative research study was gathered through a series of seventeen individual interviews during the Winter 2008 academic term. Participants were self-selected volunteers. Participation was solicited via e-mail to all current and former undergraduate teaching assistants and all faculty members who were currently employing or who had previously employed these assistants. All those who expressed interest in participating were interviewed.

Eleven undergraduate teaching assistants and six faculty members participated. The eleven assistants reported both about their experiences as teaching assistants as well as about their experiences as students having had an assistant in one or more of their courses. Five of the eleven assistants had held more than one assistantship; two had held assistantships in consecutive offerings of a single course with the same faculty member, and three had held assistantships in multiple courses with different faculty members. The six faculty members had various levels of experience facilitating assistantships. One of the faculty members had employed an assistant only once, four had employed assistants both within RC and another context, and the other had employed multiple assistants within RC. Three of these faculty members have also employed graduate teaching assistants.

Throughout the study, the ethical guiding principles outlined in the Tri-Council Policy Statement (Government of Canada, 1998) were strictly adhered to ensure that no harm would come to participants. Prior to each interview the purpose and scope of the study was explained, and the participant was asked to read and sign a letter of informed consent indicating his or her willingness to participate.

During the interviews, each of which lasted approximately one hour, participants were asked to reflect on and discuss their experiences with undergraduate teaching assistantships, including any challenges they encountered, how they may have benefited from the experience, and their learning. To ensure confidentiality within the relatively small RC context and to allow individuals to speak freely about their experiences, interviews were not recorded and transcribed. Instead, extensive field notes were written during and after each interview, including direct quotes from participants. Extensive field notes were deemed appropriate for this study as its aim was to obtain abstract conceptualization of good practices rather than detailed description (Glaser, 1998).

Field notes were coded, and the codes compared and grouped into categories. The relationships between the codes and the categories were recorded (Glaser, 1978, 1998). To ensure the study's validity the preliminary analysis was shared with faculty in August 2008 and with the undergraduate teaching assistants early during the Winter 2009 semester. The analysis was found to be consistent with participants' experiences. The analysis of interview data combined with a review of the relevant literature uncovered seven good practices of undergraduate teaching assistantships.

Results

The collection and analysis of interview data combined with a review of relevant literature led to the emergence of the following seven aspects of good practice of undergraduate teaching assistantships:

Good practice...

1. Facilitates a transparent selection process,
2. Negotiates responsibilities of assistantships,
3. Trains and mentors undergraduate teaching assistants,
4. Provides teaching assistants with visibility and opportunities to display competence,
5. Engages teaching assistants in the course and in student learning,
6. Enhances educational quality for all, and
7. Encourages fair compensation.

Good practice facilitates a transparent selection process.

Good practice with undergraduate teaching assistants facilitates a transparent selection process (Park, 2004). Each department or faculty should have a recruitment process and standard selection criteria. The recruitment process should be easy to implement, effective, and efficient. It should not require considerable extra work for faculty members who wish to hire an undergraduate teaching assistant. Selection criteria proposed in the literature include recent outstanding performance in the course, outstanding overall academic performance, subject matter knowledge, relevant teaching or mentoring experience, and written and verbal proficiency (see Cook, 2002; Fingerson & Culley, 2001; Park, 2004; Smith, 2008). Park (2004) also recommends that potential teaching assistants have the abilities to cope with stress, set reasonable goals and priorities, conduct productive classroom sessions, and foster student learning. Cook (2002) adds that potential assistants should exhibit a genuine desire to help other students and Smith (2008) asks that potential assistants be able to articulate a strong motivation to assume a teaching assistant position.

When this study began many undergraduate teaching assistants and students felt that the College recruitment processes was, as one student described, “unfair, undemocratic, and not transparent.” Another student added that “people are asked to TA because the teacher likes you and thinks you are smart.” At the time there was not a College-wide recruitment process, individual faculty members recruited students for these positions as they saw fit. Some faculty members would review past performance of students and approach students who they thought might be interested; others would devise a brief job description and solicit interest via e-mail, selecting from those interested. During the interviews a few faculty members indicated that they were aware the recruitment process was problematic but they were hesitant to adopt a formal selection process as it could be time consuming and burdensome. This is illustrated in the quote:

I try not to think about the selection process. I realize that some students feel overlooked but I don't have enough time to deal with it. I know the students and when it comes to choosing a teaching assistant, I select the one that benefits me most.

Selection criteria employed by RC faculty members include: recent outstanding performance in the course, familiarity and competence in the subject matter, interpersonal and rapport-building skills, demonstrated ability to work with the supervising faculty member, self-directedness, availability, and writing ability. In discussing the results of this study the College has already begun revising its recruitment process to increase transparency and ensure that it is fair to all students.

Good practice negotiates responsibilities of assistantships.

Good practice negotiates the tasks and responsibilities of undergraduate teaching assistant positions with students assuming these positions. Being responsive to an assistant's motivation and goals in designing the assistantship may allow the assistant to pursue areas of interest and areas that reflect his or her strengths and abilities. Negotiating the tasks and responsibilities helps to maximize benefits of this experience. For example, a student who is interested in developing his or her leadership abilities may prefer an assistantship with opportunities to facilitate labs or tutorial sessions. In contrast, a student who

would like to gain experience providing constructive feedback or improve his or her writing may be more inclined to assist with assessing student work.

Within RC, there is considerable variation in the extent to which responsibilities of undergraduate teaching assistantships are negotiated. Some faculty members hire assistants to perform well-established roles in their courses; other faculty members negotiate positions by suggesting possible responsibilities or tasks, and having the student select those tasks that appeal to them most. Finally, other faculty members ask assistants what and how they can best contribute to the course and assistantships are designed collaboratively. Believing that assistantship design is solely a responsibility of faculty members, a few individuals indicated that they were initially resistant to employ assistants as they were unsure how to employ them and feared that it would increase their workload. One faculty member who had a difficult experience employing an undergraduate teaching assistant concluded that, "I do not have sufficient time to think about the role that they would occupy and how to use them efficiently. It is more of a pain to employ a teaching assistant and not worth the extra effort."

Many factors can influence the design of assistantships including structural factors such as course structure and schedule, teaching assistant availability, resources allocated to compensation, and guidelines on the number of hours a student can work. As one faculty member explained, "I would have liked my teaching assistant to sit in on the class but scheduling problems prevented this. Their role was marking because that was most needed." One of the assistants interviewed similarly explained how structural factors can impact responsibilities of the position, "A professor may want to have a student do certain things such as lead a class discussion or lecture but the pay available may limit the time to do it." Failing to negotiate the assistantship position can limit benefits of the experience for students who serve as undergraduate teaching assistants: "I want to go into teaching so teaching as part of the assistantship would have been more useful for me than marking, but I was not asked about what I would like to do or how to I could best contribute."

Good practice trains and mentors undergraduate teaching assistants.

Good practice provides training and ongoing mentoring for undergraduate teaching assistants. A growing number of universities offer formal courses or workshops that introduce teaching assistants to different teaching strategies and provide them with ideas for working with students and their supervising faculty member. To complement these courses, informal training also frequently occurs with the supervising faculty member. Faculty members can provide training specific to particular assistantships. Training can help assistants understand their responsibilities, how to perform these responsibilities, how to work with their supervisor, and increase their sense of self-efficacy toward teaching (Prieto & Meyers, 1999).

Informal training usually begins with an initial meeting between the teaching assistant and the supervising faculty member. At this time a written contract should be devised so that students know what they are signing up for. This could be a standard contract with options to individualize for each particular assistantship. The contract should detail the negotiated tasks and responsibilities, the anticipated time required to perform each task, the processes associated with each task (for example if the faculty member and the assistant will divide assessment of student work or if the assistant will provide a primary assessment all student work followed by a secondary assessment by the supervising faculty member), what counts as paid time, how time is logged, and rate of pay. Undergraduate teaching assistants should also be made aware of possible ethical issues they may encounter and how to seek assistance in dealing with these issues or any others that may arise through the assistantship (Hogan et al., 2007). Possible ethical issues include confidentiality, navigating dual relationships of peer and teaching assistant, and student plagiarism and cheating (Smith, 2008). When anticipating the time required to assess student work faculty members should be mindful that it typically takes new teaching assistants longer to assess student work than experienced faculty members (Fingerson & Culley, 2001). Faculty members should not only make a concerted effort to clearly communicate their expectations, but also ensure that assistants understand these expectations. Role ambiguity can be confusing for teaching assistants, reducing their likelihood of success.

On an ongoing basis faculty members need to ensure that assistants are up to date on any changes or variations from the course syllabus and the position as initially negotiated. There may be a

need for faculty members to mentor their teaching assistants to integrate the position into their student life, to learn to make progress in meeting responsibilities of the position, and to deal with any conflicts of interest or ethical dilemmas that arise. Faculty members should try to model behavior that they want their assistants to emulate (Nyquist and Wulff, 1996). Faculty members should also try to provide regular feedback to assistants about their performance that can further their learning and their contribution to the course. Another source of mentoring may be more experienced teaching assistants. If two or more are working together in a course, the more experienced one can provide useful support and guidance to the new assistant (Puccio, 1986).

Although the University of New Brunswick offers a teaching assistant training workshop, few if any assistants from RC participate. Training is provided primarily by supervising faculty members. This training typically occurs through a meeting to review the course syllabus, responsibilities of the position, and the integration of the course schedule with the teaching assistant's student schedule. This may include when assignments are due, marking responsibilities, and whether the assistant can clear time to do the assessing. Some faculty members expressed difficulty helping teaching assistants to understand how much time assessing student work requires. Most faculty members encourage their assistants to seek assistance or clarification from them when necessary, however, ensuring that assistants understand their responsibilities was an ongoing challenge. One faculty member summarized this issue clearly, "The role I want my teaching assistant to occupy is clear to me, but it may not be as clear to them." Role ambiguity was also a key concern of most assistants interviewed. For example, one teaching assistant explained, "I had access to the course syllabus but I had no idea what was going on in the course because I wasn't there. All I knew was when I had to do the marking." RC is not alone; Ferris (1992) suggests that communication issues are a key concern confronting teaching assistants including communication with students, socialization with their peers, and professional relationships with their supervisor.

The extent of ongoing mentoring at RC varies from little to no mentoring perceived by an undergraduate teaching assistant, "I was unsure if I was marking 'right' because I was not provided with any guidance" to faculty members being available to answer any questions teaching assistants had, even providing their home phone numbers. Some faculty members regularly met with their assistants face-to-

face to provide help, advice, and support. These meetings also provide assistants with the opportunity to communicate what is going well and what students in the course and the assistant may be struggling with. Other faculty members relied solely on e-mail to communicate with their teaching assistants. Most faculty members attempt to provide their assistants with feedback and encouragement regularly.

When teaching assistants are not provided with sufficient mentoring they may flounder. One assistant confessed shrugging off office hours because it was not sufficiently clear to her when she was supposed to hold these hours and their purpose. Another expressed a lack of clarity as to what extent she was supposed to share student perspectives with the faculty member. Another assistant indicated that he could have made the commitment better if he really understood the commitment he was making.

Good practice provides teaching assistants with visibility and opportunities to display competence.

Good practice provides teaching assistants with visibility and opportunities to display their competence. Visibility refers to students 'seeing' their undergraduate teaching assistants and knowing their responsibilities in the course. The opportunity to display competence refers to assistants having the chance to demonstrate their abilities and knowledge of the subject matter. Assistants should be visible and able to develop relationships with students in the course in a way that allows students to see their assistant as competent and knowledgeable. This helps to establish credibility, as undergraduate teaching assistants may not be perceived by students as having competence because they are often young and lack the experience and training of full-time faculty members (Cook, 2002). Fingerson & Culley (2001) found that lack of assistant visibility was the most central problem students have with their teaching assistants: "before students recognize the capacity of the UTA [undergraduate teaching assistant] to contribute to the class, this capacity must be visibly demonstrated to the students" (p.311).

Visibility and competence displays can be achieved by having undergraduate teaching assistants micro-teach, meet with students and provide feedback, answer student questions, contribute to class discussions, and facilitate in-class or out-of-class activities. Faculty members can reinforce the perception of competence by referring students to the assistant and demonstrating how the assistant contributes to the course. When teaching assistants are visible and perceived as competent by students, there is a

greater connection between students and their assistant, students are more likely to know how their assistant may be specifically useful to them, and students may be more willing to seek out the assistant for help (Smith, 2008). Giving teaching assistants more visibility in the classroom can encourage students to take a more active role in their learning. When undergraduate teaching assistants lack visibility and opportunities to display competence (which may occur when they have limited interaction with students) and when their responsibilities are limited to taking attendance and passing out handouts, assistants may feel disconnected from the course and student learning.

Visibility and opportunities to display competence vary with each assistantship at RC. Assistants who were integrated into the course and involved in facilitating student learning tended to be highly visible and had many opportunities to display their competence. These assistants reported that their experiences were meaningful, benefitting students, the faculty member, and themselves. To illustrate, one student said, "When the teaching assistant is present in the classroom their role becomes clear, you see a reason for having a teaching assistant and their role becomes useful."

While some assistants participate in the classroom, others do not. This may be a result of scheduling conflicts (an assistant being employed for a course that occurs at the same time as one in which he or she is enrolled as a student), insufficient value placed on in-class participation, or the assumption that the teaching assistant already knows the students in the course given the small size of the College. Insufficient visibility or lack of opportunities to display competence has negative consequences for assistants and students. It can be uncomfortable for assistants, as one explained:

In assessing others work I feel like I'm snooping because I haven't interacted with them much on a personal level and I get to peer into their lives by marking their very personal work in [course name]. I know some students better than they think I know them which can be socially awkward when they don't realize how much you know about them.

Lack of visibility can also limit how students utilize and benefit from the presence of an undergraduate teaching assistant. When students were asked to recall the courses in which they had an assistant, many of them struggled. More than one student indicated that they were not certain: "In first year I had teaching

assistants in some of my courses. There could have been assistants in other courses too but I didn't know because I wasn't aware of their presence". Even if students are aware that they have a teaching assistant, they may not know the assistant's role: "I found out that I could have approached my teaching assistant to read my papers before handing them in. Some students were doing this. But I didn't know." Students can also be surprised and resentful when they discover that another student rather than the professor has been reading their assignments.

Good practice engages teaching assistants in the course and in student learning.

Good practice engages teaching assistants meaningfully in the course and in student learning. Activities that achieve this goal include in-course contributions such as participating and leading class discussions, hosting out of class tutorials or labs, providing valuable feedback on student work, and interacting with students. These activities contrast with less engaging activities such as photocopying, taking attendance, and uploading material onto online course management software.

Having assistants meaningfully engaged may enhance student learning and the assistantship experience. For example, if undergraduate teaching assistants provide students with more contact time with individuals who are delivering the course, students' engagement may be enhanced. Engaging assistants meaningfully may help to develop their skills, further their learning and it may also help them to feel respected and valued (Fingerson & Culley, 2001). Ideally, engagement integrates the assistant with students in the course, other assistants, the supervising faculty member and other faculty members, increasing their sense of community. In negotiating assistantships faculty members should attempt to include a high proportion of highly engaging tasks with other necessary tasks.

Some of the tasks and responsibilities of undergraduate teaching assistants at RC are more engaging than are others. For example, developing course material, hosting a focus group to obtain detailed student feedback on class activities and assignments, and leading class discussions were considered to be highly engaging by assistants. In contrast, providing feedback on student journals that were assigned only a minor percentage of the overall course grade and photocopying were considered minimally engaging. Employing assistants to help in the assessment of student work is a common practice at RC and it received mixed reviews in terms of its level of engagement. Care must be taken

when having assistants assess student work. Assessing must not be a downloading of faculty work to students, and it should add value to the course for both students and the undergraduate teaching assistant. To ensure that assessing work maintains or enhances educational quality several faculty members supervise and review the assessment of student work by assistants before returning it to students. One faculty member explained that she does this because she wants to know how students are performing and because “I want to be ultimately responsible for assessment and grades in the course.”

Engaging activities seem to benefit teaching assistants by fostering relationships between the assistant and students and the supervising faculty member, and by providing them with a sense of belonging and satisfaction. For example, one teaching assistant explained how being involved allowed her to develop a network with the professors in the College and with her supervising professor in particular. Another shared the sense of reward he felt being able to help others through one-on-one coaching and providing feedback on assignments before they would be turned in. This way they could be improved before the final submission. Highly engaging responsibilities also benefited students. One student, for example, commented:

I really appreciated when TAs were participated in class discussions. They brought a fresh perspective and another ‘teacher’ voice. This allowed me to get to know another student in another year of the program and feel more connected and aware of the TA role.

Less engaging activities can leave assistants feeling frustrated and disconnected from the course: “I would get more out of this experience if students got more out of it. Right now the only thing that anyone gets out of it is less faculty workload.” Some assistants, despite not having engaging tasks, took the initiative to develop further connection with the course and student learning: “Although I wasn’t able to attend the class, socially I would talk with them [students] and ask them how they were doing and what I could do to help them out.”

Good practice enhances educational quality for all.

Good practice enhances the educational experience for students, undergraduate teaching assistants and faculty members. Furthermore, designing assistantships so that each of these parties benefit leads to the application of other good practices, and it helps to create an atmosphere where learning is everybody's business (Hogan et al., 2007).

By participating in assistantships students can gain a better understanding of teaching and learning, improve their academic skills, and learn more about teaching as a possible career. Undergraduate teaching assistants may enhance their appreciation for what it means to teach and be a professor, including what it is like to lecture or facilitate a discussion and the time and effort involved in assessing student work (Fingerson & Culley, 2001); they "learn to appreciate all that goes into a course beyond what visibly transpires in the classroom: the planning, paperwork, student difficulties (illness, etc.), grading, and the final evaluation of the course" (Hogan, et al., 2007, p. 289). Assistants may become more engaged in educational processes and in the university community as they form relationships with faculty members and students. Participating in an assistantship may improve assistants' own academic skills in that they may develop an increased appreciation for faculty expectations and what constitutes quality work, they may improve their writing and presentation skills, and reinforce their subject matter knowledge. Assistants may also improve their time management, leadership, and self-confidence. In terms of career, students may explore their interest in teaching and gain experience and a competitive edge for scholarships, graduate school, and/or employment.

Students can benefit from having a teaching assistant in their courses in that they have access to another perspective on their work and learning and improved access to help (Fingerson & Culley, 2001). As an alternative source of assistance, assistants may be able to reach out to students differently than can faculty members, as they are likely to share a common culture and lifestyle. Even if students do not consult their teaching assistant for help, Smith (2008) found that students tend to appreciate their presence and feel that they enhance learning in the course. Undergraduate teaching assistants may also serve as peer role models and increase students' engagement by increasing time spent learning particularly if they facilitate out of class activities.

Faculty members also benefit by employing undergraduate teaching assistants. Assistants may take on curriculum development projects that a faculty member lacks sufficient time to complete. Faculty members may be able to provide more and different types of assessment and more detailed and timely feedback to students in their courses. Faculty can benefit when the assistants become a source of feedback on the course in terms of how well assignments and ideas are communicated, how well students are learning what the faculty member is trying to teach, and how students are experiencing the curriculum (Park, 2004). Assistants can serve as an intermediary between professors and students, helping to translate a faculty member's ideas students and helping the faculty member to understand students' perspectives (Stoecker et al., 1993).

Many undergraduate teaching assistants at RC indicated that they obtained "a better understanding of the professor perspective" through their experience, particularly in terms of all the work and thought that goes into planning and teaching a course, the responsiveness of faculty members to student feedback, and how frustrating it can be to mark assignments when students have not submitted their best work. Assistants spoke of increased engagement, improved connection with faculty members, and an increased likelihood of accessing assistance from assistants in their own courses. Assistants suggested that assessing work of other students enhanced their time management and academic skills. For example one student said, "Marking helps me to see the variety in student work, how different people approach a problem, which helps my own learning and when I go to submit work I can better tell what good work is." Nearly all assistants felt that they benefited in terms of career exploration and there was a general sense that although "it is advantageous on a resume, that's not why I did it."

Students perceived that the presence of undergraduate teaching assistants in their courses either positively contributed or had a neutral impact on educational quality. Students said that assistantships allow them to get to know students in another year of the program and therefore be more engaged in the College community. One student explained how participating in a teaching assistantship facilitated out of class tutorial and benefited his academic work, "I'm glad that I participated. The session helped me to learn more and these kinds of things improve the quality of assignment that the prof eventually sees."

Faculty members were generally pleased with their employment of undergraduate teaching assistants. For example, one faculty person commented that "my teaching assistant did well at assuming

the responsibilities which involved marking and facilitating small group discussions out of class time”; another faculty member commented: “I could rely on them like colleagues”. Only one faculty member expressed having a negative experience in which the assistant did not meet agreed upon deadlines for assessing student work. Specific benefits to faculty members included assistance with curriculum development, reduction in the amount of time necessary to assess student work, and another perspective on what is occurring within a course which was helpful when the faculty member was challenged on his teaching strategies.

Good practice encourages fair compensation.

Good practice encourages fair compensation whether monetary or course credit. The system of payment should be well understood by undergraduate teaching assistants, supervising faculty members, and students. The peer mentors as described by Smith (2008) received academic credit equivalent to one upper-level course rather than payment for their services. If compensation is financial, it should be consistent among teaching assistants with a fixed rate of pay that increases incrementally based on year of academic study and experience. There also needs to be a system for logging time worked. To ensure accountability the time worked should be communicated with the faculty member who signs off before payment is processed. Course credit or monetary compensation could be complemented with a summative assessment of a teaching assistant’s learning and performance at the end of the period of employment. The assistant may later choose to use this assessment as evidence of his or her growth or competency in a learning portfolio, and/or as evidence when applying for further education or employment.

While both students and faculty members were relatively content with the system of compensation at RC, practice could be improved. Currently teaching assistants submit their hours worked to the College’s administrative assistant bi-weekly for processing. They may or may not communicate these hours with supervising faculty members. This has resulted in occasions where faculty members did not know the hours their teaching assistant had submitted and how many hours were therefore remaining to employ the assistant for the rest of the term. Assistants and faculty negotiated the rate of pay using their own discretion, causing some inconsistencies between what different assistants

were being paid for similar work. Furthermore, some of the assistants interviewed had questions about compensation, such as: What counts as paid work? Does being present in the classroom or answering student e-mails count as paid time? How much am I being paid? What is the payment process? These questions suggest the need for improved communication.

Discussion

This study led to the emergence of seven good practices associated with undergraduate teaching assistantships and an assessment of RC's performance relative to these good practices. This study provides baseline information as to how serving as an assistant can impact a student's learning and engagement and how undergraduate teaching assistants impact student learning.

Results from this study are already informing teaching and learning at RC. This study reconfirmed for the College that there needs a clear vision for undergraduate teaching assistantships. Rather than being simply another form of employment, undergraduate teaching assistantships should be a learning experience for assistants and enhance educational quality for students, the teaching assistants and faculty members. There is more that RC can do to create quality teaching assistantships.

There is a need for ongoing exchange of ideas among faculty members, undergraduate teaching assistants and students about assistantships to continue to improve practice at the College. RC has already taken measures to improve the transparency and consistency in teaching assistant recruitment. Beginning in Fall 2008, the College has implemented a standard e-mail advertisement to students to advise them about all available assistantships for the semester. Interested students are then asked to contact the supervising faculty member to apply. As a next step, the College is exploring a more formalized orientation and training for undergraduate teaching assistants. This study also provides the means for faculty members to develop goals for assistantship use and improve practice within the RC context.

In addition to informing teaching and learning at RC this study has relevance for others who work or plan to work with undergraduate teaching assistants. The good practices that emerged in this study provide a foundation for faculty members in other contexts to reflect upon their experience and enhance

their practice. This study demonstrates that undergraduate teaching assistantships can enhance student learning and engagement and that they are a creative means of enhancing educational quality when faced with decreasing resources as is the case in contemporary higher education context. The good practices further the discussion concerning the employment of undergraduate teaching assistants and contribute to a growing body of literature concerning undergraduate teaching assistantships.

Results of this study open up avenues for future research both within the RC context and more generally. It would be highly beneficial to the College to examine how efforts to improve practice impact the experiences and learning of students, teaching assistants, and faculty members. Another study would be to examine the factors that contribute to inhibit the application of good practices, as well as how faculty member learn to employ good practices as they gain experience with undergraduate teaching assistantships.

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Advancing the Pedagogy of Student Teamwork: Development and Assessment of the TEAM Rubricⁱ

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Abstract

Instructors encounter several obstacles when seeking to adopt student team paper assignments. One of the most difficult obstacles concerns the allocation of points to individuals for their participation in producing the collective product. We have developed a Team Evaluation and Assessment Matrix (TEAM) rubric specifically to address the problem of grading individual performance in teams. In this article, we will discuss the development and nature of the TEAM and then results of an initial assessment from three *Introduction to Sociology* classes. As background, we provide a brief description of a classroom structure for managing team paper assignments. We argue that the TEAM helps students perceive team paper assignments as a valuable method of learning, a method that helps improve their mastery of course content, enhance their writing skills, and increase their appreciation of real-life, instrumental task-oriented teamwork activities.

In teaching, do sociologists have an obligation to behave as if the classroom itself is an ongoing social situation which they are partly responsible for constructing and directing? If so, perhaps sociologists should draw upon the theories, methods and knowledge of their discipline when choosing material to cover, methods of evaluation, and ways of integrating the two. Since teaching and learning are social in character, both content and form matter, a fundamental sociological point made by Simmel (1908/1971). Unquestionably, the methods (*form*) of teaching play a critical role in determining student sociological *content* learning; arguably form determines whether students learn at the level of memorizing facts (knowledge) to deeply understanding content to applying content to real world situations to analyzing content, etc. (Lovell-Troy 1989, p. 28-29; Bloom et al 1956).

In terms of *teaching content*, sociologists have developed a large body of disciplinary knowledge concerning social life. Unlike medicine and several other disciplines (Smith 2005), there is no evidence that the instructors who teach sociology courses have begun to utilize on a wide scale student-centered pedagogical methods promoting student communication, teamwork, and leadership.ⁱⁱ It is very plausible that traditional pedagogical methods are still conventional methods in which *teaching form* consists largely of instructor-dominated lecture, impromptu discussion characterized by sequential dyadic interaction centered on the teacher, and individual (non-collaborative) assignment/examination evaluation, thereby reflecting and perpetuating the atomizing tendencies of modernization. Whereas *content* exemplified in sociological theories and concepts demonstrate a concern with the importance and value of social life, *form* as expressed in a typical sociological classroom structure fosters alienation among students from the social life of learning. One specific mechanism for aligning the *content* of sociological theories and concepts with the *form* of teaching is teamⁱⁱⁱ paper assignments which encourage students to collaborate in researching, planning, composing, and delivering written work. For such assignments, however, it may be very difficult to assign grades to students for their participation in team activities.

Building on theoretical and substantive concepts from sociology, we designed the Teamwork Evaluation and Assessment Matrix (TEAM) rubric to assist sociology instructors in

assigning grades to individuals for co-developing team papers. The TEAM provides a structured way for students who participated together in teams to evaluate the contributions of themselves and each of their team members to the team paper that they collectively produced. We present empirical results from implementing this rubric in three separate *Introduction to Sociology* classes. We preface this theory and results with a discussion of the ways in which these three classes were structured so as to enable student team paper assignments in the three *Introduction to Sociology* courses. We find that students report that the TEAM is a useful rubric for facilitating an improvement in their mastery of course content, leadership, and writing skills. Our specific contribution to the literature is the first published peer assessment instrument for teamwork amongst sociology students, along with a preliminary empirical assessment of its effectiveness.

Sociological Implementation of Student Team Paper Assignments

Woodberry and Aldrich (2000) advocate that instructors effectively plan, communicate, and execute classroom exercises. Their advice certainly holds for team paper assignments. In the classes discussed in this paper, the instructor instituted a class structure aimed at meticulously assisting students to collaboratively produce the first of three team papers. The first team paper assignment is critical because it powerfully affects the chances that the students see them as *fair and effective*. Students use their experience in writing the first team paper as an evaluative benchmark of whether the benefits flowing from the team process outweigh the extra individual burdens. To that effect, from the first day of class until the first paper is due, the instructor devoted some parts of class time to minimizing the risk of negative and maximizing the likelihood of positive results, so that students experience the first team paper assignment, in the net, as a rewarding process.

One dimension of the class structure involved the delivery of lectures on sociological insights about teamwork (collaborative instrumental task-oriented activities). Students often respond positively to some lectures, so long as the lecturer is at least reasonably skilled (Smith 1996, p. 72; Klemke 1974). The *Introduction to Sociology* lectures consisted of a theoretical discussion of topics related to small groups and teamwork, along with examples that illustrated

the abstract ideas, particularly in reference to the classroom as a small group (Billson 1986) and students' own experiences. In some instances, students were given the opportunity to raise examples and discuss the theoretical ideas amongst themselves during class time. Topics that were covered in the first few weeks of the class included: types of groups, ranging from primary to secondary (including teams); team needs for leaders and the roles they may play (special emphasis on expressive and instrumental leaders); and team processes such as submission to authority, conformity to peer pressure, and *groupthink*.

Lectures on teamwork served several purposes. First, they covered topics that are commonly taught in introductory sociology classes. Second, they helped students draw upon their different life experiences with teamwork processes and think about them in more sociological ways. This is to say, the lectures were built on the recognition that students have already been engaged in cooperative activities and so have a pre-discursive understanding of or 'feel' for teamwork. Lectures and associated in-class discussions help them to abstract from and generalize about these experiences. Third, these teamwork lectures allowed the instructor to frame the idea of teamwork in a college classroom setting in such a way as to minimize problems commonly associated with team-processes, especially free-riding (McKinney and Graham-Buxton 1993) and transaction costs (Yamane 1996).

For pragmatic reasons, students were provided with an opportunity to self-select their team members, although they did so with a great deal of experiential information about their peers. When students are more actively involved in shaping their learning process, they have more of a stake in making the process succeed (Hilligoss 1992). So as to equip students with information about their classmates, the instructor implemented approximately one in-class, ten-minute, pre-announced team activity per week, oftentimes involving discussion of aspects of assigned readings. Sometimes students were randomly assigned to small teams and other times the instructor facilitated placement in groups according to student commonalities in terms of knowledge and experience (Thompson 1993). The instructor pointed out that these teams provided each student with the opportunity to assess if his/her team members had completed the homework, whether or not they understood it, and how well they could collaboratively discuss it.

The six in-class team activities put each student in contact with approximately twelve different peers, thereby providing them with information for choosing partners for the first team paper. The syllabus marked the day of the class session during which students were to choose teammates and in that session, students reported their teams to the instructor and then discussed the assignment and asked clarification questions.

The third type of classroom initiative designed to maximize the opportunity for positive experiences in the first team paper assignment involved the provision of structure for the teams, one designed to promote positive and productive interactions among team members, over several class sessions. Activities included: making ground rules for producing the paper (with each team member signing off); collectively assessing three student papers from previous semesters using the TEAM (described in detail in the next section below); brainstorming ideas and developing an outline; writing and agreeing upon a thesis statement; managing conflict in teams; turning in a first draft; finalizing a team paper, etc.. These classroom activities were implemented over the course of approximately two weeks, from the time the first team-paper assignment was formally given until it was due. Fourth, the first team-paper only accounted for 10% of a student's overall course grade, as was also the case for the second and third team papers.

Employing Sociological Theory to Inform Design of the TEAM

Assigning points to individuals for their performance in producing the student teamwork product is a considerable conundrum involving several interrelated questions: Should all members of the team receive an equal number of team points? When a final score is assigned to the team, how should team points be allocated to individual team-members, and by whom? Should the instructor assess student efforts and allocate the team points accordingly? Should student team members assess each others' contributions to the team effort and allocate the team points accordingly? Or, should the instructor somehow combine these three methods of allocating points?

The TEAM is specifically designed to address the rewards-performance conundrum in grading team papers (see Figure 1). The TEAM is based upon the principle that team members assess and agree upon their relative contributions and allocate accordingly their team points. We assume that the total number of points that a three-person team achieves for their collaborative paper is on a scale of 0-100, which would mean that with a perfect paper (100 points) and points distributed evenly, each team member would receive 33.3 points. An example assignment and scoring criteria used by the instructor are included in Appendix 1. The TEAM requires each team-member to assess oneself and the remaining two team-members on their performance and contributions to the making of the actual team paper. Thus, sooner (hopefully) or later (lamentably) each student recognizes that he/she can sanction team-members, and be sanctioned by them, for acting opportunistically and/or with guile (Longmore, Dunn, and Jarboe 1996; Yamane 1996).

Development of the TEAM was stimulated by an engineer-designed form for students to assess their relative contributions to teamwork, a form similar to the one reported by Longmore, Dunn, and Jarboe (1996, p. 90). The TEAM was developed specifically for teams to assess their relative contributions to creating a team paper in an *Introduction to Sociology* class, although we assume that it is also potentially useful in many other sociology classes. The TEAM utilizes sociological concepts and skills from *Introduction to Sociology*, so that students can apply these concepts. In the following paragraphs, we discuss these concepts: instrumental and expressive members, role, and clearly writing about sociological processes (thereby avoiding sociological jargon). One important set of sociological concepts used to develop the TEAM is the venerable one of an *instrumental leader*^{iv} and an *expressive leader*.^v The former is assessed via two specific items in the TEAM: 1. setting deadlines for the team and 2. keeping meetings on time and on track. Two items are used to measure expressive leadership activities: 1. helping the team maintain a positive attitude and 2. encouraging participation by others. In a lecture devoted to explaining the use of the TEAM, the first author introduced, discussed and explained the above concepts, thereby integrating form and content.

An important sociological concept in *Introduction to Sociology*, "role"^{vi} (Hamlin and

Janssen 1987, p. 49-50), is applied in the items under teamwork skills. To the status of *student* in an *Introduction to Sociology* class, our approach adds the role of *team member*. As a result, students in a class with team assignments are expected to participate in team activities, prepare for team meetings, and treat other team members with respect. These expectations are added to those traditionally attached to the status of *college student*.

Finally, in light of Howard Becker's constructive efforts to improve sociological writing, the TEAM contains a category entitled "Paper Writing" that consists of three items: structuring, writing, and revising the paper. Becker (1986) notes that sociology graduate students pick up bad writing habits in high school that are solidified in college, habits which involve writing only one draft and neglecting to proof-read. The three items under "Paper Writing" help to encourage better habits and also provide an opportunity to assign credit for sharing the workload.

For the class session immediately following the submission of team papers, students were asked to reach consensus and submit one TEAM for the team as a whole. The instructor honored this consensus, although allowed for more dialogue about the consensus if there was a sense of dissatisfaction or unfairness. For example, a student might wish to seek out the instructor during office hours to express that the team consensus undervalued their actual work. Or, a student who missed the class period in which the consensus was reached may feel that it did not fairly reflect his/her work. To minimize the chance that such events occur, it is very helpful to review principles of conflict-management before beginning the consensus-building activity, and note that more dialogue with the instructor is possible if students feel uncomfortable with the results.

The TEAM helps bring to the fore a dilemma usually submerged in teamwork, namely, the possible trade-off between a *high-quality* product and a *superb* teamwork process. A contrast between a hypothetical team 1 and team 2 illustrates this dilemma. Imagine for Team 1 that a singular team member *individually* writes the majority of an excellent 'team' paper. Suppose that the TEAM was filled out so that this one individual received 80% of the points and the other two members 10% each. Suppose further that the instructor scored the collective product as 100 points. Imagine that a Team 2 cooperated fully and assessed each others as such with the

TEAM, so that each student received 33.3% of the points. Imagine further that the instructor scored their team paper as also deserving 100 points. The resultant ordering illustrates the potential dilemma: From team 1, one person would receive an individual score of 80 points; from team 2, each of the three individuals would receive an individual score of 33.3 points; and from Team 1 the other two individuals would both receive a score of 10 points.

We recommend that the instructors who adopt the TEAM explicitly address and resolve the *high-quality* product versus *superb* teamwork trade-off dilemma in the following way. Given that the point of the TEAM is to promote cooperation, the perfect paper should be considered one in which all team members contributed equally (33.3%) and scored by the instructor as 100 points. In such a scenario, each individual would receive 33.3 points. In light of this ideal, we recommend setting a ceiling on points so that for teams lacking equal cooperation, an individual could earn up to 32 points. With such a principle in place, the high-performing student from the hypothetical Team 1 above would receive 32 points, an A, without breaking the curve and the people who contributed less would receive lower grades (10 points), thereby sanctioning “free-riding.”^{vii}

Results

The TEAM was first used in two classes of *Introduction to Sociology* of Fall Semester 2004 and then again in the same class in Spring Semester of 2005; each class enrolled approximately 40 students, a majority of whom were under twenty-five, female, and white. Table 1 categorizes and displays consensus by student teams concerning individual contributions to the team as reflected in the TEAM. If, for example, there was consensus that all three team members contributed equally, then each team member would receive an overall score of 33.3%. On the other extreme, unequal contribution, there could be consensus that one member would receive an overall score of 100% on the Team Assessment Form and the other two would receive 0%. Across the paper assignments, the largest differential was 50%, in which one person was team-evaluated as having not participated at all, and the two other team members as having contributed equally. To simplify the display, we group team consensus about individual

contributions into four categories: 1 point (i.e. the difference between the team member with the highest and lowest number of percentage points is 1 point), 2-5 points, 6-10 points, and greater than 10 points. A substantial number of teams evaluated individual contributions to the first paper across the entire range of possibilities, from entirely equal to very unequal. A similar result occurred for the second paper, however there was a movement to the extremes for the third paper: either a mostly equal or very unequal distribution of points. This trend suggests that implementation of the TEAM allows students to negotiate work loads for the paper consistent with their other obligations and expectations for final course grade, though there seems to be a preference for relatively equal work loads.

Largest Percentage Point Difference Between Individual Team Members	1 st Paper	2 nd Paper	3 rd Paper
0 points	32%	40%	65%
1 point	24%	11%	3%
2-5 points	9%	14%	2%
6-10 points	15%	16%	0%
10+ points	20%	19%	30%
Number of Teams Writing Papers	34	37	37

One of the most valued methods of evaluating instructional innovations is through assessment of student learning, especially through objective test items (Michaels 1980, pp. 334-336).^{viii} As one way of assessing the validity of grading using the TEAM, we correlate student's performance as measured by an individual assessment (scores on quizzes) with their performance as measured by a team assessment (the TEAM). Forty students were enrolled in *Introduction to Sociology* in Spring Semester, each of whom completed four individually-taken quizzes composed of objective answers (multiple-choice, matching, and true-false). We take the sum of quiz scores as a measure of a student's performance in mastering *Introduction to Sociology* material as an individual. Each student also completed three team-papers, receiving a percentage of the team score based on the TEAM. We take the sum of these three scores as a measure of a student's mastery of *Introduction to Sociology* material in a teamwork setting.

The overall correlation between these two variables, a student's performance in an

individual and teamwork context, is 0.36. Table 2 presents the descriptive statistics and correlation for these two variables. To further identify the relation between the two variables, we carried out a bivariate regression. We sought to understand if performance in a team is associated with individual performance. Table 2 shows the numeric results - a strongly significant correlation and a moderate r-squared. We did not expect the magnitude of the association between the variables to be extremely strong. In general, student performance on fixed-response items (e.g. multiple choice questions) and constructed response items (e.g. essay questions) is not equivalent because they measure different levels of cognitive abilities (Becker and Johnston 1999; Dufresne et al 2002). Constructed response items are only able to reliably and validly measure cognitive abilities at the level of knowledge, comprehension, application, and analysis, but are unable to adequately measure skills in synthesis and evaluation (Martinez 1999; Hancock 1994; Simkin and Kluechler 2005). In our sample, there is a significant association between these two variables, which is very impressive given that the size of the sample is small by quantitative survey research standards (n=40).

		Mean	S.D.	Min	Max
Total Quiz Scores		15	3.8	7	23
Total Paper Scores		64	9.7	44	80
Correlation		0.36			
	Coefficient	S.E.	P-Value	R ²	
Intercept	6.4	3.8	0.10		
Slope	0.1	0.1	0.02	.13	

As a supplemental outcomes measure (Michaels 1980, p. 335) of the TEAM innovation, we administered to one class in Spring 2005 a questionnaire consisting of six items with Likert responses ranging from “very dissatisfied” to “very satisfied” regarding student perceptions of fairness, learning, and skill improvement. The questionnaire was administered anonymously to students at the beginning of class when the instructor was not present. On the day the

questionnaire was administered, 26 of 40 students were present. One issue of particular concern was whether or not students consider the TEAM to be fair, especially since the American educational environment is currently structured so that instructors assess individuals. As a result, students lack experience in assessing contributions to teams and therefore may not feel that the TEAM leads to fair results.

The overwhelming majority of students indicated that they understood the TEAM (73% responded affirmatively and 15% negatively, see Table 3). A plurality of students considered the TEAM to be a fair way of assessing work: 43% agreed and 31% disagreed. A large majority of students thought that working in teams helped them to better understand the readings: 58% agreed and 23% disagreed. An overwhelming majority felt that student teams were a worthwhile way to apply and improve sociological leadership skills, in that 77% agreed that student teams helped them develop leadership skills and only 12% disagreed. A large majority of students also agreed that student teams provided a worthwhile venue for improving their critical thinking skills (62% agreed, 16% disagreed). Finally, a plurality of students thought that student teams helped them to improve their writing skills (38% agreed, 27% disagreed).

Finally, we describe a “secret ballot” vote by students that took place shortly before the third team paper. Over the course of Fall semester and the beginning of Spring semester, colleagues helping to troubleshoot the TEAM wondered if students were receptive to the idea of writing papers in teams. In response, the first author decided to let the students vote as to whether they would write the third paper as individuals or as teams. At the beginning of two separate class periods, students were given an opportunity to address the class with their views and told there would be a vote on the first class session of the following week. Outside of class, students had ample opportunity to talk about the issue amongst themselves. When the third paper assignment was given in class, students were allowed to vote, anonymously, about whether the third paper assignment would be structured as either an individual or team project. Of the 26 students present, 73% voted in favor of student teams and 27% voted to write the papers individually.

	Understand Teamwork Assessment Form	Think the Teamwork Assessment Form is Fair	Teams Improved Comprehension of Readings	Teams Improved Leadership Skills	Teams Improved Critical Thinking Skills	Teams Improved Writing Skills
Strongly Agree	23%	12%	31%	35%	27%	23%
Somewhat Agree	50%	31%	27%	42%	35%	15%
Neutral	12%	27%	19%	12%	23%	35%
Somewhat Disagree	15%	27%	8%	8%	12%	15%
Strongly Disagree	0%	4%	15%	4%	4%	12%

Discussion

Increasingly, student teams (collaborative learning groups) are seen as a valuable tool for improving learning in sociology (Rau and Heyl 1990; McKinney and Graham-Buxton 1993), though there are a number of obstacles to implementing student teams in sociology classes (Yamane 1996), one of which is anxiety about grading, specifically the allocation of rewards to individuals for effective collaborative effort (Petronito 1991, p. 500). The Teamwork Evaluation and Assessment Matrix (TEAM) rubric is designed precisely to address this issue: it specifies the dimensions for the role of *team-member* for students. This feature is all the more relevant because it is reasonable to assume that most students do not share a clearly defined understanding of what constitutes “being a good team member.” Based on anecdotal evidence and our experience, we speculate that, e.g., “contributing good ideas” may compete quite vigorously with “treating others with respect” or “setting deadlines for the team” as a criterion for assessing whether one has been a “good team member.” In its current form and in the manner in which it was deployed, the TEAM ensures that students know in advance that they themselves will play a significant role in and the lines along which they will evaluate, and be evaluated by, other team-members.

The specificity of the TEAM can also be seen to be a great weakness. Students do not get a chance to express their opinions on these matters in any class-related setting, nor do they get a chance to experience the various ways in which actual work teams/groups may and do develop the content of roles and criteria of evaluating role-performance (e.g. based on long-established local or craft traditions, along the lines authoritatively imposed by super-ordinates, democratically, etc.). As there are important, patterned differences in how the preceding take place within different types of work-groups and in different cultural, social and organizational settings, the TEAM's advantage in terms of clarity of the 'definition of the situation' for students may come at the expense of an opportunity for them to actually experience, in the context of their class-related activities, social processes discussed and highlighted in the 'content' covered in their readings and during lectures. The links between what is taught in the class, how it is taught, how students are expected to learn it, and how they are evaluated are, thereby, not as strong as they could be to teams outside of the classroom in work and other settings.

Another, potentially greater weakness of the TEAM also deserves discussion. Since sociology instructors may easily adopt the TEAM, it is conceivable that they could do so without much thought or planning, which would likely result in students not gaining any wisdom or disciplinary knowledge about teams. In order for the TEAM to facilitate higher-level learning, instructors need to take ownership of the form. One way to do so is by modifying the TEAM through substituting categories and dimensions of evaluation, thereby aligning the TEAM to match with their teaching of sociological content. To the extent that instructors treat the TEAM as a stultifying tool of uniformity, thereby McDonaldizing team papers (Ritzer 2004), the TEAM has the potential to promote a tyrannical and alienating parody of respectful and creative relationships among team members.

Despite these potential limitations, we consider the TEAM to be a useful pedagogical innovation that sociology instructors may use to amplify teaching about teamwork based on our disciplinary theory (*content*) through the implementation of student teams in the actual practice of teaching (*form*). Fostering solid theoretical understanding of teams and acquiring positive practical teamwork skills are desirable goals for an *Introduction to Sociology* class, we argue,

given our discipline's concern with society as both a subjective and an objective reality and the fact that teams are playing an increasingly important role in this reality, especially in the workplace, the military, and in voluntary associations. The TEAM, when combined with coverage of important sociological theories, concepts and findings provides an opportunity to strike a balance between the value-rational goal of effectively imparting the theoretical and empirical knowledge of our discipline with the instrumentally-rational goal of teaching students skills in an *Introduction to Sociology* class that will surely prove useful to them in future academic and also extra-academic endeavors.

Figure 1: Assigning Points for the Team Paper Assignments

The instructor will assign between 0 & 100 points to each paper. Team members will reach consensus about relative contributions to the paper with this form. This consensus will be used to split points amongst team members.

Please rate all members of your team, including yourself, on the following ten questions by distributing 10 points through each row. Percentages will be used to assign points to each individual for the assignment. For example, if your team earns 80 of 100 possible points, and your team agrees you should receive 33% of possible team points, the score you will receive on the paper will be $80 \times .33 = 26$ points.

Your Full Name _____

Names of Team Member	Self		
Instrumental Leadership	-----	-----	-----
1. Set deadlines for team			
2. Kept meetings on time/track			
Expressive Leadership	-----	-----	-----
1. Promoted positive attitude			
2. Encouraged participation			
Teamwork Skills	-----	-----	-----
1. Prepared for team meetings			
2. Participated in team activities			
3. Treated mates with respect			
Paper Writing	-----	-----	-----
1. Helped structure paper			
2. Helped write paper			
3. Helped revise paper			
Total Points			

Indicate your satisfaction with your team’s performance, do you feel:

- Very satisfied
- Somewhat Satisfied
- Neutral
- Slightly dissatisfied
- Very dissatisfied

Is there anyone on your team that you feel did an exceptional job or is held your team back? If so, please explain who it was and the situation on the back.

Figure 2: Questionnaire for Students to Assess the Teamwork Assessment Form

1. I understand how the instructor assigns points to an individual for writing a team paper
1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree

2. The instructor's method of assigning points to individuals for writing a team paper is as fair as other methods for assigning points to individuals for writing a team paper.
1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree

3. Team writing assignments helped me to better understand readings assigned for the papers
1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree

4. Working in a team to write papers helped me develop leadership skills, either as an instrumental leader or expressive leader.
1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree

5. Working in a team to write papers helped sharpen my critical thinking skills (in this context, critical thinking refers to understanding the linkage, or lack thereof, between an argument and evidence).
1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree

6. Working in a team to write papers helped me to improve my writing skills.
1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree

Appendix A: Example Paper Assignment

Write a five-page, double-spaced paper in which your team develops an argument about the impact of contemporary religious organizations upon social capital. To exercise critical thinking skills, discuss evidence from *Bowling Alone* that both supports and disconfirms your position. Additionally, draw upon personal experiences as a source of evidence. The following five criteria, each ranging from zero to twenty points, will be used to assess these papers.

Criterion 1: Do team members have a thesis statement that clearly indicates their position and integrates the ideas found throughout the paper?

- 20 points=Excellent= Succinct statement that describes a specific argument and compellingly communicates paper's structure
- 15 points=Good=Thesis is readily identifiable, appropriate for assignment, makes a specific claim, & conveys paper's structure
- 10 points= Adequate= Thesis is lacking in criteria noted under good
- 5 points = Needs Improvement= Thesis is lacking in several of the criteria noted under good
- 0 points= Missing= Unable to identify the thesis statement

Criterion 2: Do team members draw upon the evidence as presented in *Bowling Alone* that supports their position?

- 20 points =Excellent= demonstrates a true mastery of the evidence presented in *Bowling Alone*
- 15 points = Good= evidence is detailed and coherently woven together
- 10 points = Adequate= evidence is presented, but lacks detail or coherence
- 5 points = Needs Improvement= evidence is weak and/or inconsistent
- 0 points = Missing= team presents little or no evidence

Criterion 3: Do team members address counter-evidence as presented in *Bowling Alone* that seems to disconfirm their position?

(Points are the same as #2, given above)

Criterion 4: Do the authors draw upon the personal experiences of each group member to show how their personal experience affects their positions?

- 20 points=Excellent= Experiences are complementary & smoothly woven together
- 15 points=Good=Experiences show different facets of the social process
- 10 points= Adequate= Experiences are non-contradictory
- 5 points = Needs Improvement= Does not discuss personal experiences of all group members
- 0 points= Missing= No discussion of personal experiences

Criterion 5: Do the authors write with sufficient control of composition and mechanics that they do not jeopardize their credibility with the reader?

- 20 points= Excellent
- 15 points=Good
- 10 points = Adequate
- 5 points= Needs Improvement
- 0 points= Missing

Areas checked below could be improved

Sentence Structure: ___ Awkward structures ___ Passive voice
 ___ Sentence fragments ___ Other

Word Choice ___ Vagueness/lack of clarity ___ Misuse of word/wording
 ___ Wordiness/repetition ___ Other

Grammar, etc. ___ Errors in grammar/usage ___ Errors in spelling
 ___ Paragraphs not focused ___ Paragraphs not ordered
 ___ Punctuation problems ___ Other

Other: ___ _____

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Notes

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ii There are however, noteworthy individuals advocating such an approach, many of whom publish in *Teaching Sociology*.

iii We use the terms “team” and “collaborative learning group” interchangeably, referring to small numbers of students working together with at least some face-to-face contact on an interdependent task using interpersonal and group skills (McKinney and Graham-Buxton 1993, p. 403).

iv As taught in *Introduction to Sociology*, an instrumental leader is an individual who tries to keep the group moving toward its goals (e.g. Henslin 2005, p. 166).

v In contrast, an expressive leader is an individual who increases group harmony and minimizes disruptive conflict in a group (e.g. Henslin 2005, p. 166).

vi We follow common sociological usage in referring to role as the behaviors, obligations, and privileges attached to a status (e.g. Henslin 2005, p. 99).

vii We hasten to note however, that those who participate at a lower level may not necessarily be free-riding. For example, they might be taking the class pass-fail. Furthermore, we find that when free riding is the problem, group pressure does not lead to an egalitarian split of points, for which we offer two hypotheses. There is a lecture that explicitly discusses the sub-optimality associated with conformity and group think. Second, since the TEAM is filled out

before teams receive their grades, those students committed to attaining a good grade through high performance are unwilling to “give” up points to team members who did not fully contribute to the team paper.

viii We do not discuss grades as an outcome because institutional culture/policy/norm, the Introduction to Sociology course was expected to have an average grade of a “C.”

Embedding Context: An Integrative Computer Security Course

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Abstract

Computer security programs consistently segregate technical content and contextual information. This paper describes the results of an introductory graduate computer security course that embedded contextual content into the course. The students' thoughts on the amount and importance of these contextual components changed from the beginning of the course to the end of the course. In addition, students' ratings of the amount of course content that should be allocated to technical information decreased from the beginning to the end, as did their thoughts on technical content as the most important area for working in computer science. An examination of focus group responses indicated that the students now felt they needed to consider all concerns, not just technical ones, when implementing solutions.

Background

One approach to teaching ethical reasoning is to require a stand-alone course in the undergraduate program. This “segregated” pattern of curriculum delivery is common in the field of computer security—where students are fascinated by the technical measures that make it possible to thwart intruders and protect information assets. Teaching these students the skills necessary to defend against security breaches presents a conundrum because these same technical skills can be used to attack computers and networks. Students must gain experience weighing the social, legal, and ethical implications associated with technical security strategies. Computer security educators need to convince this potentially resistant audience, their students, that understanding how the social context affects selection of the most appropriate technical solution is both a relevant and necessary element of the computer security decision-making process. We proposed and tested an integrated approach that presents the contextual elements at the same time that technical content is introduced. (Clump, Dewitt, & Cicalese, 2007; DeWitt & Cicalese, 2006).

A typical computer security curriculum focuses on the course content that attracted students to this major—the technical aspects of computer security. Student exposure to the social, legal and ethical issues or contextual content occurs in these classes as an informal reference to a recent news event or more systematically in a single course that focuses primarily on computer science ethics or information policy. This traditional approach may not be the most effective preparation for facing complex situations on the job (DeWitt & Cicalese, 2006).

In response to the increasing complex situations at work, Bordogna, Fromm, and Ernst (1995) called for a transformation of undergraduate engineering programs by integrating knowledge and process across individual courses. The resulting holistic model of science education was an effort to align engineering students’ educational experience with the challenges that they face on the job, including their ability to account for the social context in which technical decisions are made. This integrative approach has gained favor in many other scientific disciplines, such as biology, but has yet to receive an empirical assessment in the field of computer science.

Computer science educators recognize the importance of developing students’ ability to reason ethically and take into account the social context of technical decision-making (Martin & Weltz, 1999). In

1996, the ImpactCS Project called for the integration of ethics and social responsibility across the computer science curriculum (Martin & Weltz, 1998). A recent survey of 251 computer science programs found that 88% of these programs provide students with some exposure to social and professional issues including ethics training, with 12% of the programs not teaching ethics at all (Spradling, Soh, & Anson, 2008). Although encouraging, this study does not describe how computer science programs provide ethics training—namely, the extent to which these programs sequentially develop a students' knowledge of the social, legal or ethical issues that are associated with the technical computer science content.

To examine this question of how engineering programs develop students' contextual knowledge, Colby and Sullivan (2008) reviewed accreditation self-studies of programs from engineering schools. From this pool of programs the researchers conducted seven site visits to undergraduate engineering programs—yielding a representative sample of how engineering programs teach ethics and professional responsibility. Researchers learned that case studies, both real and hypothetical, were commonly used to acquaint students with ethical decision-making. However, coverage of these contextual issues was uneven and often unplanned by faculty. Moreover, few programs assessed students' ability to recognize an ethical challenge or propose a solution that accounted for ethical concerns.

In the field of computer security and information assurance, conversations regarding how best to develop these analytical skills have been initiated, but not tested. For example, Dark, Harter, Morales, and Garcia (2008) suggest a four-dimensional approach to addressing ethics which could support the integration of social context (social, legal and ethical issues) across the curricula. The model proposed by these educators addresses some of the pedagogical challenges associated with teaching ethics that differ significantly from the challenges of teaching the technologies of computer security, but it is too soon to have data on the effectiveness of this approach.

Efforts to document the effectiveness of integrative approaches to computer science education are just getting underway, as educators begin to analyze data gleaned from the practice of outcomes-based assessment that is associated with accreditation (Rigby & Dark, 2006). Although we can locate efforts to measure students' understanding of information technology content by evaluating concept maps (Rigby, Dark, Ekstrom, & Rogers, 2008), it is more difficult to find assessments of integrative approaches in the field. We must instead extrapolate from the research in other scientific disciplines. When doing so

we find that some students in science and technical fields value an analysis of the social context more than others. Kilgore, Atman, Yasuhara, Barker, and Morozov (2007) examine the relative importance first year engineering students place on the technical details versus the context of the engineering design challenge. They found that women were more sensitive to these contextual factors. As a result, Kilgore et al. recommend that engineering programs incorporate context-oriented approaches to broaden the participation of women as well as to produce graduates who are better able to meet the challenges they will face on the job.

Case studies are one way of providing context with technical content. Instead of using a traditional lecture format, Venglar and Theall (2007) delivered ethics content to physical therapy students using the case-based method. Using focus groups, Venglar and Theall found that these physical therapy students expressed an increased appreciation for the importance of ethics content and felt more comfortable integrating the ethical content with clinical practice.

Based on research in higher education, we suggest that the process of integrating knowledge needs to be intentionally facilitated in the classroom because students do not automatically transfer knowledge or combine what they learn in different courses (Association of American Colleges and Universities and the Carnegie Foundation for the Advancement of Teaching, 2004; DeWitt & Cicalese, 2006). The case study materials evaluated in this paper were designed to provide multiple, sequential opportunities to examine the technical content, thereby increasing the students' abilities to assess relevant contextual issues and transfer knowledge from one situation to another (cf., DeWitt & Cicalese, 2006). Facilitated by a grant from the National Science Foundation¹ (NSF), a two-course sequence (Computer Security I and Computer Security II) served as the foundation. In these courses students developed the analytical skills necessary to integrate contextual analysis when developing computer security strategies. This paper will focus on the lessons learned from the implementation of the first course in this sequence, Computer Security I.

Description of the Course

Computer Security I (CS I) was initially developed and piloted in the Spring of 2005 (Hoffman, Cicalese, DeWitt, & Rosenberg, 2005). Based on the analysis of data gathered from the instructors and

students, the course was revised and offered a second time in the Spring of 2006. The faculty experience in CS I one was similar to that of other faculty who implement active learning strategies in traditional science classrooms. Student resistance can take many forms, including providing negative feedback regarding non-traditional instruction on the course evaluations (Thorn, 2003; as cited in Rhem, 2006). In addition, some computer security students were reluctant to discuss ethical issues. When CS I was offered the second time in the Spring 2006, the instructor emphasized the importance of using a systematic process of ethical reasoning and decision-making. This disciplined procedure, or “algorithm,” thereby enables students to make ethical judgments on the job that are sound and based on a solid rationale (DeWitt & Cicalese, 2006, p. 38).

CS I differed from traditional computer science courses in two ways. First, students were encouraged to take a more active role in the classroom. Second, the course content incorporated the discussion of the social, legal and ethical content. The class course schedule was developed using a specific scenario for a period of two to three weeks. These scenarios provided a basis for students to apply both critical and ethical reasoning. The initial scenarios were both general and open-ended. Students were prompted to ask questions, and as a result, fill-in the technical gaps concerning how a security breach occurs. As the semester progressed so did the complexity of the scenarios; they became more detailed and closer to actual incidents the students may encounter. These later scenarios required students to make specific technical assessments. The scenarios ranged in the determination of wrongdoing or blame, from being initially direct to complex and amorphous in the end (Clump et al., 2007; DeWitt & Cicalese, 2006).

Hands-on lab activities and discussions supplemented the technical course material which had to be presented in lecture format. For example, students discussed the advantages and limitations of installing a software application to disable illegal peer-to-peer file sharing after the different professional codes of ethics, legal statutes, and associated ethical dilemmas were covered. When learning about wireless vulnerabilities, students used different software programs to locate a hidden access point on campus. To prepare for these class activities and discussion of the scenarios, before class students were expected to complete the assigned readings and homework assignments which addressed the technical content of the scenario. To assess the students' progress, the students completed case analyses for

each scenario, which culminated in “The Final Challenge” (i.e., a final project) (Clump et al., 2007; DeWitt & Cicalese, 2006). “The Final Challenge” required students to create their own computer security scenario by extending analysis of a case introduced earlier in the semester (Bowyer, 2000). In addition to providing the relevant contextual information for the incident and their technical response to the incident, students provided a suggested action plan that considered the social, legal and ethical aspects associated with the case. The current study provides an assessment of this fully implemented integrative computer security course.

Hypotheses

The development of an integrative approach to the CS I class involved embedding contextual information into the technical information: content related to ethics, such as ethical behavior of computer security professionals, and the legal implications of security strategies were necessary elements when presenting the technical foundation of the computer security course sequence. Three contextual elements impact the computer security decision-making process: the social standards of the organization and profession, the legal statutes, and ethical dimensions associated with the situation. All three must be taken into consideration when developing a security strategy.

As a result of the implementation of this integrative course, we hypothesized that the students’ thoughts on:

1. the amount of course content that should be dedicated to technical content would decrease;
2. the amount of course content that should be dedicated to ethical content would increase;
3. the amount of course content that should be dedicated to legal content would increase;
4. and the amount of course content that should be dedicated to social content would increase.

Procedure

During the first class period of the Fall 2006 semester, each student was provided with an anonymous research packet which contained an informed consent form, a demographics questionnaire, and a 21-item questionnaire (here forth named the Student Perceptions Questionnaire, SPQ) that assessed the students’ thoughts on how course content should be divided between technical aspects of

computer security, social implications of computer security, ethical aspects of computer security, and legal issues associated with computer security. The SPQ also assessed the students' beliefs about computer security and computer science in general. The students were given the research packets at the end of the first class period, and they were told to complete the packet at home during the intervening week. The students returned their research packets at the beginning of the class the following week. During the second to last week of the course, the students were again provided with the anonymous research packets. The students completed the research packets during the intervening week and returned them to the researcher at the beginning of the last class.

Complete pre-test and post-test data was obtained from 6 students. Since the course only met once per week and the university's deadline for students to add courses to their spring schedules occurred after the second class, and thus the second week, many of the students added the class after the initial (i.e., pre-test) research packets were distributed and collected. The distribution of the initial research packets occurred on the first day of class and the collection of these research packets occurred one week later, which was the second day of the class. As mentioned, the research packets were collected in the same manner at the end of the semester. The packets were distributed on the penultimate class, which was the second to last week of the semester; the students completed the research packets at home over the intervening week; the packets were then collected on the last day of class, which was held on the course's scheduled final exam day. Thus, the data provide an opportunity to analyze changes in the students' thoughts via a pre-test/post-test design, however, the low number of students leads to caution when interpreting the results.

At the end of the semester, all 13 of the students enrolled in the course were involved in focus groups. The students were divided into groups of three, asked to determine a recorder for the group, given sheets to answer 3 questions ("describe the strengths and weaknesses of using news stories of real computer security incidents as a basis for introducing you to computer security topics; describe how you now view the combination of the technical content of computer security with organizational, legal and ethical concerns; and now that we are finished, do you have suggestions for how to make the course a more effective learning experience"), and then given 30 minutes to complete the task.

Results

Quantitative Data Analysis

Since the focus of the course was to determine if embedding contextual information into a computer security course would alter the students' thoughts on the amount of course content devoted to these topics and technical content, we analyzed the data from the first question on the SPQ. This question asked, "For the following four areas, please indicate the percentage of a graduate course in Computer Security that should be devoted to these four topics. Make sure that you allocate a total of 100% to these four areas (the total cannot exceed 100%)," and the 4 options were: *Technical Aspects of Computer Security technologies*, *Social Implications of Deploying Computer Security technologies*, *Ethical Implications of Deploying Computer Security Technologies*, and *Legal Implications of Deploying Computer Security Technologies*.

For the students who took both the pre-test and the post-test version of this question, their desired amount of course content significantly increased for the Social Implications ($p < .05$)ⁱⁱ. The change in the students' prescribed amounts for Technical Aspects (decrease) and Legal Implications (increase) were marginally significant ($p < .10$). The students' prescribed amount did not significantly change for the Ethical Implications.

Table 1

Pre-test and Post-test Means and Standard Deviations for the Amount of Course Content

Content Area	Pre-test		Post-test		<i>t</i>	<i>p</i> -value	<i>r</i> ²	<i>d</i>
	<i>M</i> %	<i>SD</i>	<i>M</i> %	<i>SD</i>				
Technical	55.00	23.45	39.167	12.81	2.48	.06	.51	1.01
Social	11.25	4.40	18.33	5.16	-2.71	.04	.55	1.10
Ethical	16.25	10.69	17.50	7.58	-.264	.80	.01	0.11
Legal	17.25	9.87	25.00	11.83	-2.24	.08	.46	0.94

This data illustrate that the students' thoughts on the distribution of course content moved from being more focused on technical content to being more diverse by including a larger amount of contextual information. Along a similar line, question 20 on the SPQ had the students rank order the importance,

from 1 (*most important purpose*) to 4 (*least important purpose*), of “knowledge in that area is for working in computer science.” The students’ rank of technical content decreased from a mean rank of 1.00 (all students selected *most important*) at the beginning of the course to 2.50 at the end of the course (half of the students selected *least important* and half selected *most important*). The students’ ranking of the ethical and legal implications both increased from the beginning of the course (2.67 for ethical implications with 50% selecting *important*, 33.3% selecting *slightly important*, and 16.7% selecting *least important*; and 3.33 for legal implications with 16.7% selecting *important*, 33.3% selecting *slightly important*, and 50% selecting *least important*) to the end of the course (2.33 for ethical implications with 16.7% selecting *most important*, 33.3% selecting *important*, and 50% selecting *slightly important*; and 2.00 for legal implications with 33.3% selecting *most important*, 50% selecting *important*, and 16.7% selecting *least important*). The mean rank for social implications remained fairly stable changing from 3.00 (with 1/3 of students selecting each of *important*, *slightly important*, and *least important*) at the beginning to 3.17 (with 16.7% selecting *important*, 50% selecting *slightly important*, and 33.33% selecting *least important*) at the end of the course. The students now ranked both ethical and legal implications as more important than technical content.

Focus Group Qualitative Data Analysis

We used a grounded theory analysis (Patton, 2002) to assess the themes that emerged in the focus group data about the course and its scenarios. The themes of (1) helping the students learn potential threats and ways to prevent them and (2) students reading more compared to their other courses due to the engaging cases emerged as a result of the course using current information for course readings. The following are the statements from the focus groups to the question, “This course used news stories of real computer security incidents as a basis for introducing you to computer security topics. What were the strengths of this approach? For instance, did you read more of the course material compared to reading assignments in other courses? Did these incidents stimulate your thinking about potential computer security threats, risks and vulnerabilities?”:

- Theme 1: Provides current information allowing for better learning of potential threats and ways of preventing them:

- “Stories which were real and current give us the exposure about the things that attacks happen currently. Gives us clear ideas about defense and attacks on network and systems in a given prospective [*sic.*, *perspective*]. Reading in this class even though more is like reading a newspaper but not like reading a book.”
 - “Yes, these greatly helped us to learn about potential threats and building a secure network for an organization.”
 - “We learned current methods used by hackers today. Also, we learned of ways to prevent this.”
 - “Because of our projects and discussions we are able to analyze different security threats, risks, and vulnerabilities, and how they relate to each other.”
 - “We learned new and valuable resources from cases.”
 - “Real-life practical scenarios.”
 - “The course also stimulated our thinking about security issues and equally helped us make further research.”
- Theme 2: Increased, and engaging, reading:
 - “We read more here than we did in other courses.”
 - “The course material was sufficient enough that we didn’t need outside sources.”
 - “We learned more from cases than books.”

Additionally, the theme of increased respect and awareness for the organizational policies and consequences of different actions, such that they felt that they needed to consider all concerns, not just technical ones, when implementing a solution (which corresponds to the data from question #20 on the end of semester SPQ) emerged in the focus group data.

- “Gained respect for organizational and community policies.”
- “Better awareness for policies and even recommend the kind of policies an organization must follow.”
- “Legal and ethical cases should be a huge part of the course.”
- “Using a technical control is dependant on legal and ethical issues.”

- “We now think more actively about these three contextual issues. The legal and ethical concerns are specifically more aware.”
- “We need a policy that protects individuals from hackers legal action is needed to scare away any users thinking about violating someone’s right to privacy.”
- “Legal and ethical concerns are more on top of the list along with technical concerns. They all work together in having a more complete view of security issues.”
- “Raise awareness for consequences of hacking.”

Course Evaluation Data

Two questions on the university’s end-of-course student evaluations provide important and relevant data. These questions are (1) “How would you rate this course as a learning experience?” and (2) “How much do you feel you have learned in this course compared to other courses you have taken at _____?”. The first question uses a 5-point Likert-scale with 1 (*very poor*) and 5 (*excellent*) as the end-points. All of the students chose the two highest options, indicating that the course was either an *excellent* or *good* learning experience (with 64.29% choosing the *excellent* option).ⁱⁱⁱ For the question, “How much do you feel you have learned in this course compared to other courses you have taken at _____?,” 75% of the students in course indicated that they learned either *much more* or *more* in the new CS I course than other courses they had taken at the university.^{iv} This question also used a 5-point Likert-scale with 1 (*much less*) and 5 (*much more*) as the end-points. Additionally, the option *this is my first course at the university* was provided.

Discussion

The quantitative and qualitative data analyses indicated that the students’ attitudes on the importance of contextual information (i.e., social, ethical, and legal issues) increased; this corresponded with a decrease in the students’ attitudes on the importance of technical aspects of a course. Teaching a course in which students are exposed to scenarios that depict the influence of contextual issues influences the students’ attitudes on these topics. The students stop seeing these as ideals that will be easy to apply and are outside of the realm of a class that teaches technical information, instead they start to see situations as more complex than “right or wrong,” or more specifically in computer science, as “0s

and 1s.” An interesting depiction of this arises from the second course in this introductory computer security sequence.

When Computer Security II (CS II) was taught for the first time, all of the students who took the first offering of CS II were those from the initial two times CS I was offered. At the end of the semester, we surveyed the students' thoughts on the combination of the two courses via focus groups. Using a grounded analysis to examine students' responses to the question, “Having completed both CS I and CS II, please describe how you now view the combination of the technical content of computer security with organizational, legal and ethical concerns,” the theme that surfaces from the data is that the technical content is important to students, but they now see that it does not exist in a vacuum. In their future/current jobs, these students know they must consider the implications of different technical solutions:

- Theme 1: Consider implications/ramifications:
 - “The technical content of computer security can be used in either malicious intent or with the objective to protect assets. In both cases, the impact of organizational, legal, and ethical ramifications always needs to be considered.”
 - “Ethical implications are ‘at least considered’ now versus before they were not.”
 - “The organizational, legal, and ethical concerns are now much more paramount in our thinking. The group agrees that this is most beneficial.”
 - “We are far more aware of the organizational, legal, and ethical concerns/viewpoints than before.”
 - “The technical attributes are always the initiators, but rarely ends there.”
- Theme 2: Increased knowledge of consequences:
 - “Appreciated the education on the consequences of the legal and ethical exploitations.”
 - “More educated now on FERPA.”
- Theme 3: Must balance of organization, legal and ethical concerns:
 - “Appreciate knowing that we have balance the pros and cons of the organization, legal, and ethical concerns.”

Conclusions

Integrative experiences and courses provide students with the opportunity to truly combine course information in manner that reflects the ways in which this information will be used outside of the classroom. Students often struggle in applying the course material, especially when it requires them to combine information from separate courses while in the work force. One manner that this course utilized which helps students to combine information is to embed the necessary social and contextual information into the technical information taught in a computer security course. By embedding the course material, an integrative course, and thus, an integrative learning experience was created. Changing students' expectations on a course is challenging and risky for an instructor. However, as the current course and evaluation of the student attitudes toward that course indicate altering course content, structure, focus, method of instruction and delivery, and assignments can positively alter student expectations, beliefs, and evaluations of that course.

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Notes

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ii Even though the number of students enrolled in the course was small, and the number who completed the pre-test and post-test surveys is even smaller, the questions to which the students responded were continuous in nature, and thus, reporting the mean percentage or the mean rank seems to provide most informative measure of the students' responses. We also used *t*-tests to compare the students' responses, which with the small number of students this can be perceived as problematic, but given the very large and substantial effect sizes (based on Cohen, 1988), it seems informative to report these statistical comparisons.

iii It should be noted that there was a significant increase in student evaluations from when this version of the course was offered the first time in the Spring 2005 ($M = 3.58$, $SD = 1.06$) to the second time in the Fall 2006 ($M = 4.64$, $SD = .50$), $t(36) = -3.51$, $p = .001$.

iv For the students who responded to the question and the course was not their first course at the university, there was a significant increase in student evaluations from when this version of the course was offered the first time in the Spring 2005 ($M = 2.91$, $SD = .92$) to the second time in the Fall 2006 ($M = 3.92$, $SD = .67$), $t(32) = -3.33$, $p = .002$.

Wishes, Lies, and Dreams: A Counselor Educator's Experience

Karen Linstrum

Abstract

Various therapeutic creative and/or expressive arts, such as poetry therapy, can be used by mental health practitioners in many sittings with a variety of clients. These modalities seem to be particularly adaptive and effective with children and adolescents. However, as a counselor educator, the author found teaching and participating in poetry therapy with graduate-level students to also be effective. Following the basic pedagogy suggested by Kenneth Koch (1970) in *Wishes, Lies, and Dreams: Teaching Children to Write Poetry*, graduate students and the author were able to experience personal and professional insight in a graduate-level counseling course.

The focus of this article is on introducing poetry therapy to graduate-level counseling students. Ideas and examples from Kenneth Koch's (1970) *Wishes, Lies, and Dream: Teaching Children to Write Poetry* were used throughout the graduate course titled Counseling Children and Adolescents. Ideas from Kathi Appelt's (2002) *Poems From Homeroom: A Writer's Place to Start*, were also explored during class instruction.

Because the class included graduate-level students enrolled in the community and the school counseling tracks, the author emphasized the use of poetry therapy to meet academic goals, such as reading and writing skills, as suggested by Malekoff (2002), as well as therapeutic goals. In class discussions, particular attention was given to research involving self-esteem and reading (Commare & Sedlack, 2003; Dean & Trent, 2002; & Richardson, 2003) and what effect the inclusion of poetry in the researcher's interventions may have had on the results.

The goals of Poetry Therapy as stated by the National Association for Poetry Therapy include the following:

1. To develop accuracy and understanding in perceiving self and others.
2. To develop creativity, self-expression and self-esteem.
3. To strengthen interpersonal and communication skills.
4. To ventilate overpowering emotions and release tension.
5. To find new meaning through new ideas, insights, and information.

www.poetrytherapy.org

These goals can be viewed as appropriate goals or objectives when working with children or adolescents who struggle with emotional or learning disabilities as well as with adults who are challenged with low self-esteem and illiteracy.

In preparing for the course, the author luckily discovered Koch's (1970) *Wishes, Lies, and Dreams: Teaching Children to Write Poetry*. Several of the ideas and techniques that Koch shared concerning working with children, the author found to also be effective in teaching adult, graduate-level students about poetry therapy. As with the children whom Koch taught, these adult learners also flourish in a non-judgmental environment.

As the author introduced Koch's (1970) poetry ideas such as "I Wish" and "I Used to/But Now" an atmosphere free of competition and free of academic perfection was established. The graduate-level students were encouraged to not be concerned with rhyme, meter, punctuation, or spelling so that emotions and the expression of feelings could flow. The graduate-level students were invited to share their thoughts, feelings and ideas without the threat of any professional analysis of information shared.

Following the American Counseling Association Code of Ethics and Standards of Practice (www.counseling.org) Section F.1.a, the author served as a role model for the class by sharing her own thoughts and feelings through poems she had written. The ideas and inspiration for the poems came from reading the ideas and suggestions of Koch (1970) and Appelt (2002).

Changes in Life: I Used To/But Now

I use to sleep late, but now I get up early
I use to have a schedule, but now I am loose
I use to want to stay here, but now I want to leave
I use to be a sister, but now I am alone
I use to be kin to another family, but now I am alone
I use to live close, but now I am a bit far away

Lies

I love liver to eat
I love asparagus too
I love to get up early and see the sun

More Lies

I am in space on a space ship with Brad Pitt
I am in the bathtub with dirt for soap
T trees are blue and they bush the grown with thorns
I became a millionaire playing lotto
My kitty became a lion and ate my house

Colors

The color of Friday the 13 is gray
The color of the day is gray
The cool weather is grayish black
The mailman coming is yellow
Warm is yellow
Bills to pay are red

Who Would Have Thought!

Who would have thought
I was better than my brother at basketball
Who would have thought
my brother made B's in conduct in the 6th grade too

As these graduate-level counseling students progress in their professional and personal development toward becoming a counselor, the expressive and/or creative arts can be effective and rewarding within

the therapeutic relationship. Collaboration with each other and with the author toward a group professional presentation of poetry therapy was and will continue to be encouraged as a part of this progress and development.

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