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The International Journal of Teaching and Learning in Higher Education (ISSN 1812-9129) provides a forum for the dissemination of knowledge focused on the improvement of higher education across all content areas and delivery domains. The audience of the IJTLHE includes higher education faculty, staff, administrators, researchers, and students who are interested in improving post-secondary instruction. The IJTLHE is distributed electronically to maximize its availability to diverse academic populations, both nationally and internationally.

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Learning through Writing: Reconceptualizing the Research Supervision Process

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This paper seeks to re-conceptualize the research supervision relationship. The literature has tended to view doctoral study in four ways: (a) as an exercise in self-management, (b) as a research experience, (c) as training for research, or (d) as an instance of student-centered learning. Although each of these approaches has merit, they also suffer from conceptual weaknesses. This paper seeks to harness the merits, and minimize the disadvantages, by re-conceptualizing doctoral research as a "writing journey." The paper utilizes the insights of new rhetoric in linguistic theory to defend a writing-centered conception of supervised research and offers some practical strategies on how it might be put into effect.

The supervisory relationship is the key to successful higher degree research. So much appears to be the consensus of scholars. As Hasrati (2005, p. 557) notes,

> Most of the literature singles out the relationship of supervisors and students as critical influence on the completion of the doctorate. Supervision is said to be "crucial"; "pivotal"; "at the heart of most research training"; "at the core of the project"; "the single most important variable affecting the success of the research process."

Even those who reject the traditional one-on-one or co-supervisory models based on face-to-face meetings, such as Colbran (2004), still emphasize the importance of supervision but advocate alternative approaches to supervising students, such as a "collaborative supervision model based on an electronic community of practice" (2004, p. 1).

But what is the dynamic that should underpin the supervisory relationship? Hasrati (2005) submits that there is "lack of an analytical framework to capture the relationship between supervisors and Ph.D. students" (p. 558) Although the literature might lack an explicit theoretical consideration of the key ingredients for a successful supervisor-student relationship, it is nevertheless possible to glean four broadly distinguishable, albeit overlapping, approaches to characterizing doctoral study, as an exercise in *self-management* (Phillips & Pugh, 2000), as a *research* experience (McCormack 2004, p. 319), as *training* for research (Pearson & Brew, 2002); and, as an instance of student *learning* (Hasrati, 2005). With their difference in emphases, each approach carries discrete implications for understanding the supervisory relationship.

That said, each of these characterizations can be synthesized to develop a fifth approach - the Ph.D. as a *writing journey*. This is hardly a startling proposition. After all, doctoral study is meant to produce a high quality written thesis at the end of the candidature; it makes perfect sense, then, to give special emphasis to the writing process. But re-conceptualizing higher degree research as a writing journey ties the extant threads of the literature together. This is because research students should be able to achieve (a) *competent autonomy* in the art of scholarly writing (Gurr, 2001), (b) by being inducted into the conventions of academic writing that underpin the relevant *research* culture, (c) through a process of both explicit *training,* and (d) *student-centered learning*. More importantly, it has real implications for student supervision. By reconceptualizing the Ph.D. as a writing journey, writing becomes the central element in the supervisory relationship.

This article is structured as follows. First, literature on research supervision is reviewed and the limits of the prevailing four views of doctoral study as an exercise are explained for self-management, research, training or learning. Second, new discourse theory is used to explain why higher degree research should stress writing in the supervision relationship. Third, the practical ramifications of a writing-centered model of supervision is discussed. Specifically, a "three-S framework" is adopted—strategies, spaces and support—for implementing such a model. Thus, learning strategies are examined that can help Ph.D. students advance their writing skills; explore the spaces, such as the supervisor-student meeting as well as other collaborative learning places, where students can develop their writing skills; and consider the support Ph.D. students need to ensure they gain proficiency in the writing relevant to their chosen discipline. Although the arguments advanced in this paper should have broad appeal to all types of Ph.D.s, observations are limited to doctoral work in Law, the Humanities and the Social Sciences.

Existing Models of Research Supervision

The literature portrays doctoral study in four different ways. Phillips and Pugh (2000), for example,

describe it as *self-managed* education. Unlike undergraduate education where university teachers determine the syllabus, assign textbooks and set examinations, postgraduate research requires the student to exercise personal responsibility, albeit with support, for designing and carrying out their research project. As Gurr (2001) observes, the objective of supervision, therefore, is for the student to achieve competent autonomy. By contrast, McCormack (2004) regards doctoral study as a *research experience*. A Ph.D. is about acquiring proficiency in the art of research. Therefore, McCormack argues, one of the barriers to a productive and successful doctoral experience is that institutional and student conceptions about research are often unaligned. Pearson and Brew (2002) put forward yet another, arguably more instrumental perspective, doctoral study as *training* for research. Consistent with an increasingly economic approach to government policy on higher degree research, especially in Australia (McCormack, 2004), such training is required to meet certain defined and measurable indicators of quality and efficiency, such as employment outcomes, emphasis on "explicit skills formation" (Pearson & Brew, 2002) and timely completions. Finally, Hasrati (2005) argues that a Ph.D. as an instance of *student learning*. The Ph.D., Hasrati argues, has cognitive and social dimensions: in short, doctoral study is both "an individual and collective [learning] activity" (2005, p. 558).

This brief survey somewhat caricatures the literature. Bright lines do not separate these different perspectives; rather, they bleed and blur. For example, those who see higher degree research as a learning experience most commonly, although not universally (e.g., Diezmann, 2005; Hasrati, 2005), adopt the cognitive apprenticeship (Collins, Brown, & Duguid, 1989) as a model for supervision. However, this model is also consistent with those who argue that Ph.D. students must self-manage their own projects. This is because the cognitive apprenticeship holds that conceptual and problem-solving knowledge is embedded in learners through observation, scaffolding (coaching) and, most importantly, increasingly independent practice. Competent autonomy is also one of the "outcomes" or "generic skills" expected in the "economic model" of the Ph.D. as research training.

Even so, each of these four extant approaches to research supervision suffers from conceptual weaknesses. These weaknesses, justify a re-conceptualization of how institutions should support doctoral research. Consider, for example, the view that a Ph.D. is about self-managed education. Phillips and Pugh (2000) use this to argue that a Ph.D. involves the "progressive reduction of uncertainty" (p. 86). They argue that Ph.D. students need to go through a succession of stages, from identifying the field of interest, selecting possible topics, conducting a pilot study, making a thesis proposal, collecting and analyzing data and final writing up. Although they admit that, "it is unrealistic to expect that [a student] would go through these stages in a straightforward line," they do assume that the "main weight of writing up" (p. 87) comes towards the end. This assumption that research and writing are separate and distinct stages, however, is not sustainable - language is not a transparent 'window' into thought; writing shapes ideas just as much as ideas determine the choice of expression. As such, writing and research are inextricably linked (Campbell, 1993; Fajans & Falk, 1993; Phelps, 1986). Ph.D. students, therefore, should be encouraged to write "through" their candidature, rather than "write up" their research results (Nightingale, 1992).

A similar problem underlies the conception of doctoral study as a research experience. The difficulty with this model is that, once again, writing does not assume the central significance it deserves. Pearson and Brew (2002), for example, identify four conceptions of research held by senior academics: the domino conception, the layer conception, the trading conception and the journey conception. Although these four conceptions are distinguishable on structural and referential dimensions, none of the conceptions consider the place of writing in knowledge production. Thus, knowledge is generated by following a sequence of steps (domino conception), uncovering lawyers of meaning (layer conception), producing research outcomes (trading conception) or realizing new ideas in a personal journey of discovery (journey conception). Possibly, writing is seen as the last stage of research (domino conception), the product of research (trading conception) or the expression of new understandings (layer and journey conceptions). But, once again, this misconceives writing; after all, writing is not just reporting "the research"; it generates meaning in and of itself and, therefore, is part and parcel of the research enterprise.

The view of doctoral study as training for research is even more problematic. For some, a market-oriented, economic model of graduate-level research represents a sinister turn towards a loss of rigor, variety and scholarly pluralism in research. Twining (1996), for example, despairs of a "form of homogenizing, authoritarian bureaucratic-rationalism" (p. 304); James (2004) deplores the ascendancy of an ideology that pushes "corporatist objectives of efficiency and profitability" (p. 149). For others, however, the training model of doctoral research falsely assumes a systematic and linear research experience. As McCormack explains (2004, p. 320),

> Research in this context is operationalized around conceptions of time that are linear: clock and

> calendar time. Policies emphasize start times, completion times, finishing in the prescribed time and completing pre-set tasks at fixed times during enrolment. Thus, research is assumed to be a linear activity with a beginning and a known and fixed end-point.

Once again, writing is seen as the product rather than part of the process. If writing were given more prominence in this model, then assumptions of postgraduate research as carefully constructed, coherent and methodical would break down. Instead, research would properly be seen as "complex, often chaotic, sometimes messy, even conflictual, full of critical moments that disrupt [the] process" (Byrne-Armstrong, 2001, p. vii). "In research as in life as in art," add Cole and Knowles (2001, p. 228), "there is no possibility of completeness, certainty or closure."

The final view of doctoral research as a learning process is also not without its problems. However, I do not want to over-state the criticism here. If anything, regarding higher degree research as an instance of learning has proved more powerful than poisonous. For example, it has opened up the supervision process to teaching and learning theory and ideas that, for long, university policy and long-standing institutional practice has kept away from its gaze (Malfroy, 2005). By tradition, higher degree students are regulated by an institution's research policy and are supervised by senior researchers; linguistically, and therefore, conceptually, teaching and learning have been eclipsed from view. Today, however, this is no longer the case (Malfroy, 2005). Even so, some pedagogical models of supervision do not find a proper place for writing. Gurr (2001), for example, criticizes a "concrete" model of supervision in which "tools and techniques serve to manage the process" (p. 82). Although the thrust of Gurr's critique is that such a model over-estimates the potential of tools to diagnose problems and eradicate misunderstandings, my criticism is that such an inflexible approach to supervision also fails to accommodate the inherently messy and recursive nature of writing which cannot be reduced to checklists, ratings or "how-to" procedures. In a similar vein, Malfry (2005) and Colbran (2004) criticize hierarchical, master-apprentice models of supervision for assuming that writing skills can be uncritically transmitted from academic experts to student novices. More typically, however, many models of supervision, such as Hasrati's (2005) view of legitimate peripheral participation, simply ignore the importance of inculcating Ph.D. student with the skills of scholarly writing.

Towards a New Model of Research Supervision: The Writing Journey

Rationale

Given these weaknesses in existing models of supervision, I argue in favor of a new model in which writing is given central importance—where a doctorate is "written through" the candidature (Nightingale, 2002) not "written up" at the end; where writing is a process not a product; where writing is integral to meaning-making not simply a tool to expose the underlying meaning of the research. This is not to suggest that other issues relevant to the supervision relationship, such as aligning conceptions of research (McCormack, 2004; Pearson & Brew, 2002), are unimportant; however, it is my contention that most issues can, and should be, seen through a writing-based approach to supervision.

Even on current models of supervision, it makes sense to give writing due priority in the supervision relationship. After all, the award of a Ph.D. depends entirely on a written thesis. Thus, proponents of self-managed supervision, such as Pugh and Phillips (2000), despite their view that the bulk of writing should come near the end of the candidature, presumably when the student has achieved or is close to achieving competent autonomy, still see merit in beginning the writing process early in the degree. Similarly, Caffarella and Barnett (2000), who take an instrumental view of supervision as training students for research, argue in favor of engaging candidates "in scholarly writing early in their doctoral program experience. In particular, our aim [is] to assist students develop and/or enhance the form, style, content and quality of their academic writing during the initial phase of their doctoral study" (p. 142). Put bluntly, writing is a generic skill that supervisors need to develop in their research students (Colbran, 2004).

But there is a more potent theoretical reason for giving writing proper weight in the supervision relationship. As recent developments in linguistic theory have established, writing and research, or language and meaning, are inextricably linked. Traditional views of writing assume that,

> competent writers know what they are going to say before they begin to write; thus, their most important task when they are preparing to write is finding a form into which to organize their content. They also believe that the composing process is linear, that it proceeds systematically from prewriting to writing to rewriting. Finally, they believe that teaching editing is teaching writing. (Campbell, 1993, p. 663)

Phelps (1986) has criticized traditional approaches to teaching writing as focusing too heavily on obtaining an error-free product and the ABCs (accuracy, brevity, and clarity) of writing. She argues that most writing rules are actually rules for revision that do not help students understand the writing process or to write more effectively. Phelps argues that the concepts of new rhetoric, which emphasis the process of writing rather than the product, should be applied (Campbell, 1993, p. 664),

> New rhetoricians believe that we are constantly searching for knowledge, and that discourse is the means of both learning and shaping knowledge. Thus, writing is the making of meaning, . . . the expression of human intelligence and imagination, not merely a convenient packaging of preconceived thought, and certainly not a mere social grace or job skill.
>
> New rhetoricians thus believe that writers discover what they want to say as they are writing, and that the writing process is recursive rather than linear. For example, it is only through writing that gaps in the analysis come to light which in turn require additional research. Although writing may be divided into stages for purpose of description, these stages overlap in practice.

The core lesson of new rhetoric theory, then, is that research, writing and argument are linked, not severable, processes. Language creates meaning. "As such language neither mirrors nor reveals truth; it defines or makes truth possible" (Fajans & Falk, 1993, p. 174).

At this juncture, it is worthwhile to address briefly some potential criticisms of a writing-centred conception of research. Some postmodern scholars, for example, have strongly attacked the "writtenness" of research; that is, the assumption that research texts are somehow neutral, objective and realistic depictions of lived experiences (e.g., Cole & Knowles, 2001; de Freitas, 2007; Lather, 1991; Maclure, 2003). However, their objections lie in the narrative conventions structuring and shaping research writing rather than in the lessons of new rhetoric theory. If anything, their agenda for "disrupting and interrupting" the process by which readers tend to uncritically accept the foundational truth of research narratives (de Feitas, 2007) seems to accept the centrality of writing in the research process.

Pedagogy

So what type of pedagogy can support this new writing-centered approach to doctoral education? One of the most popular pedagogical models in higher education theory is cognitive apprenticeship (Diezmann, 2005; Hasrati, 2005). According to Brown, Collins and Duguid (1989), a cognitive apprenticeship is where conceptual and problem-solving knowledge are embedded in learners through observation, scaffolding (coaching) and increasingly independent practice. Teachers need to redesign learning environments—content taught, pedagogical methods employed, sequencing of learning activities and the sociology of teaching—to effect a transition to cognitive apprenticeships. This is tied to overcoming surface learning through which conceptual and problem-solving knowledge remains largely unintegrated and inert for many students. Cognitive apprenticeships involves (a) teaching processes that experts use to handle tasks, where knowledge is exemplified and situated in the context of their use by setting up a conceptual model of how a task such as reading is performed; (b) learning though guided experiences in which tacit cognitive and meta-cognitive processes that comprise expertise are brought into the open where students can observe, enact and practice them with the help from the teacher and other students; and (c) development of self-monitoring and self-correction skills through reflection (alternation between expert and novice performances and abstracted replay) and producer-critic dialogue (discussions, group problem-solving and alternation of teacher and learner roles).

The cognitive apprenticeship model provides a suitable framework for a writing-centered approach to supervision because supervisors can model, coach and support, through feedback, the academic writing skills of their students. This upfront support, or scaffolding, can fade over time as students achieve greater proficiency with their writing; supervision can then move to periodic reviews of chapter drafts. The cognitive apprenticeship model, however, is not without its critics. Colbran (2004), Diezmann (2005), and Hasrati (2005), for example, offer three lines of criticism. First, the model is fallacious to assume that supervisors are necessarily scholarly writers, proficient in academic writing or write regularly themselves. Second, the cognitive apprenticeship model can break down if students assume a passive role with respect to improving their writing. Third, students can learn about the conventions of scholarly writing in collaborative and informal learning environments outside the formal one-on-one meeting, such as in electronic communities of practice (Colban, 2004) or as part of informal information-sharing exchanges with their peers (Diezmann, 2005; Hasrati, 2005).

These criticisms, in my view, are not entirely fair. While supervisors may not be expert writers, this is more a problem with supervisor selection rather than

pedagogical model. Further, the cognitive apprenticeship assumes an active task-based learning environment where students are expected to practice skills that their supervisors model and support. If students are "passive" about improving their writing, this is attributable to problems implementing the cognitive apprenticeship model rather than with any defect in the model itself. Finally, the cognitive apprenticeship does not foreclose the possibility of alternative and collaborative learning spaces beyond the one-on-one meeting. For these reasons, I re-assert confidence in the cognitive apprenticeship as a model of research supervision.

The Three-S Framework: Strategies, Spaces, and Support

I now move to outline my reflections on how the cognitive apprenticeship may be operationalized to prioritize the place of writing. The three-S framework—strategies, spaces, and support—furnishes a structure for my reflections. Specifically, I first examine the types of learning strategies that may diagnose and develop writing skills; second, I turn to the spaces, not only the supervision meeting but also collaborative learning contexts such as electronic communities of practice, group meetings and workshops in which such strategies would be most effective; and third I collect together some ideas on how to give constructive support (feedback) to students on their ongoing writing project.

Strategies

There are many strategies that may usefully be employed to support student writing in the doctoral program. Consistently with the cognitive apprenticeship model, the early part of the candidature can focus on shorter, more regular pieces of writing that roughly track the first few stages of the research project, identification of topic or problem, initial literature review, statement of methodology, and ontological assumptions. Since planning is very important in the early part of the thesis, early pieces of writing need not be perfect prose; they can be mind-maps, charts, tables, notes and brainstorming free-writing. For instance, students can be encouraged to submit a timetable plotting the stages and timeframe for completing the thesis, a mind-map to identify the trends and tensions in the literature, free-form emails about difficulties they are experiencing in reconciling different theoretical perspectives, and charts or tables comparing the different quantitative and qualitative methods available for the empirical part of the project (if relevant) and identifying the strengths and shortcomings of each for the project.

Writing tasks can also be set to encourage consistent and critical reading, especially during the literature review of the project. Fajans and Falk (1993), for example, have developed an innovative writing project of "talking back at the texts." This is where students do more than paraphrase or take notes of the literature, but write reflective pieces setting out their reactions to the readings. These reactions may be to identify methodological problems, hidden assumptions in the logical development of the argument, or differences of opinion based on their own experiences, values or ontological assumptions. Learning is best done by example, so to get students started on developing the skills of reflective writing, they should be encouraged to read examples of literature reviews in books, articles or completed theses in similar fields as their own research area to identify and emulate the techniques that other authors have used. This strategy of "talking back at the text" is especially useful for getting students accustomed to the culture of critical and argumentative writing in the arts, humanities and social sciences traditions.

Writing tasks can also help diagnose problems in student writing. According to Diezmann (2005), writing problems may emerge in four respects, in terms of the "culture" of critical and argumentative writing; the macro-structure of developing a coherent argument and making proper links between chapters and sections in the thesis; the micro-structure of preparing and editing persuasive prose; and, the ethics of writing (such as plagiarism, shared authorship of published pieces and copyright). Given that each student is going to present with different issues, Diezmann devises two strategies to diagnose problems with student writing:

- The first is to utilize stories as a means of reflecting on practice. Students, for example, should be encouraged to write about their difficulties, frustrations and assumptions about writing. The supervisor can then discuss these ideas with the student, sharing his/her own stories about the travails of preparing a research publication. The purpose of such a strategy is not to comment on whether one approach is right or wrong, but to expand the range of coping skills the student has at his/her disposal when confronting difficulties with writing.
- The second strategy is to "read" issues at three levels to facilitate insight into the issues. "A 'quick reading' provides a holistic impression of the issue; 'zooming in' provides a close reading of a particular aspect of the issue; and 'zooming out' contextualizes the issue" (Diezmann, 2005, p. 446-447). This three-level technique arms the supervisor with a way of reviewing student work to identify the

> learning needs of that particular student. Diezmann goes on to illustrate this approach by profiling different types of students as dependent writers, confident writers, resistant writers and sporadic writers and explaining what type of support each type of student might need.

From this information, the supervisor may adopt specific strategies to assist the student. Concerns about the ethics of writing, for example, should be considered in a meeting in which university rules on plagiarism, ethical research and copyright protection are shared and discussed, including agreeing on whether the student is prepared to jointly author papers with his/her supervisor. Problems with macro-structure can be dealt with by getting students to read examples of completed theses, or books that have developed from theses. A supervision meeting can discuss conventions in the research community for organizing an argument. Kane's (1988) book on style has an excellent guide on developing and linking paragraphs, including techniques for ensuring the flow of an argument such as repeating key words, using logical connectors, applying similar sentence patterns and setting up a master plan. To ensure students can put these ideas into practice, students can be asked to write a reflective piece explaining how an author succeeded in structuring his or her theses/book by reference to these conventions and Kane's techniques. For students who struggle with macro-structure, they can be asked to submit a side-note explaining the structure and flow of any drafts they submit further in their candidature; this can serve as a basis for diagnosing ongoing problems and suggesting work-around solutions which students can apply in subsequent drafts.

There are particular strategies for dealing with students who struggle with micro-structure, that is, clear and cogent writing style. Usually, this is because students have not developed self-editing skills. In an excellent paper, Murie (1997) offers the following advice on how supervisors can use the meeting effectively to place the student at the center of the editing process and, thereby, develop their self-editing skills:

> One of the most effective ways of putting the writer at the centre of the editing process is to work alongside him in answering questions and going over a piece of writing. For those of us who have the time to conference individually or in small groups with our students, this can be very effective. In its ideal form, conferencing allows the teacher to follow the writer and to note where his confusions and strengths lie. There are several advantages to this approach: it is easier to see where explanations might be useful and whether these explanations are making any sense; it builds rapport; if offered over time, it is an excellent way to help a writer develop stronger editing skills. (p. 66)

To extract maximum effect of these editing meetings, Murie recommends that students are given the pencil and edit their own work and, also, are encouraged to look for patterns of errors or stylistic flaws. I would go further than Murie and recommend specific editing techniques to overcome these patterns of errors. In this context, Kane's (1988) style manual is a superb resource to recommend to students, since it catalogues a range of thoughtful editing skills to invest persuasive writing with more rhythm, coherence, concision and variety. Therefore, once students identify flaws with their own writing, they can then be challenged to identify, and then apply, an editing technique from Kane's style guide that can improve the overall impact of the writing.

Spaces

The one-on-one student-supervisor meeting is often regarded as the key learning environment for doctoral students. As such, it is crucial to analyse how meetings should be effectively conducted to maximise student learning, especially when it comes to encouraging and supporting student writing. The first is to align expectations about the role writing plays in research. As McCormack (2004) observes, "successful postgraduate research has been often associated with strategies to help both students and their supervisors to clarify their expectations early in their candidature, and then to continue to check for understanding throughout their candidature" (p. 328). Numerous tick-a-box tools, such as the Role Perception Scale, have been developed to ensure this alignment. Just as McCormack (2004) argues that these tools should be adapted to include specific questions about conceptions of research, I would suggest that additional questions should be developed to identify students' attitudes to writing, for example, is writing part-and-parcel of the doctoral research or is thesis-writing the final stage once all research is conducted? Answers to such questions can provide a useful springboard for sharing with the student insights from new rhetoric theory about the integrated role of writing in generating meaning, ideas and arguments.

Gurr (2001), however, is a critic of tool-based managed supervision. Instead, he advocates a *negotiated process* model of supervision that is more responsive to the learning needs of research students. This model certainly makes more sense in light of the cognitive apprenticeship model of supervision, because it situates the students at the center of the learning experience. In addition to negotiating with the student

management issues, such as arranging meetings, preparing for and participating in meetings, responding to feedback or requests for written work and university rules on Ph.D. study, supervisor should also negotiate with their students when to submit drafts and other writing tasks and how and when feedback on these writing tasks should be shared. For example, consistently with the cognitive apprenticeship model, more regular meetings might need to be held early on in the candidature, requiring regular submission of smaller pieces of writing for prompt feedback; this can fade away to periodic submissions of completed chapter drafts. Supervisors can keep the students' written work, including their own annotated feedback on it, in their Supervisor's Portfolio so that they can reach an informed decision as to whether progress is sufficient to re-negotiate this part of the relationship.

Making writing central to the supervision experience can also be helpful in planning for timely completion. Writing need not be discursive writing about the thesis; it can also feature free-writing, mind-maps and charts to plot the direction of the research and the stages through which the student should be expected to traverse. For example, early in their candidature, students can draft a scoping report on how they intend to keep their research program manageable. While preparing their literature review, students can submit a mind-map or a reflective piece explaining some of the trend they have identified in the course of reading the available literature. If students become distracted, "lost" in peripheral reading or discouraged with their progress, students can write down their experiences a freely-written email, brainstorming ideas on how to re-organize their priorities or escape their current funk.

However, as Colban (2004), Hasrati (2005), and Malfroy (2005) point out, supervision need no be restricted to the supervision meeting. Indeed, there is a compelling need for "a broader conceptualisation of doctoral education, and in particular the importance of collaborative knowledge sharing environments and collective models of supervision" (Malfroy, 2005, p. 177) Hasrati (2005) notes that students learn just as much from informal collaborations with their peers or other academics within the faculty as they do from meeting with their supervisors. This "legitimate peripheral participation" adds a social dimension to the learning experience, a welcome addition for many students since doctoral study can often be a lonely and isolating experience. The one-on-one supervision meeting can be supplemented with electronic communities of practice (Calban, 2004). This can be through email distribution lists or password protection websites, where students can use online chat and discussion tools to share drafts and comment on each other's work. Cafferell and Barnett (2000) advocate formal course work early in the doctoral program in which students can share with their peers draft pieces of work and then engage in critical feedback and critique with one another. Cafferella and Barnett argue that this form of collaborative learning helps students develop confidence in persuasive writing and sharpens their ability to explain and defend their ideas. Even without formal course work, a supervisor with many research students can convene group meetings to encourage peer interaction and support. Alternatively, more informal writing workshops may be convened for all students in the department. Co-supervisory arrangements, or even the occasional meeting with another expert in a related area of research, can also broaden the students' support network and provide new ideas and input on the progress of their research. Finally, students can present their work-in-progress to departmental research meetings or postgraduate student conferences to enhance their skills in writing, presenting and defending their ideas.

Support

Finally, feedback is important to support student writing during the higher research degree. Feedback is one of the central components of the cognitive apprenticeship, since it is the tool by which students can diagnose shortcomings in their learning as part of their journey to competent autonomy. Consistently with the cognitive apprenticeship model, it needs to be more regular, detailed and targeted in the early stages of the candidature, focusing on the students' strengths and weaknesses so that students can prioritize tasks that will help them improve their writing. As students become more proficient, or at least empowered to diagnose themselves their own problems and identify solutions, this feedback can away to general monitoring of thesis drafts.

Cafferella and Barnett (2000) note that the literature is largely silent on how to give and receive feedback. The only consensus is that research students need and want feedback. At the same time, Cafferella and Barnett observe that feedback can be an emotional experience for students on the receiving end. As such, feedback typically needs to nurture the student, identifying the positive features of the work and providing constructive advice on how to improve areas of weakness. In a management seminar, I learn that the most effective way to give oral feedback is by way of a "feedback sandwich," that is, sandwiching critical comments within positive statements. The essential part of the feedback sandwich is to avoid contrasting connections—"but", "however", "even so", "nevertheless"—between the positive and negative comments, since recipients of feedback may take these words as a cue that the critical comments are the "real" feedback and anything else is simply "dressing." Not

only can this sustain negative emotions, it can also lead students to downplay the real strengths they bring to the research project. The feedback sandwich is an effective tool to ensure that feedback is direct and honest without crippling the confidence of students, especially in the early stages of their candidature.

Cafferlla and Barnett (2000) also report that research students can feel "frustrated" with feedback, especially if it conflicts with advice from other sources (e.g., other supervisors, their peers or from workshop/conference participants). I think there are to ways to overcome this problem. First, feedback should be carefully structured, so that the suggestions and advice connect from one feedback session to another. One of the central lessons in constructivist learning theory is that students learn as they can make increasingly sophisticated connections, thereby deepening their own understanding. In the same way, feedback is a learning tool to advance students' understanding of their own research and writing skills; therefore, feedback needs to be *connected* and *related* with previous or other feedback so that students can gain maximum learning benefit from it. Second, as Murie (1997) argues, feedback should involve the student as much as possible. Cafferella and Barnett (2000) report on an experiment where research students peer review each other's work; but a far more potent possibility is Murie's suggestions about "putting the pen in the student's hand"; that is, as far as possible encouraging the student to comment in his or her own work, which makes feedback a more student-centered learning experience and, therefore, more valuable.

Conclusion

This article has argued in favor of a model of research supervision in which writing takes pride of place in the learning process. Although there are practical and strategic reasons for getting students to "write early and often," the more important rationale is that writing is an act of meaning-making; therefore, a thesis needs to be "written through" the entire candidature, not "written up" at the end.

The article then submitted that the best pedagogical model to give effect to this model of supervision is the cognitive apprenticeship, in which students are provided with initial coaching, mentoring and scaffolding to equip them with the cognitive skills necessary for research before this fades away as the student achieves competent authority. It then developed a three-S framework to operationalize this cognitive apprenticeship, learning *strategies* to foster writing skills; learning *spaces* (including the meeting as well as other collaborative learning environments) where these strategies can be implemented; and learning *support* (or feedback) that is needed to embed in students the relevant writing skills.

A writing-centered conception of doctoral study is not without its challenges. Given the inherent messiness of writing (Cole and Knowles, 2001), the research supervision process can no longer be accepted as a logical, linear, step-by-step progression through clearly delineated stages towards the production of a doctoral thesis. But given the consensus that this has always been an idealization, if not an outright myth, about the reality of doctoral research, a writing journey might pave the way for a new way of conceiving the process by which students achieve deeper and sharper understandings of their research question.

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Psychological Comparisons of Undergraduate and Graduate College of Education Students

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This is a study of 57 graduate students and 229 undergraduate students in classes preparing them to be teachers. The survey extended over a period of five years, involving 14 classes in a college of education. Using the Personality Research Form scales to compare the psychological aspects of undergraduate and graduate college of education students, t-test results indicated that graduate students scored higher on Achievement, Harmavoidance, Understanding, and Desirability. All other comparisons were not significant using the present criteria.

Psychological Comparisons of Undergraduate and Graduate College of Education Students

This study used a psychological test, the Personality Research Form (PRF), developed by Jackson (1999), to investigate graduate and undergraduate students in classes where they were learning to be teachers. The PRF is a commonly used test in the field of psychology and it measures normal personality traits. Psychological tests in education provide information about characteristics of teachers and students (Becker, 2003; Binet & Simon, 1916; Chassel & Chassel, 1921; Frost, 1967; Kleiter, 1973; Mould, 1953; Pintner, 1921; Sapp, 2002; Thorndike & Hagen, 1961). Such information can be used to improve teaching and learning. For example, Denzine, Martin, and Cramblet (2005) encouraged those in teacher education programs to provide pre-service teachers with knowledge of personality psychology. They write that understanding one's own personality, and that of others, is relevant for teacher induction and for meeting the diverse needs of learners. There have been investigations of the characteristics of those studying to be teachers. There have been studies of undergraduate students (Evans & Waring, 2006; Schurr, Ruble, Henriksen, & Alcorn, 1989; Ward, Cunningham, & Summerlin, 1974). There have been studies of graduate students (Kreutzkampf, 1979; Roseman, 1999; Willing, Guest, & Morford, 2001). There have also been studies that examine both graduate and undergraduate students (Ayers & Brimm, 1975; Benjamins & Erdman, 1977; Davenport & Davenport, 1984; Linder & Janus, 1985; Onwuegbuzie, Slate, & Schwartz, 2001; Slobodzian, 1971).

In addition, there have been studies of graduate and undergraduate students outside teacher education programs. Researchers have examined the characteristics of graduate or undergraduate students in general without specifying a major, or they consisted of multiple college majors (Artino, & Stephens, 2009; Bateman, 1999; Baucom, Greene, 1979; Cassel, & Todd, 1974; Chatterjea, 1961; Eisenberg, Gollust, Golberstein, & Hefner, 2007; Fritz, Speth, Barbuto, & Boren, 2004; Gardner, & Barnes, 2007; Jehng, Johnson, & Anderson, 1993; Jemi-Alade, 2008; Lanier, Nicholson, & Duncan, 2001; Mau & Pope-Davis, 1993; McCaffrey, 1980; Robinson, 1989; Sapp, 1996; Scott, 1981; Wentworth, & Chell, 1997; Wilson, 2010; Woolley, 2002; Yang, 2007). There have also been studies of students in specific majors. The students were in such college majors as psychology, nursing, occupational therapy, social work, counseling, and business (Baca, 1978; Brown & DeCoster, 1991; Dodds, Reid, Conn, Elliott, & McColl, 2010; Elias, 1987; Fotheringham, 1952; Henggeler, Heitzmann, & Hanson, 1985; Kazmier, 1966; Llorens, Adams, 1978; May, 2009; Morton-Rias, Dunn, Terregrossa, Geisert, Mangione, & Ortiz, & Honigsfeld, 2007; Neimeyer, Lee, Saferstein, & Pickett, 2004; Roell, 1982; Simons, Jacobucci, & Houston, 2005; Simmons, 1998; Swanson & Wodarski, 1982; Thoermer, & Beate, 2002).

Both the studies of students in teacher education programs, and the studies of students outside teacher education programs, used different measures, and investigated different factors, than the ones used in the present study. Therefore, making it difficult to compare the results of these studies with the present study. For example, Brown & DeCoster (1991) studied nursing students and used the Myers-Briggs to study such factors as introversion and extroversion; whereas, the present study uses the Personality Research Form and studies 22 other factors, such as need to nurture, and need for control. These studies provide information on why students behave and think as they do. They provide insight into students' strengths and weaknesses. Many of these studies also provide information on preferred or better ways of learning.

According to some authors (e.g., Coffield, Moseley, Hall, & Ecclestone, 2004; Dunn, Dunn, & Price, 1984; Hawk & Shah, 2007; Honey & Mumford, 1982; Jackson, Hobman, Jimmieson, & Martin, 2008; Kolb, 1984; Myers & McCaulley, 1985; Pashler, McDaniel, Rohrer, & Bjork, 2009; Schurr, Ruble, Henriksen, & Alcorn, 1989), people have characteristics

whereby they either learn better, or prefer to learn, through certain methods and modalities (e.g., kinesthetic, auditory, visual). This preference occurs either through learned behavior or through innate neurological propensities.

The PRF can be used to help determine if graduate and undergraduate students have different characteristics in the way they learn and process material. Accordingly, this study uses the PRF to compare the two groups. The purpose of this study is to determine if graduate and undergraduate students in a college of education have preferred, or better, ways of learning. Such information can help teachers determine if the two groups should be taught differently or the same. In the context of this study, the term "teachers" shall refer to those who teach students in college. The term "students" refer to those in college who are learning to be teachers. The students are both graduate and undergraduate students.

Method

Procedure

Over a period of five years, students in 14 classes took the Personality Research Form (PRF). The PRF measures students' characteristics. The classes were part of a college of education at a public university, with about 13,000 students, in the Midwest. Three hundred and fifteen students took the inventory. Of these students, 29 did not provide complete data (e.g., missing gender, year in school); and their responses were not used in the study. Fifty-seven graduate students and 229 undergraduate students provided completed inventories. About half the students came from a major metropolitan area and the rest came from other geographic areas (e.g., suburban, rural areas). There were 113 males, and 173 females in the study; about 87% were Caucasian, 4% African-Americans, 8% Hispanics, and 1% Asian. Professors told the students that taking the PRF was voluntary, their responses would be confidential, and that whether or not they took the inventory, and whatever their responses, had no bearing on their grades and any evaluations of them. There were no students who decided not to take the inventory. Professors and the researcher told the students that taking the PRF would provide them the opportunity to understand themselves better. They were also told that the PRF would help them learn a perspective to view students, colleagues, supervisors, and people in general (i.e., view them from the perspective of the factors that comprise the PRF scales). A psychologist administered the PRF to the students during their regular class period. The psychologist returned in approximately two week to give the students their inventory results and to provide an interpretation and facilitate discussion.

Instrument

The test that was used in this study was the Personality Research Form. A brief description of the PRF scales:

Abasement: gives in to other people, accepts blame and criticism, subordinating.
Achievement: competitive, aspires to accomplish difficult tasks.
Affiliation: enjoys being with people.
Aggression: enjoys fighting and arguing, easily annoyed.
Autonomy: does not like commitments or responsibilities to people, places, or obligations.
Change: enjoys new and different experiences, dislikes routine.
Cognitive Structure: is not comfortable with ambiguity or uncertainty.
Defendence: defensive against real or imagined threats from people, does not accept criticism readily.
Dominance: likes to direct and control others.
Endurance: willing to work long and hard, does not give up easily.
Exhibition: enjoys being the center of attention.
Harmavoidance: wants to avoid harm.
Impulsivity: acting without thinking things through first.
Nurturance: willing to give sympathy and comfort, to help them, to assist.
Order: likes to have things neat and orderly.
Play: likes to have fun.
Sentience: aware of smells, sounds, sights, tastes, and the way things feel.
Social Recognition: concerned about reputation and the approval of others.
Succorance: seeks sympathy and reassurance.
Understanding: wants to understand things; has intellectual curiosity.
Desirability: tendency to present self positively and favorably.

The Personality Research Form has a long history in the area of personality assessment (Jackson, 1999). It is appropriate for those 13 years old and older, in grades 7-16, adults, and with college students. Schools, colleges, clinics, guidance centers, business, industry, career and personnel counseling, personnel selection and placement, managerial development, and research are settings and situations where it can be useful. Norms are available for adolescent and various adult populations including college students, psychiatric inpatients, and other criminal offenders. The PRF is largely based on the works of Henry Murray (1938). He and his colleagues at Harvard Psychological Clinic

attempted to provide a set of variables that would comprehensively describe personality.

The PRF internal consistency reliabilities of the PRF have ranged between .50 and .91 (median = .70), and test-retest reliabilities have ranged between .80 and .96 (median = .91). In terms of reliability values, correlations between PRF scale scores and separate ratings of trait-relevant behaviors ranged from .16 to .64 (median = .27); another study of correlations between self- and roommate-ratings on the PRF constructs ranged from .27 to .74 (median = .53) (Sigma Assessment Inc., 2005-2007).

Results

Table 1 provides summaries of the comparisons between college of education undergraduate and graduate students. Data analysis entailed the use of t-tests, as well as Cohen's *d* effect size. To correct for type I errors because of the number of t-tests, a Bonferroni correction was used (also called Fisher's method of alpha splitting; Kusuoka, & Hoffman, 2002). Results indicated graduate students scored statistical higher than undergraduate students on Achievement, Harmavoidance, Understanding, and Desirability scales. All other comparisons were not significant using the present criteria.

Discussion

It is important to remember that the results reflect undergraduate and graduate students as groups; there are individuals who do not reflect their group's profile. It should also be noted that even though the PRF purports to measure traits, this does not mean that people are not capable of exhibiting behaviors that are not characteristic of them. In education (and therapy) we assume that people are capable of learning and changing (Baltes, Reese, & Lipsett, 1980; Boud, Keogh, & Walker, 1985; Drubach, 2000; Hopson, 1981; Kandel, Schwartz, & Jessell, 2001; Kidd, 1978; Knowles, 1980; Kolb, 2000; Neville, & Bavelier, 2000; Rutter & Rutter, 1992; Sousa, 2001; Steinbach, 1993; Tennant, 1988; Tennant & Pogson, 1995; Tulving, & Craik, 2000). There is considerable neurological evidence to substantiate this assumption (Eriksson et al., 1998; Liggan, & Kay, 1999; Linden, 2006; Rakic, 2002; Rioult-Pedotti, Donoghue, & Dunaevsky, 2007; Zhao et al., 2003). Therefore, if a student has a characteristic indicted on a scale, this does not mean they are not capable of expressing or learning how to increase or decrease characteristics on the other part of the scale. For example, an individual who scores low on the Desirability scale (high scores reflect tendency to present self favorably) can increase this characteristic by learning more about their positive qualities, or by engaging in tasks that result in success – thus, possibly increasing a more positive appraisal of themselves.

A number approaches can be used to deal with the results of this study. For example, the results indicated that undergraduate students had lower Achievement and Understanding scores (reminder: high Achievement scores indicate willingness to aspire to do difficult tasks; high Understanding scores indicate a desire to obtain knowledge and understand the world around them). A teacher who wants to cater to these students' characteristics might avoid providing difficult tasks for them, and minimize explanations of what they teach. On the other hand, a teacher education program might want to increase these characteristics in their undergraduates. It is interesting to determine if there is a relationship between Achievement and Understanding with Desirability: do students have lower opinions of themselves because they do not have high levels to achieve and understand? Therefore, can Desirability scores be increased by having students achieve difficult goals and by instilling in them a desire for knowledge? To cater to graduate students' higher need to achieve and understand, a teacher might provide challenging tasks for them, and provide them with more explanations and information (compared to what they provide to undergraduate students).

If a goal of a teacher education program is to encourage bachelor level students to go on to graduate school, Heming (1984) recommended that a graduate level education be required for teaching, then undergraduates' lower Achievement needs might be increased by encouraging them to have higher aspirations. Increasing their appreciation for learning and knowledge might increase their need for Understanding. Their Desirability scores might be increased by teachers informing them that they have the ability and characteristics to continue with their education and do graduate work.

A teacher can respond in a number of ways to the characteristics indicated on Harmavoidance scale (high scores indicate willingness to take risks). The response would depend on the teacher's goals. For example, the lower Harmavoidance scores of undergraduates can be considered a desirable or undesirable characteristic. On the one hand, this implies that undergraduate students are more apt to think "outside the box," and be innovative. On the other hand, they may take risks that are ill considered or place people and programs in jeopardy. A teacher might want to caution them about taking risks, and provide information on consequences of behaviors. In terms of graduate students' responses to the Harmavoidance scale, their responses indicate that they want to be safe and not engage in risky behavior. These might be considered beneficial characteristics. On the other hand, these might be characteristics that mitigate creativity and openness to

Table 1
Comparisons (t-tests) of Graduate and Undergraduate Pre-Service Teacher Scores on the Personality Research Form

	Graduate[a]		Undergrads[b]				
PRF Scales	*Mean*	*SD*	*Mean*	*SD*	*df*	*t Stat*	*P-value*[c]
Abasement	6.68	2.89	6.72	2.59	80	-0.10	0.92
Achievement	10.89	2.87	9.90	3.14	92	2.30	0.02*
Affiliation	10.33	3.78	10.72	3.46	81	-0.70	0.49
Aggression	8.26	3.61	8.84	3.42	83	-1.10	0.28
Autonomy	5.91	3.01	6.17	3.50	97	-0.55	0.58
Change	8.51	2.74	8.57	3.19	98	-0.14	0.89
Cognitive Structure	9.70	3.01	9.22	3.46	96	1.05	0.30
Defendence	7.00	3.09	7.33	3.45	94	-0.71	0.48
Dominance	9.84	3.51	9.68	3.92	94	0.31	0.76
Endurance	10.32	2.89	9.75	3.25	94	1.30	0.20
Exhibition	7.89	4.27	8.54	4.11	84	-1.03	0.31
Harmavoidance	9.86	3.81	8.38	4.62	101	2.51	0.01*
Impulsivity	6.26	3.49	7.08	3.71	90	-1.56	0.12
Nurturance	12.14	2.55	12.06	2.92	96	0.20	0.84
Order	8.49	4.62	8.31	4.90	90	0.27	0.79
Play	9.37	3.05	9.94	3.36	93	-1.25	0.21
Sentience	9.26	3.26	9.90	3.25	86	-1.32	0.19
Social Recognition	8.96	2.69	8.46	3.54	109	1.19	0.24
Succorance	8.84	3.93	9.13	4.02	88	-0.49	0.63
Understanding	8.70	3.43	7.41	3.68	91	2.50	0.01*
Infrequency	0.25	0.51	0.33	0.68	111	-1.06	0.29
Desirability	11.81	2.49	10.79	2.72	92	2.70	0.01*

Note: t Critical two-tail = 1.98
[a]Grads, *n* = 57. [b]Undergrads *n* = 229. [c]P(T <= t) two-tail, alpha level = .05, Bonferroni correction = 0.031.

changes. If teachers want their graduate students to be more innovative and try new and different ideas that may be risky, then they may want to consider having plans to deal with reticence on the part of the students. It might be beneficial for the teacher to investigate their fears and concerns. The teacher might then teach them how to deal with their concerns.

There are many applications of the PRF. For example, Kourilsky (1996) found effective teaching related to the use of generative teaching principles, social maturity, receptivity to criticism, and to ability to incorporate criticism. Some of the PRF's scales can help provide information on these factors. The PRF's Social Recognition scale provides information on the degree to which a person is concerned about what other people think of the person, and the Autonomy scale provides information on the degree to which a person will be committed to obligations. These two scales might tap into elements of social maturity. In regard to Kourilsky's point that effective teachers should be receptive to criticism, and have the ability to incorporate criticism, the PRF's Defendence and Change scales provide information on these characteristics: the Defendence scale measures the person openness to criticism and the person's defensiveness; the Change scale measures the person's willingness to change and try new and different experiences.

There are a number of limitations and caveats concerning this study. This study found differences, as measured by personality factors. However, other factors could affect the results. For example, education might increase the factors measured in the Achievement, Understanding, Harmavoidance, and Desirability scales. Therefore, the differences found on these scales might be the function of education rather than personality characteristics. In addition, maturation might account for the differences: the mean age of the undergraduate students was 21.03 (SD = 4.16), for graduate students it was 26.16 (SD = 7.92).

The samples in this study consisted of students training to be in different fields of teaching. Therefore, the results of this study could pertain to students in teacher education programs in general. However, more relevant information might be obtained by studying students in particular areas of teaching, for example, there is evidence from PRF studies (Jackson, 1999) that there are differences in the profiles of math-science-

physics teachers and high school social science teachers. Therefore, there might be different profiles for students learning to teach the various areas of teaching (e.g., elementary school, foreign language, special education, music, physical educations).

Greater understanding of self and others has been helpful in many areas of society. The insight provided by psychological inventories such as the PRF can help teachers and students discern their characteristics. Such insight can help students understand themselves better and help teachers determine where they should modify their methods of teaching in order to better educate their students.

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Enhancing Visibility in Graduate Education: Black Women's Perceptions of Inclusive Pedagogical Practices

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Qualitative research methods were used to develop a deeper understanding of how nine Black female graduate students described and understood the pedagogical practices they perceived as enhancing their visibility in the learning environment. Framed through Ralph Ellison's concept of invisibility, a modified grounded theory analytic approach was used to capture the complexity in the data. The findings from this study provide insight to educators for enhancing student visibility in the learning environment.

Introduction

According to Gay (2004), graduate students of color have to function in an alien environment in which they are often taught by culturally insensitive and uncaring instructors. She states that "most graduate students of color exist on the periphery of the academy, and their career trajectories are not as unencumbered as many think" (Gay, 2004, p. 266). Since traditional pedagogical practices tend to be in cultural alignment with the White student experience, Gay's conclusions are not surprising. Caldwell and Stewart (2001) argue that the conflict some Blacks experience in Traditionally White Institutions (TWIs) stems "from participation in a system of formal higher education that promotes the uncritical adoption of western values and negates a Black cultural knowledge base" (p. 226). This conflict between Black culture and White environments has been at the center of educational research for over 100 years. In 1903, Dubois introduced the theory of double consciousness in this way:

> It is a peculiar sensation, this double consciousness, this sense of always looking at one's self through the eyes of others, of measuring one's soul by the tape of a world that looks on in amused contempt and pity. One ever feels his two-ness—An American, a Negro, two souls, two thoughts; two unreconciled strivings; two warring ideals in one dark body, whose dogged strength alone keeps it from being torn asunder. (pp. 194-195)

Dubois's position suggests that some Black graduate students who attend TWIs enter with the notion of a double consciousness. That is, they enter with a way of thinking, being, and existing that is grounded in their own understanding of what it means to be Black; then there is a way of thinking, being, and existing that is defined by "looking at one's self through the eyes of others [and by] measuring one's soul by the tape of a world that looks on in amused contempt and pity" (Dubois, 1903, pp. 194-195).

In theory, some Black graduate students must continuously negotiate the tension between being true to themselves and/or conforming to traditional pedagogical practices which require they become objective, apolitical, and unemotional intellectual beings (Tuitt, 2003). They end up being trapped in a cage, as Dubois might say—so preoccupied with trying to escape both death and isolation, they are unable to fully use their best powers—unable to become the true geniuses they are. For example, Caldwell and Stewart (2001) argue that Black students who enter TWIs searching for validation, seeking approval, or expecting appreciation are setting themselves up for an internal conflict because "the campus climate, curriculum, and organizational structures were never intended to be inclusive" (p. 233). This internal conflict can have serious consequences for the academic success of Black graduate students.

In response to this dilemma, this study draws on the lived experiences of nine Black women to explore how educators can create classroom environments in which Black graduate students cease to carry the burden of double consciousness and attain visibility. Visibility is especially important for Black graduate students who, according to Gay (2004), need to focus on the power and politics of professional services, to live and learn in the academy without losing their cultural self.

Understanding the Concept of Invisibility

The concept of invisibility/visibility has been applied to the experiences of Black high school students (Carter, 2005) and Native American undergraduate students (Brayboy, 2004) in a variety of educational settings. In the current study, the concept of invisibility (Brayboy, 2004; Ellison, 1980; Franklin, 1999) was used to explore the lived experiences of nine Black female graduate students in a TWI. Ellison's (1980) concept of invisibility suggests that the conflict some Black graduate students experience in TWIs may involve the inability (refusal) of professors (officers) to recognize the humanity of students who are attempting

to master the highly technical skills of researcher, scholar, educator, and/or teacher as a dignified way of serving their community (country) while improving their economic status. According to Franklin (1999), invisibility is a psychological experience in which an individual may feel his or her personal identity and ability are undermined by prejudice and racism. Specifically, Franklin defines invisibility as an inner conflict causing individuals to question whether their talents, abilities, personalities, and worth are under-valued or unrecognized.

In an effort to understand Black graduate students' internal struggle for personal identity, occurring as a result of negative cross-racial encounters, Franklin (1999) proposes an invisibility syndrome paradigm consisting of seven dynamic elements. These seven elements occur as a result of racial slights or cumulative encounters with prejudice and racism. They are as follows:

1. One feels a lack of recognition or acknowledgement.
2. One feels there is no satisfaction or gratification from the encounter (it's painful and injurious).
3. One feels self-doubt about her or his legitimacy, asking such questions as: "Am I in the right place?" or "Should I be here?"
4. One feels no validation from the experience, asking: "Am I a person of worth?" or seeking some form of corroboration of experiences from another person.
5. One feels disrespected.
6. One's sense of dignity is compromised and challenged.
7. One's basic identity is shaken, if not uprooted.

(Franklin, 1999)

Overall, Franklin's invisibility syndrome paradigm suggests that the conditions contributing to feelings of invisibility may occur in situations where Black graduate students perceive that their professors make judgments about them based on skin color, and ultimately fail to accurately see their students' *real* talents, abilities, and personalities. Reversing Franklin's model of invisibility, we can identify pedagogical practices that produce learning experiences in which Black students feel: (1) recognition and validation, (2) satisfaction and gratification from the encounter, (3) a genuine sense of belonging where their presence is legitimized, (4) validation, (5) feelings of respect, (6) dignity, and (7) supportive identity development. Taken together, Ellison's (1980) and Franklin's (1999) conceptualization of invisibility provides a theoretical foundation for understanding the pedagogical practices that enhance Black graduate students' visibility in the learning environment.

Methods

In this study, qualitative research methods were used to develop a deeper understanding of how Black graduate students describe and understand the pedagogical practices they perceive as enhancing their visibility.

Participants

The participants in this study consisted of nine Black women (See Appendix A) at a highly selective, predominantly White, Ivy League graduate school of education (ILGSE) in the Northeast. In the years prior to this study, ILGSE experienced significant growth in the racial diversity of its student population where students of color increased from 10% to 33% of the student body. In an effort to ensure that students were reflecting on current class experiences, participation was restricted to Black graduate students enrolled in classes at the time of the study. Consequently, advanced doctoral students were not eligible to participate.

Data Collection

The data presented in this manuscript emerged from an analysis of three rounds of in-depth, semi-structured (45-60 minute), individual interviews during the spring 2000 and fall 2000 semesters. The purpose of the individual interviews was to gather data on participants' description and understanding of how the pedagogical experience enhanced their visibility in the classroom. The first interview solicited background information and gathered the participants' initial impressions of the academic environment at ILGSE. In the second interview, participants were invited to describe, in detail, aspects of their pedagogical experience at the ILGSE. The third interview served as a follow-up to determine if their impressions regarding their classes had changed over the course of the semester, and allowed participants to review and respond to the transcripts of the previous interviews; a method designed to crosscheck or "triangulate" their accounts (Merriam, 1998).

Data Analysis

Using a modified grounded theory (Corbin & Strauss, 1998) analytic approach, a set of procedures to capture the complexity in the data was followed to identify themes as they emerged and to make theoretical connections to existing research when possible. After conducting each interview, the researcher wrote analytic memos to synthesize the reading of the data (Rallis & Rossman, 1998). These memos provided a chronicle of the development of

interpretations and theoretical connections, and at the same time a mechanism to examine and re-examine any assumptions (Nakkula & Ravitch, 1998). In addition, to strengthen the trustworthiness of the research findings, the researcher: (a) followed participants over time as their classroom experiences fluctuated, (b) conducted multiple readings of the transcripts from the individual interviews to maintain the authenticity of the students' voices, (c) scrutinized analytic memos to insure identified themes were grounded in the data, and (d) used "member checks" (Maxwell, 1996), allowing participants to review and respond to their individual transcripts after each interview session (Merriam, 1998).

Limitations

The exploration of best pedagogical practices for enhancing visibility is a complex phenomenon that cannot be fully studied in one research project involving nine participants, and this article does not pretend to capture the full essence of the experiences of Black students in PWI classrooms. Moreover, since the ILGSE in question is an elite private university, the findings in this study should be weighed with this particular context in mind. Another institutional setting, different in size, geographical location, and/or selectivity, may provide additional considerations and understandings of the phenomenon. Finally, all the participants in this study self-identified as Black, providing an indication that this racial affiliation was highly important to them. Since prior research suggests that the extent to which an individual identifies with a racial group matters, this research does not claim to represent the experiences of all Black female graduate students, nor does it pertain to Black students for whom race does not matter (Ellemers, Spears, & Doosje, 1997).

Discussion of Findings

In this section, the pedagogical practices identified by the study participants as most effective to enhance their visibility are discussed. Visibility is understood as the extent to which the teaching and learning process creates opportunities for students to be seen for who they really are and allow them to be fully present—physically, culturally, intellectually, and emotionally—in the classroom (hooks, 1994). Three types of visibility emerged from the study as effective pedagogical practices:

1. Seeing students as complete human beings. This type of visibility speaks to how faculty-student relationships, in and out of the classroom, help students become visible in the eyes of the professor.
2. Making students visible to each other. This type of visibility centers on how the pedagogical process facilitates students becoming visible to each other in the learning environment.
3. Being a visible and whole professor. This type of visibility focuses on the role a professor's visibility plays in empowering students to attain visibility for themselves, the professor, and each other.

In theory, these three dimensions are crucial for the success of Black graduate students because enhanced visibility allows them to overcome the perception that their participation in the learning process is negatively biased by race.

Seeing Students as Complete Human Beings

The findings from this study suggest that some Black female graduate students view dialogical professor-student interactions (Freire, 2008) and personalized professor-student relationships (Baker, 1998) as two features of the learning process that may deeply enhance their learning and result in faculty members seeing students as fully human. A key component of the dialogical professor-student interaction is that instructors, through the use of generative questions, activate student voices (Darder, 1996; Nagda, 2003). This allows students to become visible participants in the learning process and adds substance to their existence in the learning environment (Tuitt, 2003). Summer captures this dynamic with her explanation that she learns best when she feels "you really want to connect with me while you're teaching, everyday we meet" (Tuitt, 2003, p. 93).

In order for the professor-student interaction to be most effective, faculty members must engage students in a respectful manner. In this dialogical process, professors push students to go further in their analyses and thoughts by combining challenge with support. Candy characterizes this type of experience in this manner:

> You are really listening to what I said and not just kind of nodding and trying to wait until the end of the sentence so you can call on the next student. And more importantly . . . well maybe not more importantly, but *as* importantly, you find a loophole or something in what I said . . . So there's a respect thing and you were really paying attention to what I said because you analyzed it and you thought about it. And you found a

> weakness in it, and you were pushing me on it. (Tuitt, 2003, p. 203)

This type of respectful engagement allows students to develop their own ideas without having their dignity and humanity compromised. Maintaining dignity and humanity is extremely important because some Black graduate students—weary of participating in an intimidating learning process—look for signs of encouragement from their professors to know that their voices are welcome (Tuitt, 2003). Sometimes a simple nod or physical reaction by the professor can serve as an invitation for students to join the learning process. By engaging students in meaningful and authentic ways, professors can create relationships that move students from the margins to the center of the learning process, and enable them to feel visible because they are recognized, acknowledged and validated.

Another aspect of professor-student relationships identified as important to enhancing student visibility is the opportunity to establish personal connections with their professors who go beyond the call of duty to support students in their academic and professional development. Makaya's experience represents one example in which a professor goes the extra mile to support her. She states:

> She was just like, "Makaya, bring me everything that you have written since you've been at [ILGSE]," and she read everything. And then at the end she's like, "You're an excellent writer; you just need to write like this." And she picked my best writing. I was working full-time, and it was a lot of stress, but she told me, "just write like you wrote in your pro-seminar, and you'll be fine." So, she took the extra time. Not only did she critique me, but it was healing and loving. (Tuitt, 2003, p. 95)

When Makaya's professor requested her previous writings, read them all, and provided feedback, she let Makaya know her growth and development as a doctoral student was a priority to her. Makaya was fortunate to obtain personalized attention from her professor, who could have directed Makaya to the writing center or passed her off to a teaching assistant. By providing the extra time and attention and getting to know this student and her work, the professor was able to give specific advice about Makaya's academic development. Makaya's experience reinforces the notion that professors should get to know their students at a personal level to give them the best academic and professional advice and increase their sense of visibility.

Similar to Makaya's experience, Sydnee found that having personalized relationships with her professors to be reassuring. She comments:

> I felt the connection that I had with my professors; they knew how hard I was working, and they knew my background, and they knew how hard I wanted it. So that helped me, and when I went to tell them I'm working on this paper it's not coming for me they knew me. That way they could help me, and I feel like had I not had a connection with them, and they didn't know where I was coming from, they wouldn't have been able to help me at all. (Tuitt, 2003, p. 108)

Sydnee's statement is a reminder that when professors take the time to engage in out-of-class interactions that are personal in nature, they can acquire a better sense of their students' needs and interests and allow their students to experience greater visibility by knowing they are not alone in the learning process.

Finally, some students may seek a more personal and intimate relationship with their professors because it reduces the race-related anxiety they may associate with participating in the learning environment (Tuitt, 2008). In theory, this personalized attention allows students to trust that their professors' assessment of them is based on authentic knowledge about who they are, and not solely on the color of their skin. Personalized professor-student relationships make it much harder for students to be invisible or opt out of the learning process. However, in order for these relationships to be effective, professors need to be available and approachable. Students in this study identify replies to emails, phone calls, and invitations to professors' homes as indicating a willingness to interact. These out-of-class activities also signal that they are visible to their professors.

Helping Students Become Visible to Each Other

In addition to personalized professor-student relationships, the Black female graduate students in this study prefer a structured, yet flexible, transparent, and inclusive learning process. When professors make their expectations for the learning process explicit, students are able to frame and structure their participation. Furthermore, through the transparency of goals, objectives, and overall intended outcomes of a course, professors can provide students with an understanding of what to expect. For example, in regard to transparency and structure, Penny states:

> For me, it helps me plan, guide my own learning. So even though I'm taking classes that I'm not particularly psyched about, I know what I can get out of them based on the promise of the class in the syllabus. So I might not be extremely excited about X, but I know within X there's going to be one, two, and three that's going to be helpful to me. I

> know when I can relax a little bit in terms of workload. I'm able to gauge that better. (Tuitt, 2003, p. 121)

When the learning process is transparent and structured, professors enable students to determine the kind of presence or visibility they can and want to have in the learning environment. The ability to gauge one's presence in the learning environment is important for students who may be weary of participating in hostile or unwelcoming classrooms.

In addition to a learning environment that is transparent and structured, the students in this study value an inclusive learning process in which professors make a concerted effort to engage all students, letting them know their participation is welcome and desired. Students need to know they are not alone to fend for themselves in the classroom. In an effort to stay attentive to how students are experiencing the learning process, some professors establish ground rules and design process-checks into their courses to reflect on classroom dynamics. When professors are attentive to the needs and experiences of students in the learning process, students are able to acquire a sense of safety.

Rocky comments on the value of classroom environments in which ground rules are created by the professor and students (Tuitt, 2003, p. 124):

> If there has been a sense that people have been respecting each others' voices, that would influence [my participation], if I feel like I'm going to be attacked I will not speak. If I felt that there's genuinely been consistency in respecting others' opinions, then I'll speak. (Tuitt, 2003, p. 125)

Like Rocky, other students in this study believe they are less likely to be personally attacked if the learning process facilitates building a sense of community with clear ground rules for how students engage each other.

One possible explanation for why the students in the study value a transparent, structured, and inclusive learning process is that clear expectation facilitates each student's integration into the learning environment; a sense of stability and support is established that comes from generally knowing what is expected. It also allows students to know professors are attentive to their experiences, and that establishing ground rules will guide how students engage each other in the classroom.

Another way students are encouraged to move from the margins of the learning environment and attain visibility is through use of multiple modes of instruction (Tuitt, 2003). Students in this study indicate that they value different approaches to presenting information, such as visual aids or methods of instruction that are interdisciplinary in nature. Shaharizod describes one of her favorite professors in this manner:

> He was very interdisciplinary in his approach. For example, in one of the classes he came in and we listened to Charley Parker and we looked at a piece of Picasso's picture. And first, we talked about the music, like what did we hear, and then we looked at the picture, and then we made some comparisons between the two. And then we did this writing activity, and he made comparisons between all three activities. And then he was able to make a connection with that and building partnerships. So I thought it was really powerful that he got engaged kinetically. He used music and he used art, and then brought us to the very practical in terms of policy . . . in terms of politics. So he was very interdisciplinary in his approach, and I thought that was very effective. (Tuitt, 2003, p. 128.)

By using multiple modes of instruction, like art, poetry, and music, professors can create multiple points of entry through which students can comprehend a concept or subject. Multiple modes of instruction are often part of larger theoretical frameworks enabling students to bring different aspects of their identity into the learning environment (Bruner, 1996).

In situations where professors align their instruction to draw upon personal experiences, students are empowered to make internal connections to a particular subject and/or concept (Sealey-Ruiz, 2007). At the same time, discussing the experience helps students share a part of who they are with other students. Consequently, the use of personal narratives as a pedagogical tool can increase Black graduate students' visibility in the learning environment.

Class discussion also positions students at the center of the learning process (Tuitt, 2003). Several of the students report higher levels of engagement in the learning process when taught by professors skilled at facilitating class discussions. For example, Penny notes "it's important for the professor to be a good facilitator of discussion (Tuitt, 2003, p. 34). Likewise, Candy emphasizes that classroom discussion helps her engage in the class:

> Some classes no one's really talking, nobody really cares, just watching the clock for [when] this hour and a half will be over with. And then others you know that the dialogue is actually an integral part of the learning process. You want to be a part of that, and you want to contribute. (Tuitt, 2003, p. 135)

When professors are competent at facilitating classroom discussion, they create a learning process that allows

students to dialogue with their peers under their direction and care (Giroux and McLaren, 1996). In the successful facilitation of classroom discussions, professors assume the role of dialogue conductor, skillfully blending student voices as if they are musical instruments. In an ideal situation, student voices may blend, reverberate, or stand alone, allowing the spotlight to illuminate one student on center stage. By activating student voices in classroom discussions, professors create yet another vehicle through which students can attain visibility.

Smaller class sizes and opportunities for small group interaction are two other pedagogical practices and learning conditions students report as increasing their classroom participation. In smaller classrooms, it is harder for students to hide or withdraw from the learning environment and easier to engage with their peers and the professor. Makaya contends that large classes don't work for her. She states:

> Sometimes I don't know enough about the students to know how much I can share. I've been burned in the past where people have taken what I say the wrong way. And when you're in such a big space you don't have enough time to reflect back with people. And so I tend not to speak much in the bigger classes because of that specific issue. And maybe it's just a little uncomfortable because you don't know exactly what you're dealing with, and people that don't share you don't know what's going on so it's just awkward for me. In the smaller classes I have a more intimate relationship with other students, an understanding what they're about. And it's easier to share and you get more access to the professor in a lot of ways. The distribution of attention is better. (Tuitt, 2003, p. 137)

When students have the opportunity to get to know each other, they have a better understanding of who they are interacting with in the learning process. This understanding of peer group interaction can make self-disclosure easier.

If creating smaller classes is not possible, another option is to create discussion sections that meet in or out of class, so students can engage each other more directly. Rocky finds it particularly helpful when her professor divides the class into small groups. Moreover, she appreciates her professor making a conscious effort to check in with each of the groups. Specifically, she favors:

> Breaking into small groups, but not just breaking the students into the groups and letting us discuss, but making rounds to each group. And this professor would actually sit in the groups and actively be an observer for a while, but also participate in those discussions. So that's a little different, because some professors that I've had will break the students into small groups, but don't necessarily get involved with us. (Tuitt, 2003, p. 140)

Rocky's comment highlights the importance of professors being visible to their students by interacting in their small groups as well. In smaller settings, students are encouraged to engage their peers in a collaborative learning process and make visible and meaningful connections with each other.

Creative assignments are another way in which professors can shrink large classes and increase student visibility. For example, Penny found a creative writing exercise helpful to establish her voice and develop a sense of focus in her work; the exercise forced her to think and write down how she wanted to focus the content and design of her research, and connect her research interest to the literature, and to the various frameworks she was expected to apply. She notes:

> The exercises—just the assignments—were about thinking and forcing you to articulate your theories etc. . . . that was very engaging to me. I wanted to do my own work in a structured way. I was sort of creating the content and putting it into a structure that I could get feedback on. That was so helpful. . . . It was just easier to engage because it was important to me. So, the exercise was helpful because then it helped me communicate it to other people. (Tuitt, 2003, pp. 142-143)

While Penny appreciates the opportunity to use creative writing to establish her voice, other students find that creative assignments are also a good way to force them to communicate with classmates. For example, Sydnee feels that some of her professor's assignments help her engage in the class and communicate with her peers. She states:

> We did a lot of group activities. It was the only class that I shared my paper. . . . We wrote up what we found. We shared with the rest of the class, which was something that I had wanted [to do] the entire time because . . . if you can just hear what somebody else found then it may help you a little bit. (Tuitt, 2003, p. 143-144)

Creative assignments help some students engage in the learning process and communicate more directly with their peers, while others find this intimidating. Makaya explains that one of her favorite professors made her get up in front of the class and present when she didn't want to:

> That was interesting because [professor] saw value in something that I did and I didn't necessarily see the value that she saw. So I presented. And it was interesting because of the feedback [where] several people told me how important it was to hear my presentation. This class was the most challenging for me, but the professor asked me to speak, to help her [create] dialogue and I did. And it was very hard for me to do that in this particular class, but I did it. And it was really liberating. (Tuitt, 2003, p. 144)

Makaya's words serve as a reminder that when professors are thoughtful, creative, and compassionate with the assignments they choose, they can help students overcome some of their fears and feelings of isolation, and help them find their voice.

Overall, when professors use creative assignments, students are encouraged to collaborate with their peers in the co-construction of knowledge. Creative assignments can also result in individuals taking center stage during class presentations, reinforcing the notion that students are vital and central components of the learning process. This can also create important opportunities for students to become visible to each other.

The various pedagogical practices and learning conditions described in this section help to position students at the center of the learning process and increase their chances for visibility. When professors create opportunities for students to engage with each other, they are able to get to know their classmates in real and meaningful ways. There is a better chance to create conditions that alleviate Black graduate students' concerns about being judged by the color of their skin in classes with high levels of student engagement, because their peers have a better sense of who they are as individuals. However, to increase student visibility in the learning process, professors must be willing to share power, demystify their image as all-powerful or all-knowing, and be fully present in the classroom.

Visible Professors Produce Visible Students

The findings in this study support previous research indicating that some students have racially-based perceptions and expectations of their professors (Steele, 1999). To counter the negative impact that perceptions like these can have on student participation in the learning environment, professors need to do a better job of giving students a sense of who they are as faculty and how their identity impacts the way they teach (Tuitt, 2003). Professors who are politically and racially conscious are more attractive to students in this study due to the clarity they provide regarding their values, beliefs, and norms. For example, Stacy describes one of her professors in the following way:

> He is sincere, fairly transparent, committed, and action-oriented. He states what he's interested in doing, and he uses the first person in his writings, his academic journal articles. He doesn't hide behind words; he doesn't hide behind theories, and other people's words. He makes it clear that he has an investment in making change. He has political clarity, which you can see through the lines of the syllabus, and directly [in] the articles he chooses and how he arranges it and the categories. And he identifies strongly as being a Black person, and with Black and Latino people. He's proving it with action. (Tuitt, 2003, p. 181)

When students can detect the political ideology of their professors, they can make informed judgments about how they want to engage in the learning environment.

Some students find it helpful to know if their own views and perspectives are aligned with those of their professor; knowing where the faculty member stands allows students to determine the amount of risk that may be associated with interjecting opposing views. In other words, if students sense a professor is open to diverse perspectives, they may be more inclined to take risks. Additionally, when professors are conscious of their own racial identity, students are able to understand how this identity impacts their research interests and teaching approaches. In theory, racial consciousness allows professors to signal their awareness and sensitivity of racial identity to their students.

Another way professors can increase students' visibility occurs through the use of diverse content and perspectives. For some students, the mere fact that professors included race-related content in their courses suggested they care enough about the subject to require their students to read and discuss it. Using diverse content and perspectives also lets students know their perspectives are welcome, especially if the content aligns with students' interests. Stacy describes her experience with diverse course content and how it helps her find her voice in the classroom. She argues:

> The political orientation of the professor is reflected in their readings on the course syllabus. So if I see that they have readings that reflect marginal political beliefs, then I feel comfortable expressing those beliefs in my paper or in class. And if my professors' syllabus actually reflect a majority people of color, then that shows that they're centering on people of color, and that they actually value what people of color have to say. And perhaps even value it over the dominant perspectives. So for me that's very important, and because that's my sensibility, I'm more comfortable in the classroom. (Tuitt, 2003, p. 196)

As with racial consciousness, the content of a class can give students insight into their professors' political orientation (Castenel & Pinar, 1993). When professors make their ideological and political orientations visible in the learning environment, they act as role models for how students can attain their own visibility.

Feedback is another vehicle that can help students enhance their visibility in the learning environment. For example, Colette has a professor who lets her know he is paying attention to her development by commenting on her work. She states:

> He makes a point to say "This relates to your subject [Colette]." He knew that without me having gone into his office hours or presenting it to the class. So [it's] the recognition of really knowing what each person in the class is doing, the recognition of our interpersonal strength. He's never said to me you're not doing good in this class because you don't speak. He says you have a really strong writing style, I'm glad you're using your voice. And you're good at using passion to get across a point. So he recognizes those kinds of things. (Tuitt, 2003, p. 213)

This professor makes it clear that he is commenting on Colette's work and not simply giving what Sydnee and Shaharizod refer to as "Black feedback," that is, feedback based in racial misperceptions. More importantly, this professor's feedback focuses on Colette's academic development and lets *her* know—as well as those around her—that she is doing good work. Even though Colette did not participate a great deal in class, the professor manages to make her visible through his feedback.

Feedback also allows students to get a sense of how their professors view them. Many students in this study claim that feedback is an effective mechanism to let them know that their professors are aware of their presence. For example, Penny appreciates the extensive amount of feedback she receives in one of her favorite classes. She says:

> I felt like I got a lot of feedback from the professor, good, positive feedback. I feel like the issues we engaged in were important to my development, and sort of in what I want to do later in life. I felt very much like a teacher's pet in his classroom, very much . . . so maybe that correlates to why it was such a good class for me. But, I felt like I got a lot of attention and a lot of feedback in the class, and outside of the class. (Tuitt, 2003, p. 191)

Penny receives a lot of this feedback through written comments and in meetings outside of class. This feedback allows her to assess how her professor views her. Overall, students appear to value feedback from their professors because it provides a foundation for their participation in the learning environment and lets them know that their professors care about their academic and professional development.

In summary, the student voices in this study indicate that professors can increase their Black graduate students' visibility by:

1. Engaging them in an interactive dialogical professor-student relationship in the classroom;
2. Establishing personalized faculty-student relationships outside of the classroom;
3. Designing learning processes that are transparent, explicit, structured but flexible, and inclusive;
4. Being conscious, transparent, self-actualized, and humanistic in their teaching;
5. Being aware and sensitive to their students' diverse backgrounds;
6. Maintaining high standards and providing clear, direct, and timely feedback;
7. Including diverse content in their instruction to give students a sense of what subjects are valid.

Although these pedagogical practices and learning conditions provide some direction as to how increased visibility—where professors see their students, students see each other, and students see their professors—can strengthen the learning experience for Black graduate students, professors must keep in mind that not all visibility is received openly.

Conclusion and Implications for Practice

Professors' attempts to increase student visibility can further alienate students in classrooms where they have grown accustomed to being invisible. Ultimately, professors need to be thoughtful in their efforts to make students visible in the learning environment. Colette characterizes her reactions to one professor's attempt to create visibility for her as mixed. She states:

> It's a compliment, because it feels like they're seeing something in me, but it's a lot more pressure for me to perform in a setting [that] I'm not very comfortable in. And then in my other class I think one of my professors just started seeing me. I was embarrassed because it really hit home to me how much he's been waiting for me to say something. It was just a slight hand raise. I wasn't even sure if it was a formulated thought yet. I thought well I'll raise my hand now, and these six other people will get asked before me. And he just jumped right on.

> So, I was nervous, and I was a little embarrassed like I said. But then again I felt good that he even knew me. I felt good that he had been waiting for me to talk. Even though that's a lot more pressure on me now to say something. I felt, at least he knew that I was there. (Tuitt, 2003, p. 217)

Colette's experience of being noticed by her professors generates a sense of pressure and at the same time a sense of validation. The pressure comes from feeling she has to perform at the highest level because the spotlight is on her; the sense of validation comes from the awareness that her professor recognizes her and wants her to participate in the learning process. Sometimes how a professor recognizes a student makes all the difference.

Colette's experiences with exposure are symbolic of a type of visibility that Ellison (1980) discusses in *The Invisible Man*. In reference to "high visibility," Ellison writes:

> While the darker brother was clearly "checked and balanced"—and kept far more checked than balanced—he glowed nevertheless, within the American consciousness with such intensity that most Whites feigned moral blindness toward his predicament. Thus despite the bland assertions of sociologists, "high visibility" actually rendered one un-visible. (Ellison, 1980, p. xv)

Ellison's conception of high visibility—what I call *hyper-visibility*—suggests that efforts to create exposure for students can lead to more invisibility if it leaves the students to interpret the intervention as racially motivated. When Black graduate students believe their professors view them in stereotypical ways, some may attempt to seek refuge by disengaging from the learning environment, hoping not to be seen, noticed, or detected. For some, disengaging provides an alternative to participating in an alienating learning process that does not feel safe. Sometimes being invisible can have its advantages, especially when students feel there is no satisfaction to be gained from engaging in the learning process.

Like the main character in Ellison's *Invisible Man*, some Black graduate students may find solace from being invisible:

> I am not complaining, nor am I protesting either. It is sometimes advantageous to be unseen, although it is most often rather wearing on the nerves. Then too, you're constantly being bumped against by those of poor vision. Or again, you often doubt if you really exist. You wonder whether you aren't simply a phantom in other people's minds. (Ellison, 1980, p. 3-4)

Whether it's finding solace in the familiarity of being invisible in the classroom or choosing invisibility as a coping strategy to avoid hostile interactions, some Black graduate students find refuge in being left alone:

> I've definitely learned to be invisible in a classroom, and that's very comfortable. And I'm like "don't talk to me." Let me just come into the room, check out when I want to check out, and of course I will do the assignments, but it's become very comfortable to be invisible. (Tuitt, 2003, p. 119)

Despite the perceived benefits that some of the participants feel they acquire by being invisible, the voices inside this ILGSE propose that students learn best when they are actively involved and visible in the learning process. These findings suggest that professors can improve the educational experience of Black graduate students by using pedagogical practices that enhance their students' visibility in the learning process. Specifically, seeing students as complete individuals, making students visible to each other, and being visible and whole professors are three types of visibility that are essential for facilitating Black graduate students' successful integration into the learning environment.

In conclusion, the pedagogical practices identified in this article provide some strategies for consideration. It is important to note that inclusive pedagogical practices benefit all students and faculty alike, including those from dominant cultures (Salazar, Norton, & Tuitt, 2010).Tatum (2003) states, "We cannot be blamed for learning what we were taught. Yet as adults, we have a responsibility to try to identify and interrupt the cycle of oppression. . . . We have a responsibility to seek out more accurate information and to adjust our behavior accordingly" (p. 141). Faculty members have to be intentional and strategic about identifying and incorporating pedagogical practices that promote inclusive learning experiences. In order for these interventions to work, professors need to develop teaching and learning strategies based on their knowledge and understanding of their own strengths and limitations as well as the unique backgrounds of their students. By aligning their instruction to account for the unique cultural needs their students bring to the learning environment, professors will be able to enhance their students' and their own visibility, and as a result, empower their students to become the true geniuses they are.

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Appendix A
Demographic Profile of Participants in this Study

	Name	Gender	Degree Sought	Year in Program
1	Candy	Female	Ed.D	1
2	Colette	Female	Ed.M	1
3	Makaya	Female	Ed.D	2
4	Penny	Female	Ed.D	1
5	Rocky	Female	Ed.D	1
6	Shaharizod	Female	Ed.M	1
7	Stacy	Female	Ed.D	1
8	Sydnee	Female	Ed.M	1
9	Summer	Female	Ed.M	1

The nine participants presented in this article are represented by pseudonyms as shown in the above table. These nine students are a subset of a group of 12 Black graduate students who participated in a dissertation study (Tuitt, 2003). Of the 12 participants in the dissertation study, nine were female and three were male. The proportion of females and males in this dissertation study was consistent with the gender demographics of the ILGSE, which was approximately 70% female and 30% male. All of the students attended PWIs for their undergraduate degrees. Overall, the selection of participants was based on their degree status, year in the program, and courses they had in common.

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Learning Assistants Program: Faculty Development for Conceptual Change

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The purpose of this study was to investigate the effects of a student-centered faculty development model on the conceptions of teaching of participating US Arts and Sciences faculty members. "Student-centered learning models are widely accepted as catalysts for improved learning and psychosocial outcomes, and their use is especially important in the critical early years of an undergraduate education" (Miller, Groccia, & Miller, 2001, p. xv). In 2007-2008, Widener University implemented a pilot program to investigate student-assisted teaching, an instructional process where undergraduates are given responsibility by faculty for portions of their fellow undergraduates' learning experience. This Learning Assistant Program (LAP) investigated a faculty development model that could improve educational effectiveness by increasing student involvement in course design, student learning, and pedagogy. In this study, two faculty collaborated with three student learning assistants (LAs), under the direction of two pedagogy coaches to redesign courses and monitor progress of those courses during one semester. Findings from this qualitative study indicate increased satisfaction of faculty with their course designs, accompanied by increased knowledge about course design strategies and pedagogical teaching methodologies; a broadening of both the faculty and LA conceptions about teaching and learning; and the development of an academic collaborative culture. The success of this program has initiated a LAP in the University's School of Human Service Professions and another iteration was implemented at a local community college..

Traditionally, teaching in a higher education classroom has been a private, teacher-directed process with little input from other academic colleagues or students. Changing student populations, emerging technological teaching tools, and increasing emphasis on assessment and accountability are some of the issues that have triggered an interest in reflecting on this conventional solitary approach to teaching. Shulman points to the need to shift the "status of teaching from private to community property" (1993, p. 6) and one way that institutions of higher education have responded to this call is through the use of student- assisted teaching models. The purpose of this study was to investigate the effects of a student-centered faculty development model on participating US Arts and Sciences faculty members' conceptions of teaching.

Many different models for using student voice in the design and implementation of coursework exist in the literature and each has a variety of goals and outcomes. The University of Colorado has been successful in designing a program to entice science majors into the teaching profession by having selected learning assistants "support and sustain course transformation" (Otero, Finklestein, McCray, & Pollock, 2006, p. 445) while improving their own pedagogical content knowledge. The Pennsylvania State University uses within-class student consultation teams to identify and examine issues brought forth by both faculty and students (Kinland, Lenze, Moore, & Spence, 2001).

> At Bryn Mawr and Haverford Colleges, Students as Learners and Teachers (SaLT) meet with faculty members to find out which pedagogical issues [they] want to focus on, visit faculty members' courses and/or interview students in the courses, engage in dialogue with faculty members about what they see and hear, and participate in weekly reflective meetings with other student consultants and the Teaching and Learning Initiative coordinator. (Cook-Sather, 2008, p. 1)

At Brigham Young University in the Students Consulting on Teaching (SCOT) program, faculty can opt to use student consultants in a variety of roles, from an observer who chronicles what is going on in the classroom during a given class period to a faux student who takes notes as if he/she is a student in the class and returns them to the instructor (Brigham Young University Faculty Center, n.d.). Over the past 20 years, Miami University has utilized faculty learning communities, adding student associates several years ago as they realized that "students provide feedback: as observers, as consultants on teaching projects, and as consultants about student life outside of the classroom" (Cox, 2001, p. 168).

These initiatives point to a shift in the academy where faculty focus on students as learners rather than solely on their own teaching. Barr and Tagg (1995) use the phrase "Teaching to Learning Paradigm Shift" to refer to the shift that occurs when faculty adjust to new constructs and strategies for active learning and student-centered practices. The Teaching Paradigm describes a teacher who focuses on the act of teaching. The Learning Paradigm describes instruction that

focuses on the student and what the student is learning. Barr and Tagg (1995) contend that, as faculty become more focused on active learning and students, they make a shift in their teaching practice from a teaching focus to a learning focus. This type of shift in practice requires faculty to rethink their roles, course design strategies, and teaching practices (Arreola, Aleamoni, & Theall, 2001; Weimer, 2003).

> This shift involves thinking a great deal, first, about the specific learnings sought, and the evidence of such learnings, before thinking about what we, as the teachers, will do or provide in teaching and learning activities . . . the challenge is to focus on the desired learnings from which appropriate teaching will logically follow. . . . In short, the best designs derive backwards from the learnings sought. (Wiggins & McTighe, 2005, p. 14)

However, a shift in paradigm is a very difficult thing to achieve, requiring both a change in teaching conception as well as practice. According to Boyer (1990), Ph.D. preparation in the US requires highly specialized subject-matter mastery with little emphasis on developing one's conceptions about or ability to teach. Though teaching is embraced by the intellectual community of some professional fields, Neumann (2001) notes that in hard pure, hard applied, soft pure, and soft applied disciplines, teaching has come to be viewed as something "that you lay on top of your real work, unconnected with the disciplinary community at the heart of being an academic" (p. 144). "It is not surprising, then, that many professors consider themselves subject experts and scholars rather than teachers or even teacher-scholars within their discipline" (Saroyan et al., 2004, p. 16).

Ho, Watkins, and Kelly (2001) describe how faculty develop personal teaching conceptions from long years of classroom experience as students and subsequently teachers. These conceptions can be seen as the specific meaning that is ascribed to one's experience of teaching (Light & Calkins, 2008). Our conceptions then mediate our response to all situations/phenomena that involve teaching (Kember and Kwan, 2000). These entrenched conceptions impact the selection of teaching approaches and as such, have become the focus of a body of work that categorizes teaching conceptions along a continuum, in a hierarchy, or according to their potential for variation (Akerlind, 2003). No matter the categorization scheme, the literature points to a teacher-centered/content-oriented conception where the focus is on imparting information and transmitting structured knowledge or a student-centered/learning-oriented conception where the focus is on facilitating understanding and the conceptual change and intellectual development of students (Akerlind, 2003; Kemper & Kwan, 2000; Light & Calkins, 2008; McKenzie, 2002, Prosser & Trigwell, 1999).

Though there is literature that describes what course design *should* look like, there is no equivalent body of literature that documents how faculty actually design their coursework. Most often, they design courses based on the structure of the discipline where the course is framed according to a logical division of topics; the structure is typically not related to student interest, learning style, or everyday life (Toohey, 1999). In the list of topics approach, "the teacher looks at the subject, creates a list of eight to twelve topics on it, and then proceeds to work up lectures on each topic" (Fink, 2003, p. 61). In a recent qualitative, phenomenographic study examining exactly how faculty approach course design and implementation, Ziegenfuss (2007) found that the most common method of course design is trial and error. This traditional academic training in content without accompanying pedagogical/course design preparation, and faculty dissatisfaction with the classroom results of such practices, became the basis for the Learning Assistants Program (LAP) at Widener University. The results of the pilot program suggest that a sustained consultation model using both student voice and pedagogical expertise could lead to the conceptual change necessary for a paradigm shift in higher education.

Evolution of the Learning Assistant Program

The LAP was conceived to redress the lack of faculty members' pedagogical preparation in course design and implementation within this tradition of student-assisted teaching models. Over the past few years, Widener University has been investigating ways to incorporate faculty development into its institutional structure. A new office of faculty development was set up in 2005 and a series of informal teaching and learning conversations began in an effort to design this office as one that draws from the needs and ideas of faculty. This venue provided an interdisciplinary opportunity for faculty to talk publicly about issues related to their teaching practice. Four faculty members (English, Chemistry, Education, and the Director of the newly formed office of faculty development) began a dialog about looking at student perspectives as related to teaching and learning and the classroom experience. Further networking with members of an inter- institutional Teaching and Learning Center Consortium supported by the NSF-funded Math and Science Partnership of Greater Philadelphia (MSPGP) transposed this casual conversation about alternative perspectives regarding student learning into a multidisciplinary research project.

Methodology

Since the purpose of this research was to build a deeper comprehension of a student-centered faculty development approach where faculty worked together with students to design and implement instruction, a qualitative research approach was deemed to be the most appropriate methodology for providing the most detailed picture of this process. This research study used a grounded theory qualitative methodology (Strauss & Corbin, 1996) where data in the form of interviews, focus groups and journals from the LAP participants were analyzed line by line, identifying emerging codes and categories. Conceptions about teaching and learning and course design were collected from both faculty and undergraduate student learning assistants. This research provides faculty developers with a research-based case on which to design and develop professional development opportunities for faculty/student collaboration and informs the literature that already exists on course design strategies and the importance of student-centered methods (Fink, 2003; Saroyan et al., 2004; Toohey, 1999; Weimer, 2002).

Course Design Workshops

The research began in August 2007, when an intake survey was distributed to all LAP participants and the results were compiled as a starting point for two summer workshops. The intake survey included items that asked participants to list the five most important keys to effective teaching/ learning, and describe the characteristics of a teacher who facilitates student learning. Faculty were asked to list two questions that they would like to ask students about learning. Students were asked to list two questions that they would like to ask faculty about teaching. The learning objectives for these two sessions included analysis of various conceptions on teaching and learning drawn from the intake survey; understanding the individual roles of each of the participants and how these roles intersect; and understanding the characteristics of viable learning objectives and associated assessment tasks as related to the concept of backward design (Fink, 2003; Wiggins & McTighe, 2005). With this data from the intake survey, the pedagogy coaches designed two workshops for the disciplinary faculty and the LAs to begin the process of redesigning their courses using the L. Dee Fink model of creating significant learning environments (2003) and the ideas inherent in backward design (Wiggins & McTighe, 2005).

Course Implementation Plans

In the two sections of composition, each with its own learning assistant, the focus was on engaging students in their own learning and facilitating critical thinking. The learning assistants were asked to observe classes biweekly, each time noting different things: for example, range of student participation, group work activities, oral report presentations, understanding essay assignments. After each classroom observation the LAs would write a report and meet with the instructor to discuss the results. The chemistry learning assistant attended weekly recitation sections which were facilitated by the instructor using Process Oriented Guided Inquiry Learning (POGIL). In the class, the LA observed process and content mastery by sitting near a group to watch and listen using a set of prompts developed jointly by the instructor and the LA. Outside of the classroom, she reviewed test questions for their congruence with the stated course objectives and the assessment map. The objectives and map had been created jointly by the instructor and the learning assistant during development of the syllabus, using the Ideas, Connections, and Extensions (ICE) taxonomy (Fostaty, Young, & Wilson, 2000).

This project was intended to provide data that would answer the following research questions:

- What are the benefits and challenges of implementing a learning assistant program where faculty and students engage in collaborative work related to teaching and learning and course design?
- What are the conceptions of faculty and students about teaching and learning while participating in a learning assistants program?
- What is the value of interdisciplinary faculty working together to design courses and be involved in a learning assistants program?
- How could this program be adapted for other faculty in other disciplines?

Study Participants

This research is a case study based on the experiences of two faculty from different disciplines (Chemistry and English). These two faculty worked with three undergraduate students to redesign and then implement their courses. Two pedagogy coaches, a faculty from Education and the Director of the faculty development center, worked together to plan and facilitate the six-month process and study. Both participating faculty were tenure-track faculty in their respective departments and each was interested in incorporating a student perspective into their course design process. Both participating faculty had worked previously with the faculty development center and willingly volunteered for this study.

Data Collection and Analysis

Data collection in this study focused on documenting conceptions about teaching and learning and course design from three different constituents: faculty, learning assistants, and enrolled students. Data focused on faculty reflections and discussions about their unfolding experience, student learning assistant conceptions about their role in the design and implementation of a teaching plan, and the attitudes of students enrolled in these three sections of two freshman courses. However, for the purpose of this pilot case study, only LA and faculty data are utilized to report the findings. Data collected from students enrolled in the courses of LAP faculty were for the primary purpose of future course improvement, and were used to triangulate the faculty and LA data, but were not used as a primary data source for the study.

Data were collected and analyzed during three phases of the study: a pre-semester phase where faculty and learning assistants participated in course design workshops and worked together to design two courses; a course implementation phase where data were collected to monitor the progress of the course and the learning assistant program collaboration; and a post course phase where post-experience reflective data were collected about the LAP experience. This study utilized a formative data collection and analysis strategy; that is, data were collected and analyzed across the entire study and findings informed questions used in future interviews and prompts for journal reflection.

In each phase of the study, the data were transcribed into a digital format and were analyzed line by line. Audio taped meetings and discussions were transcribed line by line and electronic meeting notes and reflections were also incorporated verbatim. Coding was conducted using open coding methods as defined in grounded theory methodology where codes are freely assigned to text and are not selected from a predetermined list of codes. Codes were then consolidated, combined and in some cases renamed to create the smallest number of unique categories. In each phase of the study, codes and categories were defined that were used to inform the next phase of the study. Codes and categories were defined separately for the faculty and learning assistant data sets, looking for similarities and differences between the two groups. Notice was also taken of continued occurrence of categories across the phases of the study.

Pre-semester Course Design Workshop Data Collection

The pre-semester formative data from both faculty and learning assistants were used for the planning of the pre-semester workshops and to provide a baseline for discussions about teaching and course design. Faculty and learning assistants completed a pre-experience intake survey about teaching and learning conceptions and participated in pre-semester course design workshops. This survey also provided data about their expectations for exploring the possibilities of faculty- student classroom collaboration and course design. Faculty and learning assistants also reflected in journals and discussions about the course design experience as they worked on redesigning the ENG 101 and CHEM101 courses.

Course Implementation Data Collection

Throughout the course of the semester, the pedagogy coaches met with the faculty bi-weekly. Those conversations were tape-recorded and transcribed and analyzed using qualitative methodologies. Faculty and learning assistants also periodically used journals to log observations and conceptions about the course experience across the semester, and meeting notes between each faculty member and their LA(s) were collected**.** Learning assistants also documented reflections and observations from the classroom experience across the semester. These were also analyzed using qualitative methodologies. All students enrolled in the two sections of CHEM 101 (one section with a LA; one section without LA) and two sections of ENG 101 were invited to participate in the study by completing a pre-, mid-, and post-semester questionnaire. Students were presented with a consent form that explained the program, provided them an opportunity to opt out of participating and made clear that these questionnaires were not part of the course grading system. The questions asked in the questionnaire were focused on content and the course experience, not on the LAP. Although the instruments for both courses were similar, there were content specific questions that differed.

End of Semester Data Collection and Analysis

At the end of the semester, faculty were interviewed as a group and learning assistants were interviewed individually. A final wrap-up interview for the faculty/student teams was also held at the beginning of the following semester. These interviews were tape- recorded and transcribed, then analyzed using qualitative methodologies. Questions used during these final interviews were developed from the themes that emerged across the implementation phase of the research project.

Results

This study uncovered themes, challenges, and opportunities that can be utilized by other researchers interested in designing and implementing student

learning assistant programs or programs utilizing faculty and student collaborations. The faculty and learning assistants both presented rich descriptions of their LAP experience from which several themes emerged., including the following: *expanded conceptions, interdisciplinary connections, the course design and the teaching process, developing confidence as a designer and a learner, and collaborative benefits*. All of the themes were evident in all three phases of the study except for *interdisciplinary connections* which was more evident in the pre-course workshop data and reflection than during the rest of the study. The themes *interdisciplinary connections, expanded conceptions, the course design and teaching process, collaborative benefits, and developing confidence as a designer* were themes that emerged from the faculty data. *Expanded conceptions, the course design and teaching process, and developing confidence as a learner* were themes that emerged from the learning assistant data. Two specific themes emerged from the data that were particularly important to both participant groups as a result of this process: *expanded conceptions and developing confidence;* however, each group reported on and focused on different aspects of these themes. Each group was reflecting and viewing the processes through different lenses, and each came to the process and left the process with different conceptions and take-away lessons.

Expanded Conceptions

The first theme, *expanded conceptions*, resulted from a variety of codes that accompanied both faculty and learning assistants' increased knowledge about course design strategies and pedagogical teaching methodologies. Both groups reported on a broadening of conceptions about teaching and learning, and the faculty especially reported an increased awareness of new course design strategies that they felt were making a difference in their course and classroom.

The most prominent finding from the faculty perspective was *expanded conceptions*, the opportunity to view the classroom, students, and course design through a different lens via the learning assistants. Codes that fell in the category of expanded conceptions such as *developing an awareness, a revelation, new perspectives, from the student view, seeing the light, and making assumptions* emerged from the faculty data as they described how they made assumptions about student learning and did not realize how misaligned their assumptions were until they discussed issues with the LAs and saw issues from a different perspective. The learning assistants provided insights about student learning that faculty found to be helpful and productive and they used what they learned to improve their course design and teaching strategies. One faculty stated. "I am more aware of the students' views as I prepare for class or write assignments. I feel like I'm taking their side of things into consideration more frequently and this makes me a better teacher." One faculty member related a discussion she had with the learning assistant about the wording of a course objective. She adjusted the wording and meaning of the objective based on the feedback of the LA and felt it completely changed how her students reacted in the classroom. This faculty discussed how she never would have thought of making that change on her own but how she did it based on new ideas and discussions with the LA. One faculty spoke about how students in the course could relate concerns and issues to the learning assistant that they would not normally discuss with her, and how the learning assistant acted as a liaison, and provided advice and insights that the faculty member had not considered before. She stated,

> [T]here were a lot of eye openers for me about how prepared students were and what their expectations were . . . as sympathetic as I thought I was toward freshman, remembering my own freshman experience and how hard it was to learn. . . . I still wasn't really in tune with what I needed to know to be effective and to help them through this really hard transition.

These *expanded conceptions* evident in the data did not just relate to the expanded conceptions of the faculty about teaching and learning topics; the faculty also reflected on how they felt redesigning their courses and working with the LAs impacted their students' conceptions about the classroom. One faculty member stated, "The students seem more engaged, more invested in the process of learning, and feel freer in expressing their opinions and desires." Both faculty and LAs discussed how the classroom climate changed and communication was more comfortable and open.

For the faculty, the category of *expanded conceptions* also included codes related to "being out of their comfort zone." Faculty spoke about how it was "scary" to share their courses and open themselves up to others for tasks which were traditionally done alone. They talked about how they worried about how this would all work out. These codes were found in all three phases of the study. Codes such as *uncomfortable, outside comfort zone,* and *vulnerable* were evidence that faculty were willing to expand and try strategies they had not attempted before.

The theme of *expanded conceptions* about teaching and learning was also a prominent category for the learning assistants throughout the study. However, their conception changes focused on revelations about the work and role of the professor. As the LAs were helping faculty expand their conceptions about student-centered teaching and learning and make connections with students, the faculty were helping the LAs expand their conceptions about what a teacher is and what it is really like to plan and implement instruction. Although only

as a possible career at the beginning of the study, all three LAs reflected on the possibility of teaching as a career in their reflections at the end of the study. Codes such as *developing respect, new awareness of teacher role, teaching is difficult, hard work, rewarding, planning and prep, and value of teaching* came under the category of *expanded conceptions* for the learning assistants. Each LA spoke about how they had not realized teaching "was so much work." They related experiences of the awareness they developed as they observed the professor and student interactions and how they respected the professors they were working with because of their dedication to teaching. The learning assistants developed a more comprehensive view of teaching. One LA stated,

> I always thought that teaching was teachers giving students knowledge . . . there's actually a lot more to it than that. You have to decide what needs to be in the program, what works, and what doesn't. You have to figure out ways of assessing students to make sure that they know what they need to . . . So the thing that I really learned is that the idea of learning how to teach is learning how people learn.

The LAs also discussed how this new-found knowledge and experience about teaching helped them think about learning in their other courses. They expanded and applied what they were doing in the LA program to improve their learning in other classes. One student said, "It's really interesting that way because before you never thought about it, but now it's kind of like wow, from being on the inside it is actually helping me learn better in my other classes." Another LA said,

> It's kind of interesting because [in another class] we do problem-based learning. Today I actually had a meeting with my professor because I didn't feel that my group was holding its weight. And we discussed strategies to get them to be more active in their own learning. And I think that might correlate to my perspectives from this project; I wouldn't have done that before.

One student said, "Every course should have a learning assistant and share ideas." Another student said, "All students should have to be a learning assistant" so that they can gain a better understanding about how much work faculty put into preparing to teach. Learning assistants could not only see how their conceptions about teaching and learning had changed, but they also showed evidence that they were applying their new knowledge and confidence in other teaching and learning situations.

Developing Confidence as a Learner and Teacher

Beyond *expanding conceptions*, the second most prominent category of codes for both faculty and learning assistants was the theme of *developing confidence as a learner and teacher*. While the faculty related experiences and examples of how they had grown as both a learner and a teacher during the LA program, learning assistants described ways that participating in this program impacted their learning in other courses and academic situations. The common factor in each group as they talked about what they had learned and done during this program was *confidence*. They related examples of their new-found confidence, and how they could now take charge of their own learning experiences in other courses and situations. Faculty provided examples of their confidence and their new abilities and knowledge about designing courses. Codes from this *confidence* category included *empowerment, confidence, critical evaluation, comfort level, it's working, and visual differences*. Faculty reflected on their program activities and provided examples of what was working for them and why. They discussed increased confidence in the classroom and how focusing on course design helped them to focus on objectives and what was important and how that made it easier to be "transparent" with their students. One faculty member stated,

> Before I only had 2 objectives and they were not very clear . . . previously I conceived of the ENG101 classes as moving students from moment to moment rather than a journey . . . now I feel I know where the journey is headed and the roadmap is in place.

Another faculty spoke about "now having the tools" to help students be successful in the classroom. In addition to feeling well equipped to help students in the classroom, professors also discussed having confidence as learners and feeling that this experience provided support for working together and sharing experiences. What was described as scary in the beginning became more comfortable and logical. One faculty discussed how she was confident enough to share her expertise with her department and one of the faculty, after the study, went on to spearhead a learning assistant program in her own college.

Learning assistants also discussed their confidence in learning. One student stated, "it helped me figure out by sitting there, not as a student and doing it, but being there as an observer and having to watch her and see how effective certain things are." Another student said,

> From my point of view it's actually helped me to be able to go to my different professors and kind of, in a nice way, say, this isn't really working for me . . . is there a different way that we can go about this?

Students discussed how they felt that they had learned about teaching and learning best by "being behind the scenes" and "observing." They felt confident enough about their new knowledge and experiences that they readily applied it to other learning situations.

Interdisciplinary Connections

The next theme, *interdisciplinary connections*, was a theme that only emerged in the faculty data. This theme, prominent in the first phase of the study, the pre-course workshop phase, was later merged with the theme of *collaborative benefits* as the study progressed. In the first phase of the study, as the faculty/learning assistant teams participated in a joint workshop, the obvious differences in the two disciplines of Chemistry and English were very visible and apparent to the participants. As the semester progressed, the disciplinary differences became less important. In fact faculty spent more time discussing similarities than differences. However this theme is important in the beginning stages of the program because it provided the context for establishing course design components and direction.

In the introductory exercises of the course design workshops, each faculty member thought about the overarching goals of their courses. To the surprise of the participating faculty/learning assistant teams, the goals were the same even though the courses (ENG 101 and CHEM 101) were very different. Each faculty member separately listed developing critical thinking skills as a major goal. Although Chemistry and English are very different types of courses, both faculty discussed the importance of teaching "process" (writing process vs. problem solving process). This revelation established common ground for discussion and set the tone for collaboration in later phases of the research. So even though this theme was limited to the first phase of the study and only emerged in the faculty data, it is an important study finding because it established the common ground shared between the participating faculty at the start of the project and set up for future collaboration. The realization of common goals and objectives opened up discussion on other areas such as student profiles, teaching strategies, and departmental overlap. Codes related to this theme of *interdisciplinary connections* were: *revelation, sharing, collaboration, common ground,* and *focus on process*. One faculty member stated, "to think about my students also taking your class was a real revelation to me."

Collaborative Benefits

This theme, *collaborative benefits*, emerged during study from the *interdisciplinary connection* theme that was established early in the study. As the study progressed, the discussions went beyond just interdisciplinary connections and focused on more general collaboration themes and codes. It is not surprising that this theme emerged considering that this study is a case analysis for engaging Arts and Sciences faculty in talking about course design in an interdisciplinary venue; however, the relationships established and the intricacies of collaboration discussed went beyond the expectations of the project planners. Traditionally at this US institution, designing courses is a solitary process and a secondary purpose of this study was to test an interdisciplinary and more public approach to course design that could be used for faculty development opportunities at this particular institution. This pilot study did create a venue for discussions on these topics and served as a beginning for several other campus projects. This theme of related codes was uncovered in both faculty and LA data and included codes such as *mentoring, relationships, variation, outcome differences, distinct styles, and different approaches*. *Interdisciplinary connections*, previously a theme, became a code under this new theme during the implementation phase of this research project.

Codes for this theme which emerged from the faculty data were split between faculty to faculty collaboration and faculty and learning assistant interaction. Faculty discussed the importance of sharing experiences and learning about teaching strategies from other disciplines. One faculty stated, "The best part for me was the Chemistry-English collaboration precisely because it opened my mind up to the fact that there were different ways of teaching things." The faculty also discussed the benefits and value in collaborating with students and how this new perspective provided new opportunities for connecting to students.

The learning assistant data codes focused mainly on mentoring and relationship type codes as the Las described their relationships with their participating faculty. The LAs saw these relationships as a major benefit of participating in the LAP pilot. All three students discussed how participating as a learning assistant broadened and deepened the relationship they had with the faculty member. The work each learning assistant did was customized to the needs of the professor, and the LA and faculty member worked together as a team to address student learning issues. One LA described this relationship as, "a window of opportunity for me where I can go to her and I basically could talk to her about anything." However, there was little interaction among the individual LAs, a deficit observed during the study and something that will need to be investigated in future studies. Even though the LAs were also interdisciplinary, there was not a connection or collaboration as observed and reported on by the faculty participants.

The Course Design and Teaching Process

Codes related to this theme, *the course design and teaching process*, emerged from both the faculty and

the learning assistant data. Although the codes from the faculty data focused mostly on the course design process and the learning assistant codes focused mostly on the teaching process, codes were very similar across the two groups. Some of the codes identified for this theme included: *importance of objectives, planning, organization, transparency, engagement, road map, and hard work*. Data for both the teaching process and the course design process were associated with these codes. Traditionally in the US, faculty have not in the past received adequate development in the area of course design and the focus on development has been in the area of teaching strategies and techniques. In this program, the pre-semester course design workshops exposed faculty and learning assistants to new perspectives about planning instruction and the importance of designing and implementing course objectives. The faculty participating in the study were not familiar with the course design model used in the pre-course workshops, and they were very interested and receptive to the model. By far, the largest numbers of codes under this theme were related to objective writing and making those objectives transparent for students.

Results from this qualitative study also indicate increased satisfaction of faculty with their course designs using the new course design model. One faculty who was asked to reflect on the most valuable experience from the LA pilot program said, "The biggest difference has been in the unearthing and putting up front of the learning objectives." The learning assistant perspective on the importance of course design planning discussed the relevance of this concept to her past experience as a student,

> I liked the fact that we did the objectives . . . I think if the professor had written the objectives [in courses I had in the past] it might have been a little bit easier for me to understand why she did certain things she did."

Both faculty and learning assistants felt that making the course map available and course objectives more transparent improved the classroom experience. One faculty discussed her past experience when she said,

> I know that when I crafted my syllabus, I knew what I wanted to do in class. . . . I was aware of what I wanted to happen or what things were required for a smooth class; but I never shared them with the students...I just thought they knew too. Now I am . . . trying to be more transparent about my objectives.

In addition to the focus on clear and transparent objectives in the faculty data, learning assistants focused more on the perceived difficulty of the teaching process. Learning assistants voiced concern about the amount of time good teaching preparation takes and they discussed how the LAP pilot experience changed their perspectives about the responsibilities inherent in teaching and learning. The discussions and collaborative experiences of the two groups of participants broadened the scope of discussion about the teaching and course design processes.

Recommendations

Findings from this study have served as pilot data for designing, conducting, and implementing other student learning assistant programs at the institution under study. Both faculty who participated in this research project have applied the course design and teaching strategies they learned in this experience to other courses that they teach. Along with assistance from the learning assistants they learned a new course re-design model, practiced writing course objectives, and designed weekly classroom activities. All of these activities are easily adaptable to other academic classroom situations. This project also set up a model of interdisciplinary collaboration that can be, and has been, replicated in other areas of the institution. This interdisciplinary collaboration and subsequent discussions provided a richer perspective on teaching/learning experience and provided a venue at the institution under study for conversations about the challenges of teaching and learning issues.

During the pilot program year, presentations about this program were made to other faculty and colleges about the program and a presentation was also conducted at a regional teaching and learning conference. Both faculty and learning assistants expressed a variety of lessons learned from this experience and made recommendations for improving the program. These lessons have become especially important now that this program has been picked up by one of Widener University's Schools (the School of Human Service Professions) as a program for 2009-2010 and funded in an expanded form by the College of Arts and Sciences. Some of the important recommendations include:

- That the program also include a component where students pose as students in a class (student on the inside taking notes and sitting with students) rather than as an observer, in order to uncover more detailed information about student learning. One student stated, "I think that there is still a bit of a barrier between me and the students when I am there . . .and I think sometimes they curb the way they act...I think it would be even more effective if it's possible . . . if you get a student to be able to pose as a student in the class and you could probably get even more effective notes."

- That more time be spent on workshops for developing skills in course design and teaching and learning. Faculty participants would like to see more formal instruction about redesigning/designing courses. In this case funding sources would need to be identified for holding workshops or seminars before the semester started.
- That this program be extended to include more disciplines so that collaboration and sharing of strategies and resources could be richer and more comprehensive. This extension is currently underway in two of Widener's colleges.

Summary

Although the theme categories that emerged from the faculty and learning assistant data in this study have been defined separately here, it is really not possible to isolate the themes; they overlap and they are tightly integrated with each other. Of all of the themes presented, *expanded conceptions* was the most prevalent theme that emerged from both the faculty and learning assistant data. This qualitative study has highlighted the benefits of using learning assistants and pedagogy coaches to improve faculty understanding of course design strategies and pedagogical teaching methodologies. It has also shown that an LAP can expand both the faculty and LA conceptions about teaching and learning. In addition, the LAP has facilitated the development of an academic collaborative culture at the institution under study.

Because this study was built on a collaborative model of professional development, it brought together representatives that span alternative views of curriculum and course design, pedagogical methods, and disciplinary content and their concomitant inquiry processes. The collaboration provided a clear picture of the differences between and among the participants' views of disciplinary knowledge and pedagogy. The most salient feature of the collaboration, however, was that although the disciplinary knowledge was very different between the various courses, instructors, and LAs, there were many more similarities. The ultimate goal that emerged from working with both disciplines is the common directive to help students learn how to use multiple modes of inquiry in any context or discipline. In other words, this case study provides evidence that the paramount and cross-disciplinary goal of critical thinking can be accomplished (and improved) through faculty-student collaboration across the entire span of a course.

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Sounds for Study: Speech and Language Therapy Students' Use and Perception of Exercise Podcasts for Phonetics

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Currently little is known about how students use podcasts of exercise material (as opposed to lecture material), and whether they perceive such podcasts to be beneficial. This study aimed to assess how exercise podcasts for phonetics are used and perceived by second year speech and language therapy students. Eleven podcasts of graded phonetics exercises were produced and made available to the 36 students in the cohort, who then took part in two voluntary surveys. Surveys were completed by 26 and 30 students respectively. Responses show that students tend to listen to the podcasts on a computer at home, rather than on an mp3 player when on the move. Many students also listen to the podcasts with family and friends. Students report that they found the exercise podcasts very useful for their learning. They liked the ability to repeat the recordings many times and felt that there was improvement in their confidence in transcription and in their test scores due to using them. For this subject they would prefer exercise podcasts to recordings of lectures.

As part of their training, students of speech and language therapy must become expert phoneticians and learn how to transcribe. Phonetic transcription involves capturing the sounds of speech in written form using the International Phonetic Alphabet (IPA). As phonetic transcriptions of disordered speech will often form the basis of decisions about diagnosis and treatment for clients, a high level of competence and accuracy in this area is desirable. Indeed, the United Kingdom Health Professions Council Standards of Proficiency (2007) indicate that Speech and Language Therapists must be able to "analyse clients' abilities and needs using, where appropriate, phonetic transcription" (p. 9); however, the challenges facing the novice transcriber are considerable. These challenges are partly due to the composite nature of phonetics training. Students must master aspects of knowledge (how sounds are produced, what their acoustic properties are, how sounds contribute to meaning in languages) and skills (how to produce, perceive and symbolize a wide variety of English, non-English and clinical sounds) and transfer these to clinical practice.

In addition, students may find it difficult to practice and revise for phonetics. For most students, phonetics will be an entirely new area of study. Even if it has been addressed at A-level, or when learning another language, the phonetics training for speech and language therapy is considerably more advanced. As phonetics is not an area with which most non-specialists are familiar, it is usually not possible for students to get guidance from friends or family, and therefore specialist teachers are needed. Due to the inherent difficulty of the subject and to a lack of general knowledge about speech, phonetics is often considered to be a difficult and challenging subject.

One of the ways in which phonetics teaching and learning can be enhanced, and some difficulties with the subject overcome, is through the use of technology. Phoneticians frequently make use of technology in the classroom (e.g., Ashby, Figueroa-Clark, Seo, & Yanagisawa, 2005), through virtual learning environments (VLEs), and in terms of online, freely available tutorials and exercises (e.g., the SIPhTra project). Podcasting is one of the newest forms of technology to be widely used for learning and teaching (e.g., Panday, 2009, p. 251; Sandars, 2009). This technology allows media to be provided to students via the Internet and optionally downloaded to mp3 players. Educational podcasting has increased in popularity over the last few years; it is the subject of a long-term investigation by the IMPALA project, which culminated in the first textbook about the technology by Salmon and Edirsingha (2008).

Podcasting for the teaching and learning of phonetics is attractive because it may help to overcome many of the difficulties students face with the subject. It allows students to practice transcription in a safe environment, which may help them surmount the notion that phonetics is a difficult subject. Being audio-based, podcasts are a welcome alternative to solely paper-based exercises, as students can work on data similar to that provided in class or in the clinic. Finally, phoneticians are well placed to make podcasts, as they are already experts in recording and working with speech. Thus, the quality of the recordings should be greater than those made by the "sound amateurs" described by Educase (2005). For all these reasons, it seems that podcasting is a tool that should be considered as an option for training students in phonetics.

Choice of Exercise Based Podcasts

For this study a series of podcasts was designed for second year undergraduate students of speech and language therapy. These students have studied introductory phonetics and phonology in their first year.

In their second year they extend their knowledge and skills to cover the vast majority of sounds that can be produced by the human vocal tract, and to begin to think about clinical uses of phonetics. The year culminates with the phonetics viva, which is the final official assessment of phonetics in the degree course. Because there are only 40 contact hours throughout the year, it is imperative that students are directed towards resources that allow them to practice their skills in their self-study time.

Each podcast recorded for this study contained exercise material aligned with the students' current levels of knowledge and skill. The majority of podcasts in an educational context consist of either the dissemination of practical information and news (Harris & Park, 2008, p. 548) or recordings of lectures (Sandars, 2009, p. 387), which can be used for revision or review. Despite the preponderance of lecture material in educational podcasts, Laing and Wooton (2007) advise new podcasters: "don't just record a lecture, unless you have a strong educational reason for doing so" (p. 8). This advice seems particularly appropriate for the current context, as the pedagogical rationale (Edirisingha, Salmon, & Nie, 2008, p. 155) is to develop competency in transcription skills.

Models of skills development (e.g., Dreyfus & Dreyfus, 1980, and subsequent works) suggest that students can progress from novice to practitioner by experiential learning (e.g., Kolb, 1984). By engaging with numerous examples and situations in which the skill is used, students begin to perceive more aspects of each situation, and subsequently choose which aspect to focus on and how to act (Dreyfus, 2004). The real challenge for learning phonetic transcription skills, therefore, is to practice what has been learned in class with new material. Therefore, because the aim here is to develop competence in a *skill*, a podcast of the lecture will not extend students' abilities in the same way as a podcast of new exercise material at a similar level of difficulty.

Another advantage of *exercise* podcasts may be to introduce a level of interactivity not found when lecture material alone is presented. Shantikumar (2008) notes that, although (traditional, lecture-based) podcasts have many advantages over other technology assisted learning methods, there is some loss of the interactive element (p. 4). Similarly, the report by Educase (2005) suggests that podcasts are "not designed for two-way interaction or audience participation." In addition, Pastore (2008) indicates that the main downfall of (lecture-based) podcasts for students is the lack of an interactive element with the tutor (p. 59). It is hoped that a podcast of exercises, rather than a repetition of lecture material, may go some way towards introducing a more interactive element to podcasts.

Whilst podcasting is a new and exciting technology, it is, as always, important to ensure that this initiative is of real benefit to students. As Sandars (2009) states, "evaluation of what works, and most importantly what does not work, is an essential for the further development of podcasts in medical education" (p. 389). In addition, "production of such tools is labour intensive, so to deem them worthwhile it is important to assess their impact on the target audience" (Shantikumar, 2008, p. 3). All new educational initiatives need thorough evaluation, including evaluations of student use and perceptions, which were utilized in this study.

The present study is novel as the podcasts are exercise- rather than lecture-based, and because podcasts were produced and evaluated for phonetics for the first time. The research aims were to determine how students used podcasts of exercise material for phonetics, and to investigate if students perceived such podcasts to be beneficial for their learning. Below the results of surveys about students' usage and perceptions of the podcasts are presented.

Method

Participants

Two surveys were completed by students in the second year of an undergraduate Speech and Language Therapy degree at a metropolitan university in the United Kingdom. Students had covered introductory phonetics and phonology in their first year, along with modules in linguistics, psychology and social and professional studies. In their second year they begin to consider clinical aspects of phonetics and phonology, completing modules covering speech disorders, developmental psychology, and language processing. The same cohort took part in both surveys. The cohort consisted of 36 students, of whom 26 took part in the first survey and 30 in the second survey as described below. Participants were all female (broadly reflecting the gender balance in the department and the profession), and aged between 19 and 45. Ethical clearance was gained from the university, and anonymity was insured by various electronic methods of data collection.

Measures

Both surveys contained a number of Lickert-type statements. The first survey, at the end of the autumn term contained 12 questions. It was released via the VLE, and, in addition to quantitative feedback, qualitative comments were also solicited. The survey was optional for students, but 26 out of 36 responded. Based on the responses to the first survey and lecturer

reflections on the podcasts, a number of follow-up questions were derived which formed the basis for the second survey. This second survey contained 11 questions and was conducted at the end of the spring term. It was delivered in class, immediately after the standard teaching evaluation for the module, using Public Response System handsets. Hence, for the second survey, only quantitative feedback was gathered. 30 out of 36 students were present in class on the day of the survey. All students were issued with a handset, but told that they did not have to respond to any questions that they did not want to. For all questions in the second survey between 27 and 30 students responded.

Procedures

Eleven podcasts consisting of exercises in phonetic transcription were recorded over the two teaching terms in the 2008/9 academic year, and students were surveyed about their usage of and feelings about the podcasts. Podcasts were released every normal teaching week (that is when there wasn't an in-class assessment, reading week, or guest speaker), as Edirisingha et al. (2008) suggest that regular issue of podcasts will encourage students to use them (p. 163). The podcasts were released on the VLE (Blackboard) and also via iTunes and Google Reader. A .pdf file of model answers was made available at the same time as each podcast to assist students in comparing their answers to a model and reflecting on the differences and similarities between the two.

The podcasts were audio only, rather than audiovisual. Audiovisual podcasts are becoming more popular, and have been used, for example to teach software use (Mount & Chambers, 2008). However, they were not used in this study for two reasons, one theoretical and one practical. The theoretical reason relates to the use of visual information for transcription. Whilst visual information can be used to help ascertain place of articulation and lip rounding, it is also desirable to be able to transcribe fine acoustic distinctions solely with auditory information. There is also, as yet, no experimental evidence that transcriptions made with visual information differ in accuracy or reliability to those made only with audio information. Practically, not all mp3 players can play video, especially of sufficiently high quality to be useful in such an exercise. Also, when in the clinic, students and practitioners will often need to be able to transcribe while also doing several other activities (such as managing assessment materials), so transcription from audio alone is desirable, especially as therapists will only rarely be able to video clients for later transcription.

Each podcast was around four to five minutes long. Evidence suggests that students can fail to pay attention once duration reaches around 10-15 minutes (Edirisingha et al., 2008, p.164; Sandars, 2009, p. 388), and Chan and Lee (2005) indicate that most students would prefer to listen for around 9-10 minutes (p. 66). As students were expected to engage with the materials and play sections several times in order to make their transcriptions, the total duration of work required for each podcast was around 10 minutes.

Podcasts were designed to be aligned with learning outcomes, the current stage of student learning, and upcoming assessments. In this way they were graded, as suggested by Edirisingha et al. (2009, p. 163) and became gradually more challenging over the course of the year. They included a number of different exercises like those used in class, such as substitutions performed in English words, nonsense word transcription, English phonemic transcription and intonation analysis. Thus, the podcasts were designed to allow students to practice a wide range of the transcription and listening skills needed for university assessments and clinical practice.

Results and Discussion

Survey 1

Full details of questions and responses for Survey 1 are shown in Table 1. When questioned at the end of the autumn term 69% of the 26 students who responded had listened to all four available podcasts, and the other respondents had listened either to 3 (12%), 2 (8%) or 1 (12%). This result indicates that answers to the remainder of the survey questions are based on the experience of a large number of students, most of whom have listened to several podcasts.

Students indicated overwhelmingly that they listened to the same podcasts repeatedly. Sixty-nine percent listened to each podcast they downloaded at least three times, and the remainder listened two or three times. Although designed to be listened to on only one occasion (but with several repetitions of each section for transcription) it seems that students were actually using podcasts several times for practice and revision. For future studies it would be useful to find out when these repetitions take place. For example it would be useful to know if the listenings happen in rapid succession or if students listened immediately when the podcasts were released, and then revisited them in later months for revision.

Several questions in the survey investigated how students downloaded and listened to podcasts. Sixty-five percent of students preferred to listen on a computer rather than an mp3 player, despite the fact that 81% owned an mp3 player. This is in line with the findings of Lane (2006), and Whitney and Pessina (2008), and supports Lane's assertion that "mobility may not be the driving factor behind student use" (p. 1).

Table 1
Questions and Responses for Survey 1

Question	Response	Percentage
How many of the articulatory phonetics podcasts have you listened to?	0	0
	1	11.5
	2	7.7
	4	11.5
	5	69.2
On how many separate occasions do you normally listen to each podcast?	Just once	0
	2 or 3 times	30.8
	More than 3 times	69.2
What is your preferred way of listening to the podcasts?	On a computer	65.4
	On an mp3 player	34.6
Do you own an mp3 player?	Yes	80.8
	No	19.2
How do you prefer to access the podcasts	Through the VLE	53.8
	Through iTunes	42.3
	Through Google Reader	3.8
	Other	0
How easy have you found it to access the podcasts?	Very easy	53.8
	Fairly easy	46.2
	Not at all easy	0
Have you subscribed to the podcasts using a service such as iTunes or Google reader?	Yes	50
	No	50
How useful have the podcasts been for your learning	Not at all useful	0
	Somewhat useful	0
	Very useful	100
How does having access to podcasts affect your attendance at phonetics lectures?	I am less likely to attend the lectures	3.8
	The podcasts make no difference to my attendance	88.5
	I am more likely to attend lectures	7.7
Would you prefer a podcast of exercises of or the lecture?	I would prefer a podcast of the lecture	0
	I would prefer a podcast of exercises	100

Intuitively it seems that this trend may be even more important for exercise-based podcasts, when students need to engage with the material rather than simply listening. Other driving factors behind podcast usage were investigated further in the second survey below.

Fifty-four percent of students accessed podcasts through the VLE, 42% through iTunes, and 4% through Google Reader. Numbers were split equally between those who had subscribed to podcasts and those who had not. This result indicates that it is worth the small amount of extra time and effort it takes for the lecturer to make podcasts available through iTunes and Google Reader, rather than only uploading them to the VLE. Not only do many students like to access podcasts through other applications, but the subscription service that these other applications provide is utilized by half the students, meaning that any new content will be automatically delivered to them as soon as it is made available.

Fifty-four percent of students indicated that it had been very easy, and 46% fairly easy, to access the podcasts. None indicated that they had found it difficult to access podcasts, and this is probably due to the clear instructions provided by the e-learning team at the University. At the start of term, students were provided with detailed instructions about how to download and subscribe to podcasts, including links to various programs and references on the Internet.

Eighty-eight percent of students said that podcasts make no difference to their attendance at lectures. Only one person indicated that they were less likely to attend class, while two people indicated that they were more likely to attend. This is in line with the results of other authors (Brittain, Glowacki, Van Ittersum, & Johnson, 2006; Lane, 2006; Pilarski, Piotr, Johnstone, Pettepher, & Osheroff, 2008), which show that, even when students know a lecture will be provided as a podcast, the majority of students still attend the lecture. In

addition, Pastore (2008) found that students do not prefer a podcast to a live version of a lecture (p. 59), and Tynan and Colbran (2006) found that 63% of students using podcasts felt that they had encouraged them to keep studying the related modules (p. 830). From the results here it seems that podcasts of *exercises* are equally unlikely to reduce student numbers in class.

One hundred percent of respondents said that they would prefer a podcast of exercises to a podcast of the lecture. This is an interesting finding as it demonstrates the value of providing exercise material rather than simply recording class contact time. Although it is more time consuming for the lecturer to devise and record new exercises, the students clearly perceive the benefit of exercises over a recording of lecture material for this subject.

One hundred percent of the 26 students who responded to the survey said that they felt the podcasts were very useful (the most positive response of the four options given) for their learning. This compares favorably to Tynan and Colbran (2006) and Whitney and Pessina (2008) who report that around 65% and 93% of students, respectively, agreed or strongly agreed that the podcasts assisted their learning. The differences found in the results in the literature may be due to the number or type of podcasts students are exposed to, or to differences inherent across subjects and cohorts.

The qualitative statements made by students are revealing. Twenty-three students (88% of those who completed the first survey) commented about the podcasts. In line with Bongey, Cizadlo, and Kalnbach (2006) the prompt for further feedback did not suggest that the students should make either positive or negative comments, as students were simply asked to "please add any other comments about the podcasts that you would like to make" (p. 361). However, all the comments were positive. The most common responses contained praise for the podcasts such as "fantastically helpful" and "very beneficial and worthwhile." Three students indicated that they would like a podcast of the lecture *and* exercises, while one said that they did not want the lecture to be podcasted. A few gave concrete suggestions such as to provide "more practice exercises" or to create "more tracks between sounds," which will be helpful in future development. Students also noted that podcasts provided "a backbone to my revision," that they "helped . . . immensely for the Christmas exam," and "made a difference to my mark in the recent class test." One student also noted that "I don't do enough work for phonetics generally, but they [podcasts] are one way I know I'd do more."

Survey 2

Full details of questions and responses for Survey 2 are shown in Table 2. The majority (62%) of students who responded had listened to all seven of the second term's podcasts (14% listened to six, 7% to five, 3% each to two and three podcasts, and 10% to one), which is similar pattern to that found in Survey 1.

Ninety-three percent of students stated that they usually listened to their podcasts at home. Only 7% listened when travelling, and no one listened at university or elsewhere. This is roughly in line with other results in the literature (Brittain, et al., 2006; Rothwell, 2008; Tynan & Colbran, 2006), which specifically address where students listen to podcasts. Combined with the findings from Survey 1, which indicate that most students listen on a computer rather than an mp3 player, it seems that, for the majority of students across disciplines, the portability of podcasts is not their most attractive feature, as stated by Lane (2006). This issue was addressed in another question, when students were provided with three options and asked which they liked best about phonetics exercise podcasts. The options were "portability," "ability to repeat many times," and "ability to listen in a relaxed environment." The final two options were included as they had been mentioned in the qualitative responses to the first survey. Sixty-four percent of students chose the ability to repeat as the most important aspect of podcasts [mirroring similar results from Rothwell (2008) and Tynan and Colbran (2006)], 29% chose the ability to listen in a relaxed environment, and only 7% chose portability.

Once materials can be taken away from university, the possibility that others can share them becomes a reality. This is particularly the case with podcasting, as the audio material can be played at home, over speakers, so that whomever is present can hear it. While 36% of students listen to podcasts alone, for the majority there appears to be a social element to their usage (cp. Panday, 2009). Thirty-two percent listen with family not studying phonetics, 18% with other students of phonetics at their institution and 14% with friends not studying phonetics. Presumably the high numbers of students listening to podcasts with other people is linked to the strong tendency for students to listen to their podcasts at home.

Two questions investigated how students used the model answers provided for podcasts. Fifty-seven percent downloaded them at the same time as the podcasts while 39% waited until afterwards (4% downloaded the answers first). However, 93% waited until after listening to the podcast to look at the answers (3% looked first, and 3% looked while listening). This was how the answers were designed to be used, encouraging students to attempt exercises on their own first, before looking at the model and then comparing their results to it. Although no explicit instructions were given about this, it seems that students followed closely the pattern that is used in class, which is to look at the answers at the end of the exercise.

Table 2
Questions and Responses for Survey 2

Question	Response	Percentage
How many phonetics podcasts have you listened to this term?	1	10
	2	3
	3	3
	4	0
	5	7
	6	14
	7	62
Where do you listen to your podcasts most often?	At home	93
	When travelling	7
	At university	0
	Somewhere else	0
Who else listens to podcasts with you?	No one	36
	Other students of phonetics from here	18
	Other students of phonetics from a different university	
	Friends not studying phonetics	0
	Family not studying phonetics	14
		32
When do you download the answers?	At the same time as the podcasts	57
	Before the podcast	4
	After the podcast	39
	Not at all	0
When do you first look at the answers?	Before listening to the podcasts	3
	While listening to the podcasts	3
	After listening to the podcast	93
	Not at all	0
What do you like best about podcasts?	Portability	7
	Ability to repeat many times	64
	Facility to listen in a relaxed environment	29
Would podcasts have been useful in the first year?	Yes	89
	No	11
How much do podcasts aid your revision for tests?	Not at all	4
	A little bit	7
	Quite a lot	21
	Very much	68
Do podcasts help you to feel more confident in transcription?	Not at all	11
	A little bit	26
	Quite a lot	44
	Very much	19
Do you think using the podcasts helped you to get higher marks in tests?	Yes	76
	No	3
	Don't know	21

Additional questions aimed to gauge what students were gaining from using podcasts and how useful students find them. Eighty-nine percent of students said podcasts would have been useful in their first year. However, experience trialing podcasts with the first year cohort had revealed that uptake was significantly less than for the second year cohort. Likewise an HE Academy report (2009) cites evidence that students in the early years of university were less familiar with podcasts, and less comfortable using them, than other forms of information technology such as email and VLEs. However, the result from this survey, relying on the benefit of hindsight from more advanced students, indicates that it may be worthwhile persevering with podcasts in the early stages of degrees.

Nineteen percent of students said they felt "very much more" confident in transcription after using podcasts. Forty-four percent said they felt "quite a lot more confident," 26% said they felt a "little bit more confident," and 11% said they were not more confident at all after using podcasts. In terms of

revision, 68% of students said that podcasts aided their revision for phonetics very much, 21% said they aided revision quite a lot, 7% a little bit and 4% not at all. This clearly indicates that the majority of students felt the podcasts of exercises were useful in terms of revising for tests, and although confidence is affected, too, the results here were less striking. The somewhat less dramatic effect of podcasts on confidence is likely to be due to the nature of the material which the podcasts contain. The exercises closely followed the format of upcoming tests, so it seems reasonable for the students to assume that the benefits in using podcasts lay in revision. When asked about this, 76% said the podcasts had helped them get higher marks in tests (21% said they didn't know if the podcasts had helped, and 3% said podcasts hadn't helped). It is likely that podcasts more directly linked to clinical work would help to improve confidence in transcription still further.

Conclusion

The current project has investigated second year speech and language therapy students' opinions and usage of phonetics exercise podcasts. Of course this study relies on students reporting accurately their own thoughts and usage statistics. However, when a comparison can be made, the student responses seem to match with what has been observed by the lecturer. For example, attendance this year has been good with around 30/36 students attending class every week, further supporting the findings that podcast usage does not affect class attendance.

Students report that they think podcasts improved their marks in tests, but this is very difficult to verify objectively. Comparisons between cohorts are not especially illustrative as we have no way of knowing how the current cohort would have performed without the podcasts. Indeed, Bugos, Nelson, & Dixon (2009) indicate that, in one of their two pseudo-experimental settings, there was no clear link between performance and podcast usage (p. 44). Tracking the usage of individual students may also be unhelpful, as those students who are more motivated may be the very students who choose to use podcasts. The relationship between podcast usage and performance in assessments is clearly an area that needs further exploration as the use of educational podcasting increases.

A further issue to consider from the current study is how to transfer the highly positive results related to revision and perceived test performance into more robust improvements in student confidence. As suggested above, it seems likely that some additional podcasts using pseudo-clinical or real clinical data might help to improve confidence still further. This type of podcast is the focus of the next phase of this study.

The current study investigated speech and language therapy students' use of and perceptions about podcasts of phonetics exercises. Results indicate that the majority of students use podcasts and think that they improve their grades in tests and their confidence in transcription. Most students listen at home, on a computer, and often with family or friends. This indicates that podcasts for phonetics are not useful for their portability but for their ability to be used in a relaxed environment and repeated several times. Most students prefer a podcast of exercises to a podcast of the lecture for this practical subject, which is something that might be considered by lecturers in similar fields.

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Reality-Based Learning: How to get Business Students Down to Business

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Reality-Based Learning, RBL, is a teacher-driven initiative introducing the core business administration subjects to first-year business students by means of making business plans. This paper empirically accounts for the development of RBL over three years. RBL is scrutinized for pros and cons by a proposed education development framework. When the educational change is dissected and related to prevailing teaching contexts, areas prone to further development are identified. Results indicate that RBL has been developed by a few teachers, both in spite of and due to the lack of long-term pedagogical strategy and development incentives at the department and school levels. This paper concludes with the suggestion that the education development framework is apt for both ex-ante design stages and ex-post evaluation of course parts, courses and entire programs.

This paper is on learning about teaching. The backdrop is higher business education in Sweden. Lund university is the third largest university in Sweden and the School of Economics and Management runs one of the single largest departments in Lund, the department of business administration. This department faces a challenge, motivating faculty to engage in innovative teaching methods. One particular innovation initiative called "Reality-Based Learning" (RBL) will be critically examined herein. RBL is a student assignment initiated the first time in 2004. It spans over an entire term. It is a student-group-driven, skills-oriented business project, outlined and presented, both orally and in writing, in the form of a business plan. The assignment is directed by minimal instructions from teachers, assessments are made both by peers and by teachers, and the primary learning outcome is an understanding of business as a subject that integrates several core areas of knowledge within the field of business administration.

Changing Teaching Format: "What Have We Hone?"

The initiative to engage with RBL was taken as a reaction to how we previously introduced students to the first semester of business administration. What we served students the first day of the course, often the very first day of their university lives, was a wide array of administrative details and instructions, followed by a semester of hard core theories of organization, marketing, management, and financial accounting.

A number of years teaching business administration along with consultancy work told us to follow what Whitehead (1929, as cited in Jones, 2006) called "a zest for business." There is wide support, of various kind and origin, to be found for RBL. According to Biggs (2003), most people remember and learn about 10% of what they read but about 20% of what they hear. However, he claims that 80% of what you use and do in real life is learnt and remembered, whereas 95% of what you teach someone else is retained by most people. Magee Greenstein and Hall (1996) show how student-generated cases develop group interaction skills and students' oral and written communication skills; further, Van Den Hurk (2006) suggests that time planning skills and self-monitoring positively correlated to study achievements.

Pal and Busing (2008) account for an initiative similar to RBL. Through the integration of different business disciplines and an explicit business plan focus, they conclude that students have high expectations of the course; this, however, requires coordination between the sub-disciplines involved. They also suggest the risk of "infringement on academic freedom" and that "real world experience" is of particular importance. Raelin (2006) describes how reflection on real-time work experiences stimulates collaboration and improves "collaborative leadership." This is nuanced by Harrison, Leitch, and Chia (2007), who claim that

> the sustained pressure in business schools to adopt a teaching curriculum and pedagogical approach that appears immediately relevant to the perceived needs of practitioners is overwhelming . . . [but we] maintain that university-based business schools can paradoxically be invaluable to business and industry, not by becoming overly anxious about immediate relevance, but by recognizing that the education and development of the individual as a whole through exposure to a plurality of paradigms and perspectives is what sets universities apart and makes them distinct from other executive education providers. (p. 332)

Goltz, Hietapelto, Reinsch, and Tyrell (2008) propose that

> a key argument for teaching [team work and problem-solving] skills concurrently is that the ability to solve an unstructured real-world problem within teams is what is needed outside the classroom and that this requires the use of both sets of skills simultaneously. (p. 541)

Proserpio and Gioia (2007) show how technological developments affect how we could and should teach students. Nemanich, Banks, and Vera (2009) also show that confidence in the instructor's expertise, a perceived relevance of content, and a "social richness" of the learning environment is appreciated by students and generates a greater understanding of causal relationships among course concepts. Ottewill (2003), though, sums it up when saying: "If [students] are passionless then something vital is missing. It is therefore entirely appropriate to engage students by appealing to their hearts as well as to their heads" (p. 194). Hence, we claim – based on a multitude of reasons – that RBL has a role to play in creating a zest for business, a significant role!

Still, changing the teaching methods the way we have done with RBL is a challenge to an entire teaching faculty, hence it has not passed without critical comments. We believe this is a common phenomenon in the university world and it raises important questions. Well-known contributions to organizational learning such as Argyris (e.g., 1997) and Senge (1990) have introduced concepts like single and double loop learning, and adaptive and generative learning. In essence, these contributions concern the difference between learning to stay the same and learning to change. Hanson (2001) discusses how educational change concerns organizational memory and learning, and institutional resistance to change and isomorphism. Hargreaves and Goodson (2006) have shown how waves of reform, leadership succession, student and community demographics, teacher generations, and school interrelations, interact and how changes in these factors shape schools over time. They conclude: "schools are not all the same; neither are they islands" (Goodson, 2006, p. 26).

The challenge of RBL to students, faculty, and firmly ingrained teaching methods is two-fold with inward (organizational change perspective) and outward (student interest perspective) aspects. The question we have asked ourselves is: How do we bring students down to business in spite of institutional resistance?

The aim of this paper is to present and critically examine our effort in improving learning conditions for students by teaching a student-driven live case. In so doing, we also aim to present a model for systematic examination of educational change efforts.

Theoretical Contributions on Teaching and Learning

In order to come to terms with the actual teaching and learning process, we use Biggs (2003) as a guide. His views on university teaching are well aligned with our ambition to influence and improve student learning. Other authors are also relevant, e.g., Kolb (1984) and what he has labelled the Lewinian Experiential Learning Model. In an iterative cycle of concrete experience, reflective observation, abstract conceptualization and active experimentation, learning takes place. Boyatzis and Kolb (1991) discuss skills in particular, where skill is defined as domain-specific and rich of knowledge, as an integrated transaction between the person and the environment, and not to forget, developed by practice. Even though the skills orientation is well in line with the skills focus of RBL, Biggs' (2003) model of constructive alignment of presage, process, and product offers an approach specific to university teaching. Dees et al. (2003) present an alternative model of university teaching without the clear distinction between separate phases. Biggs offers a well integrated and consistent model with a sequentially analytic, and methodologically appealing, approach.

Constructive alignment. The overall "3P" model of constructive alignment consists of three parts: presage, process, and product. The model outlines a consistent system in which individual (student factors) and institutional (teaching context) conditions interact with what is actually done by students and teachers (teaching- and learning-focused activities) and how these activities transform into deep understanding of a subject (learning outcomes). The 3Ps are *presage* (student factors and teaching context), *process* (teaching and learning activities) and *product* (learning outcomes):

- "Presage" takes place before learning. Student factors such as experience, knowledge, talent, and motivation interact with the teaching context, i.e., school and classroom climate, objectives, teaching, teacher qualities (professional, social, etc.) and institutional procedures (pleasant or awkward).
- "Process" is what takes place during learning. Teaching-learning activities (TLAs) are divided into three categories: i) teacher-directed, ii) peer-directed, and iii) self-directed.
- "Product" is the outcome of learning. Through examination, teachers make an assessment of student knowledge as a result of teaching/learning, affected by TLAs and the interrelation between student conditions and teaching context.

Students learn in different ways. Biggs (2003) uses the terms deep learning and surface learning. We, as teachers, should always strive for teaching methods that encourage deep learning instead of surface learning. "Surface" denotes rote learning, memorizing the meaning of words or lists of factors in order to be able to repeat them when asked to. "Deep," on the contrary,

signals an understanding which also comprises understanding of context, the ability to argue around pros and cons of different approaches or perspectives, and the ability to apply a suitable idea to an actual case. Although the sequential character of the 3P model is appealing to us, we find the relations between presage, process, and product important. It is in these relations the "constructive alignment" is to be found. Two relations are therefore of particular interest to us:

1. Presage/Process: student factors and teaching context – learning-focused activities.
2. Process/Product: learning-focused activities – learning outcomes.

Student Factors and Teaching Context Affecting Learning-focused Activities

Following Biggs' original model, student factors concern variables such as students' prior knowledge, interest, ability, and motivation. Being exogenous to schools, these factors may be influenced by the initial selection of the school, itself possibly influenced by the appeal the school has to students. Learning-focused activities may in this way be an indirect way of positively influencing the average level of student factors. In relation to this, Ottewill (2003) suggests that universities could use research to stimulate and develop teaching and in particular recognize the affective dimension of learning. Instrumentality in teaching will lead the students into boredom, tutor dependence, and a lack of curiosity. They may end up preoccupied with summative assessments and develop an aversion towards subjects without self-evident relevance and a disinclination towards helping and supporting peers. If this develops into a pattern of behavior, it is likely to affect the school attractivity negatively over time as well as the individuals' post-university performance.

The school's attitude towards students is of major importance. McCulloch (2009) discuss how viewing students as "consumers" leads to an unfortunate distance between the student and education. "Consuming education" suggests that students could lean back and let the university and its administrative and faculty staff feed the students; therein, students' own participation in and influence on the learning taking place disappear from the educational horizon.

Process and Product Relation: Learning-focused Activities Affecting Learning Outcomes

The way teaching is carried out affects students' learning. The recurring theme here is that active students will engage in deep learning, passive students are prone to surface learning.

Dart and Clarke (1991) claim that exposing the students to a multitude of learning experiences increases student learning. Learning experiences could involve negotiating the curriculum, peer discussion and teaching, learning contracts with a variety of assessment forms, and time for reflection. Wierstra et al. (2003) juxtapose "reproductive" learning to "constructive learning" suggesting that a conscious student orientation discourages reproductive learning like memorizing and stepwise processing facts known as "rote learning." Student orientation means active learning and a large degree of student self-regulation. Diamond, Koernig, and Iqbal (2008) agree to this idea: deep learning is facilitated by student activity – active learning means that knowledge is constructed actively and not merely served to you by others. Bonwell and Eison (1991, as cited in Smart & Csapo, 2007) claim that active learning is recognized when students are active and involved in more than listening and when instructions emphasize students' skills. This results are students developing higher thinking skills and exploring their own attitudes and values. Deep learning is also about the approach and attitude to the learning process adopted by the student (Trigwell, 2006). According to Trigwell (2006) the students' approach can be changed through a change of the context in which the learning takes place: by changing the context (e.g., by changing the course structure), the teacher can stimulate the students into adopting deep learning.

Ramsden (1992) proposes that deep learning reveals itself in the student's intention to understand. Deep learning has an internal emphasis where new knowledge is related to old knowledge. Individual pieces of knowledge are structured into a coherent whole. Surface learning, on the contrary, is recognized by how the student merely intends to complete the task at hand. There is an external emphasis underlying surface learning, with students being sensitive to the demands of the assessment. Individual pieces of facts or knowledge are simply memorized, thus being disconnected from any context or relationship to other knowledge.

The observed learning outcome could be expressed in the SOLO taxonomy (Biggs, 1979). The taxonomy is helpful when "deep" and "surface" learning outcomes are to be made operational. The structure of our understanding is observed on four levels (from surface to deep):

i) uni-structural (single perspective),
ii) multi-structural (several discrete perspectives),
iii) relational (interdependent perspectives), or
iv) extended abstract (perspective contingencies).

Table 1
Analytical framework (L.O. = learning outcomes).

Eductional change	Presage	Process		Product		
Teaching context	Student factors	Active & deep	Passive & surface	Qualitative L.O.	Quantitative L.O.	Affective L.O.
Professional development activities						
Feelings of uncertainty						
Teacher participation in decision-making						
Transformational leadership						

So, what should teachers do, then? First of all teachers should know what they are doing. Fernandez-Balboa and Stiehl (1995) present five generic components of "pedagogical content knowledge." Knowledge about (a) the subject matter, (b) the students, (c) numerous instructional strategies, (d) the teaching context, and (e) the teacher's own teaching purposes will influence the quality and the effect of teaching. Wouters (2008) exemplifies one factor relating to "instructional strategies," suggesting that the order of the various parts within a subject matter is important: teaching introductory accounting and finance should start with cash flows, quite the opposite order to what traditional textbooks promote. In that way, students' steadfast acquaintance with the cash concept is used as a starting point when introducing more abstract concepts such as costs and revenues.

Methodology

This study is based on first-hand observations of the authors. These observations are critically examined following a framework derived from relevant theoretical contributions from selected authors. The selection was guided by keywords such as: "constructive alignment," "educational change," "teaching context," "deep learning," and "learning outcomes."

The empirical presentation is based on our own recollection, a number of recorded film clips, a series of PowerPoint presentations, several student survey results, and two sets of minutes from focus group review sessions involving students. The analysis is a function of our theoretical framework and our own self-scrutinization, which is evident in the empirical analysis. Although we draw conclusions from the analyses from a rich empirical base, we consider them tentative and open for discussion.

Changing Teaching Methods

The 3P model by Biggs is used as an analytical frame of reference when looking closer at the RBL initiative. Since educational change normally is an institutional endeavor, it is interesting to look closer at the four factors affecting the innovation of teaching methods, suggested by Geijsel, Sleegers, and van den Berg (2001):

- professional development activities,
- feelings of uncertainty,
- teacher participation in decision making, and
- transformational leadership.

"Professional development activities" concern keeping up with developments in the professional field, putting new insights and developments into practice, reflecting on one's own performance, and cooperating on policies and practical matters.

"Feelings of uncertainty" arise from the teachers' beliefs of vulnerability in the teaching profession, which are negatively related to the willingness to adapt new innovations.

"Teacher participation in decision-making" is about how teachers' experiences influence the implementation of innovation.

"Transformational leadership" sums up the schools' vision statements, the prevalence of individualized support from school management, and other forms of intellectual stimulation to educational change.

These four factors represent conditions for educational change; however, they also indicate the status of current teaching practices in a school.

Analytical Framework

The theoretical references are summarized in Table 1. This is an analytical framework, used as a template for the analysis.

On the horizontal axis, we outline the three phases of the 3P model of Biggs (2003). Observations along these phases are related to the vertical axis, where the four different influences on educational change

suggested by Geijsel et al. (2001) are used. We consider these influences adequate proxies for the part of Biggs' presage phase called "teaching context." The idea is to see, first, in what category each different part of the RBL change initiative is sorted. The status of each of these different parts is then related to the teaching context. In such a programmatic analysis, both the nature of the RBL change efforts, as well as possible teaching context relations will surface.

Reality-Based Learning in Higher Business Education

The locus of the change initiative is the department of Business Administration at Lund University. The description will be outlined in accordance with the 3P model as presented by Biggs (2003, see above).

Presage: Student factors and teaching context. The course RBL starts off the first day of the semester of the introductory course in business administration. From experience we know that for a majority of the students this is the first course they take at the university level. When entering the large auditorium, in which we gather all the 300-350 students accepted to the program each fall, they all have their individual expectations of what to come. The majority of them expect a general introduction to the course and the program, which is a common procedure at the department as well as at the university in general.

The department has given introductory courses in business administration for more than 30 years. Much of how we do things is inherited, gradually refined and institutionalized. However, the RBL course is designed to be different from all other courses: in RBL the focus is on the students and their activities and, as much as possible, on bringing the real world into the classroom by focusing on what happens outside. Therefore, instead of providing the students with administrative information, we do something unexpected and introduce them to a day of intense and highly engaging activity. The purpose of the day is to give the student an idea about what it is like to start up and run a company in the real world and to set a positive tone for the rest of the semester.

Process: Learning-focused activities. The purpose of RBL, besides introducing the real world of doing business into the classroom, is to put the students and their learning in focus. In this section we describe how we have designed RBL in order to put the emphasis on student-directed and peer-directed activities.

The very first day, all students are introduced to the subject of business administration and the concept of RBL. We start by dividing the students into groups consisting of six to nine students in each group. Thereafter, in collaboration with all the 300-350 students in the auditorium, we brainstorm around various products, their pros and cons and by voting pick one to create a fictitious company. This is followed by business planning in terms of product and market analysis and financial planning. In all discussions we use common language, without using any specific academic concepts or models. Without having heard about the concept the students create their first SWOT analysis (Strengths and Weaknesses of the company, Opportunities and Threats of the market) intuitively. The common purpose of the different steps is to make them simple and recognizable to students. During the day we shift between teacher led and student led activities. The day ends with summing up a basic income statement and balance sheet. Then, at the very end, the rest of the semester is presented and students get their first assignment: to work in the student groups formed during the day in order to come up with their own idea of a company and a product. The students will then, throughout the semester, work in this group of six to nine people and develop their idea into a business plan. The back-bone of the methodology is that the students create their own business case. This case is gradually developed in four steps over the semester so that at the end, the students will present a final version of their business plan, designed in order to meet the requirements of potential investors. The course is compulsory, and graded only with pass or fail.

The RBL course runs in parallel with the four courses in business administration that the students take during their first semester (marketing, organization, management accounting, and financial accounting and reporting). The students use the traditionally taught courses to acquire knowledge in order to improve their RBL business plan. The students are instructed to build the live case based upon their own research on the business and product market and to refine their business plan. For each of the four assignments (about once a month during the semester) the students have a presentation where they in front of a group of around 30 students present their idea. The presentation is 10 minutes long, made in English and supported by power point slides. Each presentation is followed by a five minute peer review presentation, which is also delivered in English. The peer review provides the opportunity to get new ideas for improving the business plan. By the fourth presentation, the business plan is finalized.

After the first introductory day, the university staff activities are held at a minimum. Instead, focus is on the self-directed and peer-directed activities conducted by the students in the student groups. The instructions for each of the four assignments are given to the students in film clips on YouTube (http://www.youtube.com/watch?v=r6J1srD5iDs). The

teachers record and publish an instructional and inspirational movie two weeks before the students are to present their assignment. About a week before the presentation we run an "Open House" to which the students that have questions regarding the assignment can come for guidance and individual or group meetings with teachers face-to-face. The students hand in their assignment two days before the presentation to their supervisor as well as to the student group conducting the peer review. After the presentation the students get instant feed-back from the peer review group, the other students in the classroom and their supervising teacher. The general idea is that the students are to use the information they get from their peers as well as teachers to improve their business plan and presentation skills.

When the students hand in their final version of the business plan, the incumbent teachers get together in order to single out the four best groups. These groups get to present their business plan live, on stage, in front of all fellow students as well as a panel consisting of four to five professionals from industry. The panel selects the winning business plan and the winning group of students receives an award. All the finalists are given a diploma for their achievements.

The element of competition has been introduced into the course in order to further increase the motivation of the students. The purpose is also to send a signal to the students that the student groups that makes an extra effort may be acknowledged and rewarded for doing so. The competition and the conditions for the competition is introduced to the students on the first day.

In its current shape and form, three teachers run the RBL course, using somewhere around 600 hours or 50 hours a month per teacher.

Product: Learning outcomes. The last P in the 3P model refers to the product, i.e., what the students have learned. The learning objectives are that the students acquire a deeper understanding of the subject of business administration and its sub-parts. Another objective is to understand how these sub-parts (marketing, product development, organization, management accounting, and financial accounting and reporting) interrelate and together form the strategy and every day life in a company. How do we know that we have reached our objectives?

At the end of each course we have course evaluations consisting of forms for the students to fill in as well as focus groups. Based upon the results of the course evaluation and the teacher-student dialogue during the semester, we can see that RBL and the approach we take are appreciated among a vast majority of the students. They express how it is interesting and stimulating to work on their own projects and to be free to develop their own ideas; however, there are some students who, especially in the beginning of the course, feel frustrated due to the lack of teacher-led activities in the course. As the semester progresses they get more and more comfortable with the working conditions and the frustrations fade away. There are also students who expressed discontent with the size of the groups saying that they are too large (the groups consisting of nine students) in order to create a feeling of togetherness and to make sure that the workload is evenly spread between students.

Analysis

The analysis is structured in three parts. First, we reconsider the educational change initiative in the horizontal dimension. Second, we look at the teaching context in the vertical dimension. Third, we examine the relations between the two dimensions.

The Horizontal Dimension: Educational Change

In Table 2, the RBL initiative is summarized in terms of change observations. Presage observations are in essence directed towards welcoming and relaxing the students. The main effect observed from those changes is derived from the introductory day: students become relaxed towards teachers and fellow students. The students are also genuinely curious about how things relate to each other when starting a company. The process part is signified by the wide variety of TLAs. The product part is in the same way markedly biased towards qualitative and affective learning outcomes.

The Vertical Dimension: Influence from Teaching Context

Presage, process and product aspects of the RBL initiative are contingent on the teaching context of the School of Economics and Management, first and foremost by that of the department of Business Administration. The observations of teaching context are summarized in Table 3.

The table contains two categories of good observations and two categories of what we term "bad" observations. The good observations originate from the fact that RBL is a teacher-driven initiative, shaped by continuous improvements over, so far, six years, and fueled by positive reactions from the school and department administrations. From the bad observations two things stand out: first, the low level of conscious strategic focus on pedagogical development and, second, the gradual recognition from the school management that RBL is innovative and valuable to the school's competitive edge. This coincides with the increased importance of the "Bologna process" as well

Table 2
Observations of Educational Change in RBL

Presage	Process	Product
• appealing to students' curiosity • moment of surprise, calming students • forming student groups • connection to known concepts in everyday life such as allowance.	• stimulating the interest and curiosity of students • individual business ideas • social media based communication • open house voluntary activities • making own inferences from courses to RBL • peer reviews • presentation orally and in writing focused on skills development • familiarity with office software such as word processor, spread sheets and presentation programs	• knowledge about relations between concepts • integrative understanding of the integrative character of the subject matter • productive results linked to own effort • entrepreneurial experience • self assurance for business • set of reference points to be used in consecutive courses • positive mindset to the subject matter

Table 3
Observations of Teaching Context

Professional Development Activities (-)	Low level of innovation Lack of coordination Very scarce attention to pedagogical development, predominantly staffing procedures
Feelings of Uncertainty (+)	Two initiating teachers around 40; younger part of faculty however with plenty of experience from working with practitioners as well as students Some scepticism among faculty colleagues Much positive attention from school direction and from articles in daily papers
Teacher Participation in Decision Making (+)	Enthusiastic attitude of continuous improvements High degree of individual freedom in teaching Positive feedback from students
Transformational Leadership (-) to (+)	Department of Business Administration: lack of pedagogical strategy, haphazard initiatives School of Economics and Management: skills orientation for business students Weak incentives for reform or development

as quality assessments, in which skills are given dramatically higher status in education programs.

Alignment of Teaching Context and Educational Change

RBL runs the risk of being an island in a stream of traditional curricula, soon to be flooded. The main reason for that becomes obvious when looking at Tables 2 and 3. The teaching context is characterized in particular by the teacher involvement and attitude towards educational innovation, whereas school and departmental pedagogical strategy is more or less absent. This is also an explanation, we conclude, to the high level of freedom given to the RBL teachers.

When the two dimensions are observed together (Table 4), a number of areas susceptible to further development emerge. These can be found in the lack of teaching strategy and incentives at the departmental level and in the lack of well-communicated school vision at the school level. Table 4 also illustrates the strong culture of teacher independence of the Department of Business Administration. The upshot is that there may be a trade-off between school vision/department strategy and teacher influence. However, the balance between those two factors could just as well be seen as a trait in real educational change. It seems haphazard, though, to rely on individual teachers' random initiatives in times of increasing competition in the market for business education.

Table 4
Areas of Improvement (L.O. = Learning Outcomes)

Eductional change	Presage	Process		Product		
Teaching context	Student factors	Active & deep	Passive & surface	Qualitative L.O.	Quantitative L.O.	Affective L.O.
Professional development activities	X	X		X		X
Feelings of uncertainty						
Teacher participation in decision-making						
Transformational leadership	X	X		X		X

Conclusion

Our experience from the RBL concept is that student-oriented activities and a mix of different activities stimulate students into focusing on deep learning. The RBL experiences we have presented thus support previous research conducted by Ramsden (1992), Biggs (2003), and Dart and Clarke (1991). Our experiences also show support for the idea of constructive alignment and communication of course objectives to the students as discussed by Biggs (2003) and others.

The development of this course has been a valuable experience for us as teachers involved in the process. We have learned a lot from the process. The course started out as an experiment in order to see if we could, by introducing new methods for teaching as well as communicating with students, increase their interest for and understanding of the subject of business administration. Judging by the work the students hand in by the end of the semester we have to a large extent succeeded in doing so.

We do not see that the implementation of these activities only can be done within the subject of business administration. On the contrary, we believe that the activities we have presented here also can be used at other universities and within other disciplines as a way to increase student involvement and motivation and to connect the theoretical aspects of a subject to hands-on problems. The important thing is to find that practical problem or project to which these activities can be connected.

When considering the introduction of new teaching methods it should be clear that change does not happen over night. It takes time. The RBL course in its current shape is the result of a gradual development over three years. During the first semester we had regular meetings where we discussed the experiences and assessed the new methods. Based upon these assessments and the experiences we gained by implementing the new teaching methods, we have as a second step been able to further develop the course and its content from one semester to another. One example of this is that the first semester that the course was held, all student groups worked with the same product, which was the product that was voted the most popular product idea during the first day. What we learned from the first semester was that using the same product for all groups was not motivating the students enough, since they did not have their own project. As a consequence, we improved the course and the following semester we allowed the student groups to come up with and pursue their own ideas.

Important to remember when introducing new teaching methods—and the lesson we have learned from taking part in this process—is that you can not expect everything to run smoothly from day one and that it is not a problem if it doesn't. Instead, what is important is to try to improve our teaching and to let the changes take time and to learn from mistakes being made. The only way we can improve our teaching methods and increasing the quality of the education we offer to our students is by recognizing teacher development as an ongoing process.

Our intentions are therefore to continue to develop the RBL course and the concept. One thing that we have identified as a necessary improvement is to develop a collaboration between us teachers and the teachers on the other courses that are given the same semester. The whole purpose of the RBL course is to tie the theoretical courses to practical problems. Without a stronger connection between the RBL course and the other courses we believe that there is a risk that this purpose of the course will be forfeited.

The framework we have used, in which we made a straightforward operationalization of the teaching context, shows how important the teaching context is to educational change. The framework has revealed the pros and cons of the RBL initiative and we also conclude that our framework, albeit in need of further development, could be useful in both ex-ante design and ex-post evaluation of courses.

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Developing a Conceptual Model for Career Support for New Academics

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The aim of this paper is to develop a conceptual model which allows for an understanding of the general and discipline specific support needed by academics new to the profession. The approach taken is qualitative in nature and centers around a series of semi-structured interviews carried out with new academics and senior managers in two research-intensive business schools in the UK. The research suggests that there are four crucial dimensions to successful career support for new academics: managing expectations, career management, mentoring, and professional development. While it is important to offer good practice in each of these dimensions, this paper argues that it is the relationship between them, which determines the quality of career support offered. This paper offers a number of original insights into this issue and contributes to both the scant literature on career support for new academics and to practice with a model that may have applicability across a number of different settings.

Gappa et al. (2005) suggest that "the continued vitality of the academic profession is . . . of concern to a very large number of people and institutions" (p.32) and central to that vitality is the recruitment and development of new academic staff. Given the importance of new academic staff to the profession as a whole, the aim of this paper is to develop a conceptual model which integrates a number of different elements related to career support for newcomers to academia. While there is a significant body of literature, from both a general and discipline specific perspective, on various elements of academic career support, there is much more limited literature that (a) focuses on the specific needs of early career academics and (b) offers an approach which integrates the different elements together in a coherent manner. The origins of this paper lie in a project funded by the Business, Management, Accounting and Finance subject centre (BMAF) of the Higher Education Academy (HEA) in the UK and the evidence presented in this paper draws on data generated from two research intensive institutions in the BMAF project.

The paper is organized in a fairly straightforward way. The first section reviews the literature on how new academics are introduced to academic work and the main challenges and management interventions faced. The section suggests that there are four key elements which must be addressed: the expectations of newcomers to academia; short- and long-term career management, especially in the relationship between teaching and research; the role of mentoring in the development of new academics; and professional development mechanisms, especially institutional requirements as far as postgraduate qualifications are concerned. The paper then briefly explains the methodological approach taken to gather the primary data. The evidence is qualitative in nature and comes from over 20 interviews carried out with staff members at different levels across two university business schools. The next section presents the results of the data collection and, on the basis of the primary and secondary data presented, creates a simple conceptual model that integrates the different elements together. The paper concludes with a discussion of the implications of the data and model and makes some suggestions for future research in this area.

Literature Review

In discussing the nature of academic work, Bath and Smith (2004) offer a perspective based on activities and classify academic work as a combination of "research, teaching or service" (p. 10). In reviewing the literature, they offer a number of examples of activities undertaken by academics such as "learning about new developments in one's discipline . . . advising/mentoring/assisting colleagues . . . teaching . . . conducting research . . . committee work" (p. 11). While this activity-based approach is useful in introducing the variety of work involved in being an academic, it is less useful in explaining the culture and patterns of convention in which that academic work takes place. Green (2009) offers a different perspective and suggests that academic work should be thought of as being located in a discipline rather than as a set of activities and suggests that, while academics may be comfortable within their own discipline, they are "novices" in terms of contextualizing that into higher education generally (p. 35). Bath and Smith (2004) argue that this means academics will have a sense of belonging to a discipline as a first point of professional reference and the outcome of this, according to Kember (1997), is that "many university academics hardly consider themselves 'teachers' at all, instead visualising

themselves more as members of a discipline" (p. 255). The important issue for this paper is the extent to which this view of what an academic is and does chimes with the nature of an ever changing higher education sector.

For Trowler and Bamber (2005) the relationship between institutions and academics is one of "multiple games with competing goals and different rules" (p. 79). Austin (2002), for example, argues that a combination of things such as student diversity, changing technologies, expanding expectations, and growing workloads are fundamentally changing the nature of academic institutions and that conceptualizations of academic work have yet to catch up. Marginson (2000) examines this issue from an international perspective and identifies four key drivers of change in higher education across much of North America, Europe, and Australasia: "globalisation . . . the decline of funding . . . slippage of collegial ideals . . . deconstruction of academic professionalism" (p. 23-24). One possible outcome of this is a "mismatch" between the traditional values of higher education and its "massification" (Trowler & Bamber, 2005, p. 82). Asmar (2002), for example, suggests that the main challenge in all this is finding some kind of congruence between "academic cultures that have traditionally lauded and rewarded disciplinary research" and the realities of a much more dynamic sector. Honan and Teferra (2001) consider this in the context of the challenges facing the academic profession in the United States and raise two fundamental issues about, first, how new people can be attracted into faculty jobs and, second, how academic careers will progress in the future. Unless these tensions between traditional conceptions of academic work and the reality of a more competitive and dynamic sector are resolved, they argue, the outcome will always be unfulfilled expectations especially amongst those new to the profession.

In a five-year study of junior faculty expectations, Olsen and Crawford (1998) suggested two reasons why expectations are important. First, they matter because they play a central role in the motivations of new academics and the degree to which there is a "person-organisation fit" (p. 40) and, second, because "fulfilment of work expectations affects employee job satisfaction, work commitment and other job related attitudes which in turn affect job performance and, ultimately, turnover" (p. 39). In this context, there is a significant body of evidence that suggests that, across most academic disciplines, the primary motivation for joining the profession is intrinsic in nature and focuses on the "intellectual challenges and stimulation" which is traded off against negatives such as "income differentials compared to private practice" (Schenkein, 2001, p. 836). This point is reinforced by Gappa et al. (2005), who suggest that an academic career is attractive because it allows people to "engage in meaningful work" (p. 36). The broadly common set of motivations translates into a common set of expectations about academic careers, which are, again, similar across most elements of the sector. Austin (2002) sees this primarily in terms of scholarship and research and the expectation that there will be opportunities to pursue disciplinary interests within the context of "core values long associated with faculty work" (p. 106). Honan and Teferra (2001) extend this to include other elements of academic work, especially teaching, and suggest that those new to the profession have expectations around "the number of courses taught and course preparation required" (p. 193).

Adams (2002), in reviewing a number of previous studies, argues that there is frequently a mismatch between the expectations of new staff and the expectations of their host institutions. For example, while staff may view research as the core of their work, institutions have a much more rounded view of academic work, which also involves teaching and academic life in general (p. 5). This gives rise to two specific problems: the workload demands placed on new academics, and the need to identify, understand, and follow a set of unwritten as well as written rules. In terms of the workload issue, Broaddus and Feigal (1994) argue that new academics are much more vulnerable to "changing and conflicting demands" (p. 1858), an assertion supported by Gappa et al. (2005), who discuss this in terms of "ratcheting expectations for productivity" (p. 36). Fink (1984) identified this as an issue some time ago by pointing out that those new to the profession will, inevitably, take longer to carry out tasks such as teaching preparation than more experienced colleagues and, more recently, Adams (2002) points out the surprise with which new staff are "overwhelmed" with the variety of demands placed on them which leaves "little time to establish their research programmes" (p. 7). This issue is further compounded by what Austin (2002) describes as institutional "mixed messages" (p. 108), whereby there is a contradiction between workload demands and career progression; teaching may take up an unexpected amount of time, but it is research that matters most to career progression. Trowler and Knight (2000) suggest that this is a cultural and behavioral problem within higher education institutions whereby the invisible is more important than the visible. Austin (2002) neatly sums up the expectations issue in concluding that many new academics "did not have a rich, full understanding of academic life and faculty careers" (p. 109).

Perhaps the most significant example of such gaps in expectations lies in the relationship between teaching and research and the corresponding pressures that are placed on academics new to the profession who must find a way of managing the relationship. Brew (2003) argues that the root cause of the difficulties in these

areas lies in the tension between a "disciplinary research culture" and a "departmental learning milieu" (p. 11) in which the new academic finds him or herself and the artificial separation of the two academic activities. Lindsay, et al. (2002), for example, suggest that where they are separated out they will exist in "not so splendid isolation" (p. 325), and this is because of the close relationship between them. Elen et al. (2007) argue that a combination of pressure on new academics to publish in high quality journals and increasing demands for accountability placed on universities will inevitably lead teaching and research to "become separate systems within the context of one organisation, the university" (p. 125); they will be treated as fundamentally separate activities rather than as activities which are "related through the common activity of scholarship" (Brew, 1999, p. 297). For institutions of higher education this becomes problematic as it may create inconsistencies in what the institution can say and what the institution can do. Austin (2002) identifies "messages, albeit ambiguous" (p.107) about what importance is attached to different activities as the university is pulled in different directions by the varying power and influence of its stakeholders. This is likely to be exacerbated in sectors, like those in the UK and Australia, with dual funding models which provide separate resources for teaching and research (Brew, 2003, p. 4).

When starting to build, develop, and manage a career, the new academic faces two specific challenges. The first challenge is the intellectual challenge of building a relationship between one's teaching and one's research in a sector that increasingly treats them as separate elements. The second more practical challenge is that of how to prioritize in both the short- and long-term in order to manage the competing requirements of individual career progression and institutional objectives and ambitions. The intellectual challenge is probably greatest in research intensive universities which, on the one hand, offer the opportunity for research driven teaching but, on the other, operate with mechanisms and structures that keep teaching and research apart. Elen et al. (2007) suggest that the practical challenge of prioritization is difficult because while there is pressure on academics to deliver excellent teaching, research "still has a higher status" (p. 134). Jusoff et al. (2009) reinforce this point and identify the phenomenon of "publish or perish" (p. 31), which is the real driver of academic promotions in research-intensive universities. Brew (2003) suggests that this means that "we need to change reward systems for academics" (p. 16) in order to better reflect the real nature of academic careers and to provide transparency in what activities should and should not be prioritized. Austin (2002) raises a number of issues surrounding how new academics get the necessary support and guidance which would allow them to negotiate these tensions and effectively manage their careers and, in this area, Reid and Petocz (2003) argue for a "flexible approach" which is best suited to the individual situation of the academic.

Boyle and Boice (1998) argue that central to any approach designed to help new academics manage their careers are the relationships, formal and informal, between experienced and inexperienced staff in an academic department; this raises the issue of mentoring. In general terms, there are two reasons why mentoring is seen as being an advantageous intervention. First, it is a mechanism that can deal with many of the expectation issues discussed earlier; Austin (2002) suggests that many newcomers to academia feel a sense of isolation and have a perception of a "lack of collegiality" (p. 99), which stands in contrast to the experience they expected and—across a number of studies—"the helpfulness of departmental faculty" (p. 104) was central in overcoming those perceptions. The second reason why mentoring has been so favored in the literature is that it is often a local and discipline-based activity. In this context, studies have "identified academic departments as the prime sites for educational improvements" (Mathias, 2005, p. 97) as this is where the best discipline based advice is available. Boyle and Boice (1998) argue that the benefits of mentoring include "improvements in risk taking, political savvy and specialised professional skills . . . greater research productivity and career advancement" (p. 158).

Knight and Trowler (1999) suggested that the practice of mentoring in the UK was lacking behind that of other well-developed and established higher education sectors such as that of the USA and that, given the expansion of UK higher education, this is likely to become an ever more important issue. Smith and Bath (2004) provided further international evidence of the use of mentoring and suggest that the success or otherwise of mentoring schemes will differ on an individual mentor by individual mentee basis because there are frequently gaps between how schemes are conceived and how they are actually implemented. Despite this inconsistent data on the effectiveness of mentoring, Little (2005) explains the attractiveness of mentoring as a development intervention by suggesting that the "best possible environment" is created when teachers "combine their strengths" through a "natural support system" (p. 83). Barkham (2005) broadly supports this view and sees mentoring as an "investment in staff" (p. 331), which is, by its nature, a necessary and "long term" (p. 343) activity which cannot be abstracted from the wider professional life of the mentee. This reinforces the points made by Knight and Trowler (1999), suggesting that mentoring on its own is not sufficient to develop new academics but rather has to be placed into the wider context of available professional

development opportunities. Thus, while mentoring has many advantages, there is also a body of evidence that suggests these benefits only occur when the mentoring program is "well managed and organised" (Mathias, 2005, p. 102) and when it is part of a wider and coherent set of mechanisms for professional development available to new academic staff.

Hubball and Poole (2003) suggest that the central point for the professional development of new academics will frequently be "structured programmes of study" (p. 11) which, in the UK at least, often take the form of postgraduate qualifications in academic practice of one kind or another. The dominance of this approach to professional development is further explored by Kandlbinder and Peseta (2009) who have identified almost 170 such courses across the sector in the UK that are accredited by the HEA. The two most frequently examined issues in relation to such programs are (1) the content and the extent to which it provides useful help for new academics, and (2) the context and the extent to which the programs are part of a wider and more coherent package of professional development opportunities. In discussing content, Rowland (2001), for example, asks the provocative question "is the development of teaching and learning generic?" (p. 163) and thus contributes to the debate about the degree to which these programs must be discipline-specific rather than just set in a broad higher education context. More recently, Bamber (2008) has suggested that it is in the development of "practical skills" (p. 112) that the greatest value of these programs can be found, which at least implies that discipline specific elements are important. Warhurst (2006) develops this point further by suggesting that successful programs must involve elements of "belonging, experience, doing and becoming" (p. 114), suggesting that the content must be academically holistic and raising issues about the context in which such programs take place.

Ferman (2002) criticizes many approaches to program-driven professional development by arguing that many are simply bolted onto the duties of a new academic as part of a contractual or probationary agreement. Professional development in academia, Ferman argues, works better when academics are "supported rather than directed" (p. 155), as they are in the best position to identify the kind of development support they need. These needs will, according to Stes, et al. (2007), be primarily determined by the context in which the new academic works because it is the context that affects how much impact a program will have. Kahn et al. (2008) identified four key contextual issues that influence a need for professional development and the subsequent impact of it: the program itself, the workplace setting, the institution in which it takes place, and the discipline of the new academic undertaking the program. This reinforces Ferman's (2002) work which concluded that "professional development is best approached not as something extra but rather in a directly work practice embedded way" (p. 146-147). Postgraduate courses in academic practice that are compulsory for many new academics should, therefore, not be treated in isolation but should be considered as part of a wider suite of opportunities; Ginns et al. (2008) identify the importance of linking these programs with other mechanisms such as mentoring and "collegial networks" (p. 184), and Hendry and Dean (2002) argue for a "variety of improvement procedures" (p. 180) to be in place for new academics.

In summary, this review of the relevant literature suggests that while there is a general consensus about the work and activities involved in being an academic, there is much debate and discussion about what it means to be an academic in the 21st century. For example, it has long been the case that academic work will inevitably involve some combination of teaching, research, and service, but this work now takes place in a period of uncertainty brought about by changes in how higher education is organized, managed, structured, and funded both nationally and internationally. One of the outcomes of these changes to the context of academic work is that new academics frequently enter into the profession with an inappropriate set of expectations about the nature of academia and the work that will be involved; much of the literature reviewed suggests new academics perceive the role of academics in a way that does not reflect the real nature of 21st century academia. The discrepancy between what is real and what is perceived results in tense relationships between the new career academic and his or her roles of researcher and teacher. These tensions can be managed and lessened through a number of different mechanisms and processes which may be available to new academics such as mentoring, formal programs of study, and ongoing and continuous professional development opportunities. The evidence also suggests that it is reasonable to conclude that effective career support for new academics is not only about individual measures and actions but is also about how they are linked together in a coherent manner.

The paper now moves from theory to practice and considers the support given to new academics across two business schools in the UK higher education sector. In making this shift, we aim to answer one fundamental question: What are the personal and discipline-specific development needs of new academic staff in research-intensive universities? In developing a robust answer to this question, the paper focuses on three issues. First, from an institutional perspective, what are the demands placed on new academics in the first four or so years of their academic careers? Second, what are the learning needs and preferences of new academics in research-

intensive universities and how well are these needs and preferences aligned with the demands placed on them? Finally, what is being done to support new academics, and how are individual mechanisms and interventions linked together in a coherent manner? We will first discuss data collection.

Methodology and Data Collection

The primary data in this paper were generated as part of a HEA funded project into the personal and discipline-specific development needs of new academic staff in the subject areas covered by the BMAF subject center. This project involved a broad cross section of business schools from across the sector although the data in this paper is drawn from just two of those institutions. The two schools were chosen to form the basis of this paper as they are reasonably similar in terms of their teaching-research orientation which will make the drawing of robust, if tentative, conclusions possible. Both schools are full service schools and offer a range of academic programs from generalist and specialist undergraduate and masters level programs through to doctoral programs. In this paper, the schools will be referred to as BS and SM. In terms of size, BS is larger with almost 120 full time academic staff compared to less than 90 in SM but both schools have similar proportions of staff at professor, reader, senior lecturer, lecturer, and tutor/teaching fellow grades. The schools are also similar in terms of structure with subject-based divisions for the management of staff and a separate program management structure.

The data were collected through the use of semi-structured interviews carried out with 12 members of staff from each institution. Interviewees were broken down into three groups. The first group was senior staff with responsibility for the staffing strategies of the school and the line management of new academic staff. The second group were staff from the university with responsibility for the postgraduate qualification in academic practice or equivalent and the final group were new academic staff. For the purposes of this project, new academic staff are defined as staff within four years of their first full time academic appointment. Five senior staff from both schools were interviewed, the program directors of the postgraduate qualification in academic practice in both universities were interviewed, and six new academic staff in each school were interviewed. The new academic staff interviewed came from a variety of backgrounds. For examples, of the six new academics interviewed in SM, four had entered the profession either just before or just after they had completed a Ph.D. program, and the other two entered the profession following a number of years of industry experience. In BS, the profile of new academics was similar. Five of the new academics had entered the profession just before or just after completing a Ph.D. program, although one of these also had significant experience of working in industry. The other new academic interviewee had joined from another academic discipline. All of the academics who entered the profession via a Ph.D. program had some experience teaching in higher education prior to their appointment as part of their Ph.D. program, but none of those who entered from industry had teaching experience. There was an equal split between males and females in both BS and SM among the new career academics interviewed.

The interviews in both SM and BS followed the same line of questioning; the main questions asked in interviews for the three groups of participants are identified in Table 1. An audio recording of each interview was made and detailed notes were taken during the interview. The purpose of the recording was reference only to clarify any issues that may not have been clear from the note-taking and, therefore, the interviews were not transcribed. All interviewees were invited to comment on how the interview data have been used in writing this paper in terms of both accuracy and interpretation. Each of the interviews lasted between 45 and 60 minutes and was carried out by the authors of this paper. In analyzing the data gathered in the interviews, the issues identified in the review of literature were used to explicitly guide the analysis.

Results

The results from the interviews will be presented in line with the four dimensions of career support discussed earlier. Where quotes from the interviewees are presented, they will be done on the basis of whether the interviewee was a Senior Manager (SrM) or New Academic Staff (NAS) and in which school they work.

Expectations

Across BS and SM, there were a number of similarities in terms of where gaps in expectations appeared and how these gaps were dealt with and managed at both the School and University levels. Broadly speaking, the new academics interviewed came into their posts via either an academic route (involving a Ph.D. program) or a practitioner route where the new member of staff joined academia from industry. Where there were issues of expectations, they tended to center on the multi-dimensional nature of academic work and the academic culture in which staff were expected to build and manage their careers. In terms of the nature of academic work, senior managers in both schools stressed the importance of building a balanced portfolio of research and teaching excellence, for example “we can’t be a top business school just by research” (SrM5-

Table 1
Questions in Interview Protocol

Senior Staff	Institutional Lead for PG Qualification	New Academic Staff
Tell me about the sort of work that new lecturers undertake in your department?	Please describe the learning and development support that is available for new lecturers in terms of initial professional development (IPD).	Tell me about the sort of work that you undertake in your department?
What sort of information is routinely available to new lecturers and who would make sure that they received the information?	Are new staff encouraged to complete a Postgraduate Certificate in Academic Practice (PgCAP) or equivalent?	Do you have the same access to facilities as other academic staff?
What contact have you had with your new lecturing staff?	The PgCAP in particular, who owns it? Who funds it? Who staffs it? Is it HEA recognised? How much does it reflect core university interests? Is discipline-specific development for new staff provided?	What sort of information is routinely available to new lecturers and who would make sure that they received the information?
What benefits/particular contributions do you notice arise from the employment of new lecturers?	What are the drivers and the constraints for new staff engaging in a PgCAP or other continuing professional development (CPD)?	What contact have you had with your line manager and your mentor?
What challenges and difficulties have you experienced relating to the employment of new lecturers?	Does your role involve you in the learning and development support available to new staff after IPD? If so please describe	What are the three things that you feel were most useful to you on first joining this Institution?
Please describe the formal/mandatory support offered to new lecturers.	How do you promote opportunities and evaluate engagement in IPD or CPD?	What three things did you find most frustrating?
What about informal/voluntary/self-selected support – what might this include and what role does this play in supporting new lecturers?		What induction did you undertake when you joined this University?
To what extent are new lecturing staff involved in regular review and feedback processes.		Do you feel that you need on-going support as a new lecturer?
Are there any other points relating to new lecturers that you would like to make that we have not covered in this interview?		What on-going support were you offered?
		Were you allocated (or did you choose) a mentor (or equivalent support person)?
		What do you believe your mentor's role is?
		What CPD opportunities are available for new staff?
		Are you advised on what CPD to undertake and/or are any of the programmes/courses mandatory?

BS) and all senior staff in SM pointed out that staff were expected to be research active and make a significant contribution to the teaching of the School's programs. The focus of the teaching issue tended to be on the large cohorts of students in the undergraduate and postgraduate programs. Teaching responsibilities included lecturing to classes of over 200 students, marking and giving feedback to large numbers of students, and fitting into a teaching team on an already established module. The problem of working within an academic culture for the first time was particularly acute for staff from a practitioner background, summed up neatly as "not knowing the landscape, both political and managerial" (NAS3-SM). Here the issue was

primarily the contrast between institutional demands to meet targets for research and teaching and the need for staff to take responsibility for their own career management and development.

While the two schools addressed these issues in different ways, what was common across both was the variety of mechanisms used; setting and managing expectations was not seen as something which could be done with a single intervention, for example, an induction program. As an illustration of this, senior managers in both schools were clear in terms of the qualities expected from new staff: "we are honest about what we want, identifying the capacity of an individual" (SrM2-SM) and "potential to be good at both teaching and research . . . can't sustain someone being weak in one of those two areas" (SrM2-BS). This clear view was then reinforced with mechanisms such as induction programs, the setting of objectives and targets, working with mentors and senior colleagues, informal support from within the faculty, the provision of a postgraduate qualification in academic practice or equivalent, and so on. The management perspective is summed up by one senior manager who suggested that "you do not know what you are going to get, but good induction and support ameliorates this" (SrM5-SM). The main issue is not so much what mechanisms are in place as how well those mechanisms work in managing the expectations of new academic staff. The multi-dimensional approaches taken seem to be, in the main, successful with new staff commenting "I know what I need to do" (NAS1-BS) and "expectations are set at the start, negotiated . . . relatively fair and reasonable" (NAS3-BS). This is not to suggest that systems work perfectly all of the time. Some new staff, for example, commented that they still had some "feelings of isolation" (NAS6-SM), that colleagues did not "understand who or what I am" (NAS1-SM) and that they had been put "in at the deep end" (NAS1-BS).

Career Management

One of the most significant differences between BS and SM is in the probationary period; new academics in SM have to complete three years probation whereas the corresponding period in BS is two years. One of the main outcomes of this is that senior management in BS feel they are making decisions about career progression for new staff on the basis of potential rather than output and "two years is probably not long enough to judge someone's research, but that is the university scheme" (SrM3-BS). Another difference between the two schools in this area is the basis for recruitment. In SM, "appointment is a research driven process" (SrM2-SM) whereas in BS recruitment of new staff is driven by "teaching requirements" (SrM2-BS). While there does seem to be a different imperative in the two schools in terms of what drives the recruitment of new staff, the common element between them is that new staff often struggle with managing the relationship between teaching and research. This would seem to stem from two causes. First, research is often seen as being the real driver behind career progression and, second, new academics face considerable demands on their time with large workloads caused by preparing classes for the first time. All of the new academics interviewed in SM either explicitly or implicitly suggested that the encouragement to develop a research profile was a key factor in joining the school, which reflects the School objective of "looking to replace non-doctoral staff with new staff who have Ph.D.s" (SrM2-SM). At BS, the importance of research was often seen as an "unwritten rule" (NAS1-BS, NAS3-BS) and that what was needed was "more emphasis on research to fast track your career" (NAS1-BS).

In supporting new staff to deal with the relationship between teaching and research, both schools emphasized the importance of staff taking responsibility to develop their own strategies to manage their careers in these areas. There are three broad areas of agreement across the two schools. First, while it is recognized as an issue in terms of heavy workloads, senior managers were also clear in pointing out the resource constraints that the schools operate under within their respective universities. "Creating more discretionary time for people is very difficult" (SrM6-BS) was a common view and this originates primarily in the demands placed on business schools to recruit large numbers of students. Second, research was viewed very much as an "individual enterprise" (SrM2-SM) in which the new academic is the primary actor and, thus, needed to work out strategies to manage him or herself. "Creativity and imagination" (SM4-SM) are required from new academics who, if successful, will be able to say "I learnt how to do it myself" (NAS2-BS). Finally, the role of the schools is to provide support that can be accessed by new staff as and when they feel it necessary. Outcomes for all staff will be the same, "the objective criteria are your publications" (NAS3-BS), but how staff reach these outcomes will depend on the formal and informal support they access. In this, the main difficulty stems from the view of research as an individual activity; "different people give different advice" (NAS1-BS) and "different academics have different strategies" (NAS4-BS).

Mentoring

While BS and SM took different approaches to the mentoring arrangements for new academic staff, there were two issues that were common to both schools. First, both senior managers and new academic staff placed great importance on the mentoring schemes in

place and, second, in both schools informal elements of collegiality were seen as being very important in career support, especially among new academic staff. The difference in approach between the two schools centers on the degree of specialization of the mentor assigned to a new academic. In BS, new academics are assigned two mentors, one for teaching and one for research, whereas in SM new academics are assigned a senior colleague who has responsibilities to offer guidance and support in both teaching and research. In both schools the mentoring systems are clearly linked to the probation scheme. In terms of setting objectives, mentors have a significant role; "probation is a strong process with targets carefully selected by negotiation to reflect the skills and career position of the individual" (SrM2-SM) and the mentor has a key role in the new academic meeting those targets through "encouragement and advice" (SrM6-BS). Outside of the formal arrangements, new staff in both schools identified collegiality as a crucial element in the support gained early on in their careers: "good to have people you can go to" (NAS3-BS), "the open doors of colleagues" (NAS3-SM), "getting advice from senior people is invaluable" (NAS4-BS), "the openness and communication from colleagues" (NAS2-SM).

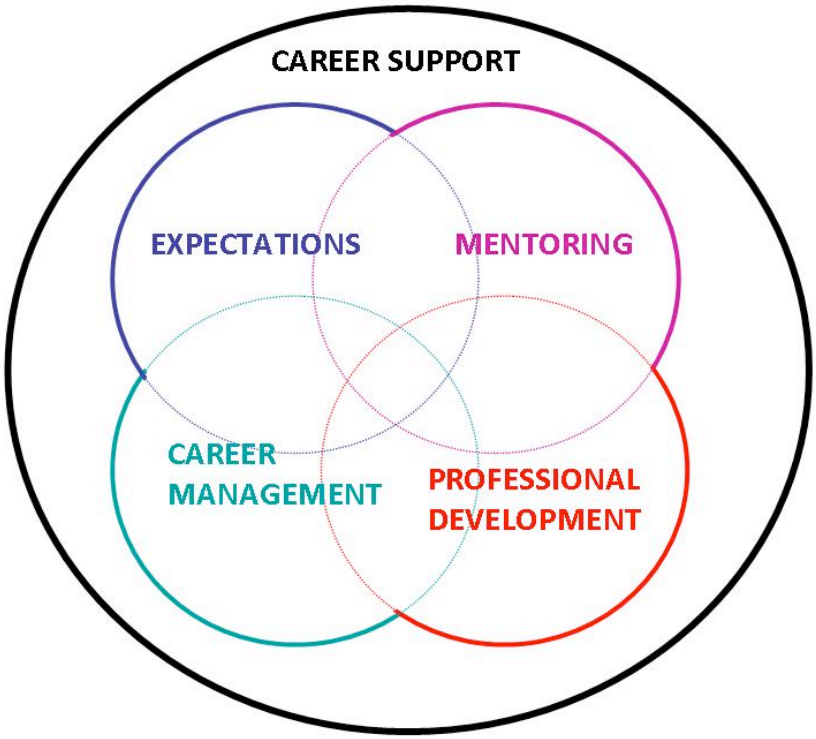
Professional Development

The formal starting point for professional development for new academics in BS and SM is the centrally provided postgraduate qualification in academic practice. While there are some similarities in provision between the two universities, there are also a number of key differences. In both BS and SM completion of the program is compulsory; in SM it is an integral part of the three-year probation system, whereas in BS it is a contractual requirement for all new academic staff with limited or no teaching experience. What are more significant are differences in scope and focus. In SM, new academics are required to undertake a Postgraduate Certificate in Academic Practice (PGCAP). This is a two-year 60-credit program in which the first year consists of a number of taught elements and the second year is built around the completion of a reflective portfolio of work. In terms of scope, the PGCAP aims to introduce new academics to all elements of academic work and so goes beyond teaching and covers areas such as research supervision and pastoral support. In contrast, BS offers a shorter and more focused program, the University Teaching Award (UTA) which concentrates on teaching issues for new academic staff. The UTA is a 40-credit program consisting of two modules, "Teaching" and "Enhancing Your Teaching."

Although the approaches taken are different across the two schools, there are similarities among the attitudes of staff to this mechanism for staff development. There was a general consensus about the benefits that accrue to staff who take the PGCAP/UTA and who have no real teaching experiences prior to taking up their appointment. On the PGCAP, a typical comment was "it is a programme to teach learners, i.e., previous Ph.D. students or practitioners, how to teach" (NAS2-SM) and on the UTA a typical comment was "the UTA is the only way for people to dedicate time to teaching" (NAS5-BS). The relationship between the PGCAP, the probation system, and SM was seen by most new academics as a strength of the program but this was much less evident at BS, which, perhaps, reflects the contractual rather than probationary requirement of the UTA. There were also similar criticisms of the two programs across the two schools. The first of these criticisms focused on the requirement for all new staff to undertake these programs, even those who had teaching experience already: "it is like taking driving lessons after having been driving for nine months" (NAS3-SM). Where this was the case, the value of the program was questioned: "It took time away from doing important things" (NAS3-BS). The final common issue across the two schools regarding these programs was the balance between general and discipline-specific content. Essentially, both programs are general programs and it is up to the individual participant to tailor his or her experience to his or her own disciplinary needs, which was not always seen as being successful: "there is some thought that the programme would benefit from being more discipline oriented" (SrM3-SM).

The PGCAP and UTA are clearly important mechanisms for staff development, but staff in both schools also stressed the importance of them as a starting point for continuous professional development (CPD) rather than an end point or self-contained dimension. The way in which this has been developed across the two schools is a reflection of the view that staff must take responsibility for their own development and the school or university's role is simply to provide opportunities for this. In general terms, BS seems to be more successful in this, as one new academic pointed out: "if academics need support, in the university they can find it" (NAS4-BS). In SM, on the other hand, ongoing CPD post-PGCAP is somewhat patchy. This is partially explained by the stand-alone nature of the PGCAP as a self-contained program with a resulting need for follow up activity: "the development of a programme of CPD has been identified as a priority for the future" (SrM3-SM). It may also be influenced by the informal and collegial dimensions to staff development which predominate post-PGCAP and, for the new academic, this can simply be about being in the right place at the right time: "the support for new staff post-probation depends very much on the subject group you work with" (SrM1-SM).

Figure 1
Elements of Career Support for New Academics



Discussion and Conclusions

The relationship between the data presented and the underlying theory discussed earlier suggests that there is robustness to the findings despite the qualitative nature of the study and small sample size. In general terms, the data are consistent with the existing literature in a number of key areas. One of the key conclusions about expectations from the established literature is that many new academics are not fully aware of the demands of academic work (e.g., Austin, 2002; Fink, 1984), especially with regard to the demands of teaching for the first time. Where there were issues in expectations in BS and SM, this was the area they tended to focus on with large class sizes frequently being cited as the main cause of the problems. Following from this, Elen et al. (2007) and Brew (2003) suggested that the main tension for new academics was in the relationship between teaching (which takes up a great deal of time) and research (which is essential to career progression in research-intensive universities) and, again, both new academics and senior managers in the two schools identified this element of career management as being important. In managing this tension, staff in BS and SM commented that formal mentoring and informal relationships with senior members of faculty were crucial in finding strategies to reconcile teaching and research commitments, which fits in neatly with much of the literature in this area, especially Boyle and Boice (1998) and Mathias (2005). Finally the need for postgraduate programs in academic practice to be embedded in the work of academics and to be part of a coherent package of CPD opportunities was clear in the literature (e.g., Ferman, 2002; Hendry & Den, 2002; Hubball & Poole, 2003) and the success of this at BS and priority attached to it at SM are consistent with this view.

In developing this literature further, the contribution this paper makes is to suggest that career support for new academics is not just about the four dimensions discussed but rather to suggest that its effectiveness is likely to be significantly determined by how these four elements are linked together. Figure 1 presents this argument in diagrammatic form and argues that the distinction between expectations, career management, mentoring, and professional development must necessarily blur as they merge into each other. For example, in BS, new academic staff are recruited into a research led school on the basis of teaching

requirements, which sometimes created problems in workload management and career progression. These problems are managed through a variety of different mechanisms such as the teaching-specific UTA and the provision of a teaching mentor; formal and informal relationships that helped staff develop strategies to manage workloads and the teaching-research relationship; and a suite of CPD opportunities post-UTA which staff could access as and when they needed. While SM may be more research informed than research led, recruitment of new staff was primarily carried out on the basis of research and this was reflected in the senior colleague mentor scheme and the more broadly based PGCAP. In both of these cases, it is possible to isolate individual elements of excellent practice, but the point should not be lost that it is how these elements of practice of linked together and integrated which delivers favorable outcomes.

If new academics are crucial to the continued health and vitality of the profession as a whole, the major implication of this paper is that both academic departments and academic development units must find ways to create integrated career support whereby all elements provided at the local and institutional levels are closely linked together. In making this suggestion, we recognize that there are two limitations to this particular paper. First, the data set is limited in terms of breadth, as it has been gathered from just two universities and, second, it does not reflect the diversity of institutions across the sector. While we would make the obvious point that the aim of the paper was to examine career support for new academics in research-intensive business schools, we do recognize that new academics are important to the profession across all parts of the sector, so we would make two suggestions for future research in this area. First, the evidence base can be extended nationally and internationally through both quantitative and qualitative approaches in order to judge whether the experiences and practices in BS and SM are typical or otherwise. Second, further studies involving a more diverse range of university business schools can be carried out to test whether there is wider applicability of this model to the rest of the sector.

In terms of practice, we would suggest there are two significant implications of the research carried out in this paper. First, both institutions in the study demonstrate that expectations can be managed with effective career support, and they also show that expectations should be set at the earliest opportunity, which means during the recruitment process. In research-intensive universities, the recruitment process naturally focuses on the aspirations of new academics as far as research is concerned and the extent to which those aspirations match those of the institution, but given the changes currently underway in the sector (Marginson, 2000) recruitment processes need to better reflect the non-research demands for teaching and service placed on new academics. The second implication is that much work can be done in terms of embedding formal career support in the professional life of new academics, especially in terms of postgraduate qualifications in academic practice. Both the theory and evidence presented in this paper suggests that different disciplines have their own specific needs in terms of developing teaching skills and this needs to be reflected in the provision on offer. One of the key questions here, which can probably only be answered on an institution-by-institution basis, is whether academic schools or central academic development departments are best placed to achieve this. There are, therefore, a host of both practical and theoretical possibilities not only in terms of what support can be given to new academics but also to how that support can be identified, examined, and disseminated.

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Technology for Teaching and Learning: Moodle as a Tool for Higher Education

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Many Canadian Educational Psychology classes currently emphasize and model constructivist teaching practices in addition to integrating the notion of connectivity and Web 2.0 into educational theory. This study examines Moodle[1] as a technological tool to further enhance participation and performance in addition to the regularly used "semiotic tools" and social-dialogical activities found in a teacher education program. Similarly, discourse and narrative are described as a mode of thinking, as a structure for organizing our knowledge, and as a vehicle in the process technology and higher education. How can a program of learning be assisted with structuring the delivery and organization of knowledge?

The implementation of constructivist[2] notions of theory into practice has been attempted in many learning environments, and most recently in technology and higher education (Doolittle, 1999; Roth & Lee, 2007). Vygotsky's cultural-historical theory of psychological development informed the foundation of sociocultural theory and constructivist practices of teaching and learning (Kozulin, 1998; Lave & Wenger, 1991; Vygotsky, 1978; Wells, 1999; Wenger, 1998; Wertsch, 1998).

Educational Psychology is a compulsory course for all teacher education candidates at my university. Many Canadian teacher education programs currently emphasize and model constructivist teaching practices based on the theory that learning involves active, cognitive processes that are adaptive, subjective, and involve both sociocultural and individual processes (Doolittle, 1999). Teacher candidates today are required to teach in the Canadian public school system that has a preponderance of Web 2.0 learners. Teachers are required to integrate the notion of connectivity and Web 2.0 into their educational practices. It is necessary that they understand and adapt their teaching methods to address these students (Levin, Arafeh, Lenhart, & Raine, 2002; Salaway, Borreson, & Nelson, 2008).

Web 2.0 Learners

Prensky (2001) was one of the first to identify the change in thinking patterns of today's students – K through university – who represent the first generations to grow up with new digital technologies. According to his research, they have spent their entire lives surrounded by and using computers, video games, digital music players, video cams, cell phones, and all the other tools of the digital age including computer games, Email, the Internet, texting, and instant messaging-- all of which are integral parts of their lives. These students can be called Digital Natives, that is, native speakers of the digital language of computers, video games and the Internet. Digital immigrants are those who were not born into this era, who may have adopted these technologies but are not native speakers (Prensky, 2001). This has led to one of the most talked about problems with education today, that is our Digital Immigrant instructors, "who speak an outdated language (that of the pre-digital age), are struggling to teach a population that speaks an entirely new language" (Prensky, 2001, p. 2). In order to address this, Digital Native methodologies need to be constructed for all subjects, at all levels, using our students to guide us (Prensky, 2007).

All this exposure and previous experience, Prensky (2001) surmises, has caused Digital Natives' brains to develop to a physiologically different degree. As a result of repeated experiences some areas of the brain are larger and more highly developed, and others are less so.

For example, thinking skills enhanced by repeated exposure to computer games and other digital media include reading visual images as representations of three-dimensional space (representational competence), multidimensional visual-spatial skills, mental maps, "mental paper folding" (i.e., picturing the results of various origami-like folds in your mind without actually doing them), "inductive discovery" (i.e., making observations, formulating hypotheses and figuring out the rules governing the behavior of a dynamic representation), "attentional deployment" (such as monitoring multiple locations simultaneously), and responding faster to expected and unexpected stimuli (Prensky, 2001, p. 4).

These notions of "pruning" and "brain plasticity" are also supported by researchers (Kolb, Gibb, & Robinson, 2003; Seely-Brown, 2002). Moreover, Small & Vorgan (2008) surmise that youth are predominantly using their temporal lobes while interacting with digital media and may not be establishing vital connections in their frontal lobes, where reasoning and social abilities are established. Nevertheless, the intensity and

combination of these cognitive skills have caused the old educational paradigm to be obsolete (Prensky, 2001). Twenty-first century teachers have developed into the role of challenger, observer, guide, and coach to their students. In doing so, they maintain intellectual rigor but with the collaboration of their students in defining the goals that are worthwhile, allowing them to arrive at the destination at their own speed and choice of "vehicle" (Prensky, 2007).

Continuing with the philosophy of "teach less/learn more," Tapscott (2009) advocates for similar teaching strategies to address the Millennials' unique learning needs. These include: (a) a learning environment that is student focused, customized, and collaborative, (b) learning experiences that emphasize student co-creation and reduced lecturing, (c) student empowerment and choice, (d) a focus on life long learning, not teaching to the test, (e) technology as a tool to get to know each student, (f) educational programs designed according to the eight norms of the "Net Generation" (Tapscott, 2009, p. 148). Moreover, he describes the Net Generation as the children of the Boomer generation aged 11-31 who have grown-up digital. Tapscott (2009) posits that there are eight norms, or clusters of attitudes and behaviors, that define this generation and are central to understanding how their needs are changing the process of education and work environments. These norms include: freedom, customization, scrutinizers of information, integrity, collaboration/relationships, entertainment/motivation, speed, and innovation. The Net Generation adapts technology to suit their individual needs [adapters], while other generations are considered "users" of the technology that is presented to them [adopters].

Web 1.0/Web 2.0 Continuum

The term "Web 2.0" reflects a shift in leading-edge applications on the World Wide Web, a shift from the presentation of material by website providers (Web 1.0) to the active co-construction of resources by communities of contributors with interactive media. Whereas the twentieth-century web revolved around developer-created material (e.g., informational websites) generated mainly by a small fraction of the Internet's users, Web 2.0 tools (e.g., Wikipedia) help large numbers of people build online communities for creativity, collaboration, and sharing. And with web application programming interfaces, community-builders do not need specialized technical expertise to create new media/information (Dede, 2008).

Students raised in a Web 2.0 world view knowledge and its acquisition differently. It is thought that many schools and parents do not address their preferences for learning and are proponents of emphasizing 20th century learning epistemologies (Bauerlein, 2008; Owston, 1997). Some researchers, who are digital immigrants, question whether we should be adapting school time to Web 2.0 learning environments since students are already immersed in so much screen-time (Birkerts, 1994; McKibben, 1992; Postman, 1993). What long-term implications does this have for learning, development, and schooling? Moreover, how many students in Canadian public schools and universities are really digital natives? What factors influence this distinction?

Interestingly, precise distinctions are difficult to ascertain between Web 1.0 and Web 2.0 because in reality these technologies develop over time, with hybrid versions in place, a "work in progress" as they are used and adapted by users in multiple contexts, schooling being just one.

Technology as a Tool for Learning

The following are assumptions for designing contemporary pedagogical practices infused with constructivist theory in classrooms that view: (1) learning as a process of construction so there will be multiple constructions/perspectives, (2) learning in contexts that are relevant to the learner, (3) learning mediated by tools (technology) and signs (semiotic tools), and (4) learning as a social-dialogical activity (Duffy & Cunningham, 1996; Vygotsky, 1978). As well, "it seems typical of apprenticeship that apprentices learn mostly in relation with other apprentices" (Lave & Wenger, 1991, p. 93). This is in keeping with Digital Natives' philosophy of learning, that is "search for meaning through discussion" (Prensky, 2007, p. 2).

Doolittle (1999) proposes that contemporary pedagogy can be translated into the virtual medium, and that this interface can meet constructivist tenets while providing relevant learning opportunities. A learning management system (LMS) is needed to bridge constructivist theory with pedagogical recommendations. Moodle can provide a unique opportunity for students to engage in social negotiation and mediation in the form of asynchronous (email, threaded discussions) and synchronous (simulations, web-based data collection, and ill-structured problem solving) technology. These online communications allow for social negotiation and mediation to occur across both time and distance (Doolittle, 1999). Moreover, formative feedback can be provided to students by their peers, as well as by the professor, in order to alter subsequent instruction. Social negotiation and feedback can encourage students to be more involved and more persistent relative to the educational environment. In addition, this format encourages instructors to take on a facilitating role and encourage the use of diverse resources and multiple perspectives (Doolittle, 1999).

With a change in pedagogical practices infused with technology, new taxonomies should inform the development of instructional strategies and assessments that encourage many "types (styles) of learners" such as active, strategic, intentional, conversational, reflective, and "ampliative" that is, learners who generate assumptions, attributes, and implications of what they learn (Jonassen & Tessmer, 1997). Therefore, learners are multidimensional participants in a sociocultural process of making "knowing how we know" the ultimate accomplishment.

Conceptual Framework

Sociocultural Approach

Vygotsky's cultural-historical theory of psychological development informed the foundation of sociocultural theory and constructivist practices of teaching and learning. Major contributions of Vygotsky's theory include the "role of culture in learning and development, recognition of the psychological functions, and the importance of social action during learning" (Gredler, 2001, p. 271). More specifically, this theory establishes the sociocultural setting as the basis for development and learning. Therefore, learner characteristics, cognitive processes, and the context for learning are all viewed from the same perspective (Gredler, 2001; 2007).

Methodology

A study examining the usefulness of Moodle as a technological tool was implemented in an Educational Psychology course, where Vygotsky is viewed as one of the earliest Constructivists. The study examined Moodle as a tool that enhances participation and performance, used in addition to the regularly used "semiotic tools" and social-dialogical activities found in a teacher education program. Similarly, discourse and narrative are described as a mode of thinking, as a structure for organizing our knowledge, and as a vehicle in the process technology and higher education. How can a program of learning be assisted with structuring the delivery and organizing of knowledge with a LMS? The following research questions guide this study:

1. To what extent are teacher education students Web 2.0 learners?
2. How do teacher education students use technology? Are they users or adapters?
3. What are teacher education students' perspectives regarding technology as a learning tool?
4. What are teacher education students' perspectives regarding Moodle as a LMS?

Within my post-graduate B.Ed. program, technology is embedded in classes and expected in activities and assignments. Moodle was used as a platform to deliver and organize learning activities and resources, a space to meet virtually, to collaborate on assignments, and to enhance participation and familiarity with the material and readings. To bridge the digital divide, Moodle allowed those students who need speed and collaboration to work at their own pace, as Tapscott (2009) suggests. In addition, reading on the computer screen, manipulating data/text on wiki-spaces and discussion-boards can be orchestrated remotely at the student's convenience. Moreover, those who prefer or who do not have broadband access at home can download and print readings, and can choose to meet in person to work collaboratively with their classmates.

Data Collection

Sixty-two students out of a potential pool of 90 were purposively sampled, at the beginning of the semester with follow-up data collection after the semester. The response rate was 69%. Sixteen semi open-ended questions were asked relating to the B.Ed. students' technology use to ascertain the usefulness of technology-literacy taught in the program and the effectiveness of Moodle as a LMS. This naturalistic inquiry produced thick descriptive data that offers insight into the students' perspectives of technology and learning.

During the analysis phase, the data was constantly compared to uncover emerging themes and patterns. A beginning list of factors was created to tie research questions directly to the data. Factors were redefined and added when they did not fit. Computer assisted reading, highlighting, grouping of data, and frequency counts were used to analyze themes that emerged, to verify the researcher's semantic analysis, and to initiate the interpretation of the students' perceptions.

Key Findings

The descriptive narrative data explicated the students' perceptions of technology use and yielded many interesting findings. This section will highlight key findings related to the four research questions.

To what extent are teacher education students Web 2.0 learners?

The response rate for participation was 69%. As described previously, the students were asked a series of questions related to technology use and how they learn. From this data, they were then described as a digital native or digital immigrant according to the eight norms or clusters of attitudes/behaviors as proposed by

Table 1
Digital Natives (n = 9)

Participant Number	Sex	Undergraduate Degree	Age
4	Female	English/French	22
6	Female	English	23
10	Female	Mathematics	22
15	Male	Mathematics	21
17	Female	English	27
18	Female	History	23
24	Female	English	24
39	Male	Mathematics	32
55	Female	Physical Education/Kinesiology	23

Tapscott (2009). Only nine out of the sixty-two participants could be characterized as digital natives. While many of the other participants used some aspect of digital technology/media daily, only these nine were totally *immersed* in the digital world since public school (see Table 1).

Of the fifteen percent of the participants who were considered digital natives, only two were male. Regarding the age of the participants, the mean was 24 years. This certainly is in keeping with Prensky (2001) and Tapscott's (2009) notion of Digital natives' age range (11-31), but this is only part of the story. Fifty-three of the sixty-two participants were within this Digital Native age range (11-31) but only nine (or 15%) were actually categorized as Digital Natives. What factors have led to this disparity? Further examination of the data will help illuminate many of these influences.

How do Teacher Education Students Use Technology? Are They Users or Adapters?

Of the nine Digital Natives, five could be considered adapters; that is, they adapt technology to suit their individual needs. Only two of the sixty-two participants stated they were non-users of technology; the other 97% reported being users in varying degrees. Moreover, prior to their participation in the B.Ed. program, 28% of the participants described embracing technology.

One of the "adapters" stated when asked if peers used technology the same way: "Simply put, they do not. I am a technophile and it shows. Having worked for Compaq/HP for a few years, friends and family call me for technical support on a regular basis" (no. 39). On the other end of the continuum, this non-user explained:

> I am sure there are peers who use technology more than me but I am just as sure that there are those who don't use it either. I would bet that almost all of my children's peers use technology as that is the age they are growing up in. If I need something on the computer and I am stuck, my children will find it or fix it for me. My children are much more comfortable on the computer than I am. (no. 23)

In the middle of the "pack" there are students who have recognized there has been a change in learning. One participant posited:

> I believe that at 32 years of age I am very close to the transition to our technology-based world. My friends who are slightly older than me tend to be a little less comfortable with new technologies, while those that are younger seem to be more at ease. Now being back in university with fellow students only a few years removed from High School, I can clearly see how much more comfortable they are with the gadgets and programs. I really didn't feel old until I came to STU. (no. 36)

Finally, a digital native describes her computer usage:

> I use my computer for pretty much everything, more specifically, information, creation, and communication. It is not unusual to find my husband and I at home in the same room quietly on our separate computers. I call it "dueling laptops" and it is very strange to our families, but very normal to us. The Internet is our great oracle that decides what to wear in the morning. It tells me whether or not those boots I want are actually as cute and as water resistant as they say they are. It allows me to make decisions based on many factors. It informs me of possible opportunities and allows me to be an anonymous voyeur and exhibitionist from the privacy of my home. The Internet is my main source of entertainment, research, news, correspondence, gossip, trends—

> you name it. I can find anything on the Internet. I grew up in a family and a group of friends who are really engaged with technology. (no. 24)

What are Teacher Education Students' Perspectives Regarding Technology as a Learning Tool?

Only two of the participants reported being non-users and were critical of technology as a learning tool. The other 97% of participants identified technology as very positive learning tools if used appropriately. One participant explained:

> Students benefit from information that is conveyed using visuals, connections, repetitions, discussion, choice, applicability. The use of technological tools such as SMART Boards benefits the teacher and students. It's visual, it provided access to so many amazing resources, and it's interactive. However, the use of technology is no substitute for good teaching and critical thinking. (no. 1)

Every participant, even the two non-users spoke of wanting to learn how to use the SMART Boards more effectively. SMART Boards were seen as resource for both teachers and students. This digital immigrant explicates how her learning experiences have changed:

> It is difficult to comment on how *technology* has changed my learning experiences. My learning experiences have certainly changed since public school, yet there are numerous factors contributing to this change. Certainly, the accessibility of information due to high-speed Internet has had a drastic impact on my learning experience since high school. Because of the readiness of information, I feel that I am spending much less time finding my research material, and also less time with an individual piece of research. I also find that today my learning comes from a multiplicity of sources, rather than from a few, because of the accessibility of information. This quick and fragmented approach to accessing information also contributes to my learning that occurs outside of the classroom. Throughout my teenage years, I feel that my learning was more focused, coming from one or a few sources. Today, I have so many areas of interest and know a little bit about each area. I believe this is because I have acquired a thirst to know about everything, but it is also a result of the accessibility of information. I now feel that it is possible to learn almost anything, anytime, and independently. (no. 31)

Structuring course information that can be accessible at any time and allows students to work on their own and collaboratively is challenging. Learning is increasingly individualistic; that is, students want it personalized to their needs, desires, and schedules with one-to-one flexible learning.

What are Teacher Education Students' Perspectives Regarding Moodle as a LMS?

Only a small percentage (23%) of participants thought Moodle was a great way to structure a course in reality. While many thought it was a great idea, as many public schools are beginning to implement its use at the high school level, its use was fraught with many logistical problems. My Educational Psychology courses were the first at the university to use Moodle as a main platform with 90 students, in addition to the high extent of user traffic, as the only way to access readings, virtual space to meet, and collaborative assignments. All of this usage caused server crashes when many students and groups attempted to complete assignments the night before a due date. In addition, students chose their own groups and did not consider the range of technological abilities, the attitudes towards technology use, the work ethic, schedules of members, and members' access to computer/Internet equipment at home. As it turned out, many students living twenty minutes outside of the city limits did not have access to broadband Internet. Based on the students' perspectives, this hindered their participation and learning.

Broadband Internet

Lack of access to reliable broadband Internet (BBI) was an emergent factor discussed by many students as a constraint. When BBI was available consistently, it was considered an affordance, a benefit to learning. One digital native spoke of her earlier experiences with computers and Internet as positively contributing to her learning. She explained:

> Technology, especially the use of computers, has greatly enhanced my learning. I experienced a slightly different approach to learning than most while I was progressing through school as I was exposed to the use of computer technology early in my education. I attended Harry Miller Middle School, an 'early adopters' school that began integrating technology when I was in grade 6. We were taught how and given the opportunity to use computers in all subjects for various projects and assignments. It was a very hands-on approach. I consider myself very lucky to have had this experience. The use of computer technology has been a huge help through university as I am able to create presentations, conduct research and edit

> assignments in a timely fashion. It has helped foster my overall learning in general. I strongly believe that computers are a technology that is a wonderful tool in education today. (no. 4)

Very few participants were this lucky, to be an early adopter. Not only was the next participant disadvantaged during her public school experience, she was still disadvantaged during the B.Ed. program and Moodle use. She stated:

> The biggest change has been the Internet access. At home, there is still no high-speed access available and therefore that was quite limiting on what you could do on the Internet. Furthermore, when I was in public school, there was no such thing as a SMART board and generally overhead projectors were as exciting as it got. We did have a technology class but it was also quite limited compared to all the technology that I am learning in Educational Technology. (no. 34)

Another Digital Immigrant commented on his learning experiences related to technology. He posited:

> I wouldn't have thought that technology had affected my learning so much from public school, but looking back, when I graduated from high school ten years ago, I didn't even have an Email account, or even a home computer that could access the Internet. It wasn't until I was at [university] as an undergrad that I really spent much time online at all. Along with email, came Internet research, both academic and otherwise. I would say that this had probably the greatest impact on my learning because I didn't have to spend hours searching through hardbound texts, skimming indexes, flipping pages, and reading paragraph after paragraph (if not page after page) just to determine whether the material was relevant or not. Technology has made learning more time-efficient and less frustrating, but at the same time, technology has made me lazy and dependent on the technology. (no. 40)

To summarize the participants' perspectives in this preliminary study, 86% of the participants in this study were of the Net Generation age group [11-31] but only 15% could be categorized as Digital Natives or having Net Generation behaviors and attitudes. Access to technology and BBI appears to be related to urban vs. rural schools, funding of school districts, and to some extent socioeconomic status and privilege. Moodle's effectiveness as a platform for learning appears to be inconclusive, in this particular program/institution, at this time due to unforeseen circumstances.

Discussion

First as a cautionary point, especially related to the theoretical underpinnings of constructivist approaches to teaching and learning, we must examine the contexts of participants' prior experiences, as well as examine the assumptions of the literature reviewed before implementing program change. Not all students 11-31 years of age are digital natives. In fact, only a small percentage could be considered "full-members" of this category in my very competitive B.Ed. Program. Students who are "very good" at 20th century school are admitted to the program. It should be of no surprise if Web 2.0 epistemologies (e.g., Moodle) are for the most part considered foreign and unwelcome by some.

Secondly, it appears that both Prensky's Digital Natives/Immigrants, and Tapscott's Net Generation present Web 1.0 and Web 2.0 as polar opposites. In reality, it is a process of negotiating the tension between philosophy and reality—of bridging the learning needs and preferences of digital natives and immigrants—where few learners are purely one or the other, in all circumstances.

Leu, O'Byrne, Zawilinski, McVerry, and Everett-Cacopardo (2009) suggest that this divide could be better addressed by first viewing the issue as one of technology-as-literacy, another symbol system to be mastered, instead of technology being taught as a stand-alone subject or add on—one that can be seen as an "extra" to be "covered" when there is adequate time. More specifically the learning challenges of today can be addressed by promoting the following:

1. Technology standards could become integrated with subject area standards.
2. Instruction in Internet use could be integrated into each subject area.
3. Every classroom teacher/professor could be responsible for teaching online information and communication use.
4. Online information and communication skills could be included in subject area assessments.

While all of these recommendations would not be that difficult to implement, it must be remembered that institutions of learning often have a traditional resistance to technological change (Demetriadis et al., 2003; McKibben 1992; Traxler, 2007).

In Canada where the preponderance of its population exists along the US/Canada border (Custred, 2008), there are many provinces that have rural areas lacking in educational services and opportunities, the foremost being access to broadband Internet (Lie, 2003). There is a lack of equitable integration of technology and Internet in schools, households, communities, and work places (Bussiere & Gluszynski,

2004; Veenhof, Clermont, & Sciada, 2005). This lack of opportunity and prior experience hinders the cognitive development of students from grade school to the workplace as explicated by the participants in this study (Lie, 2003). Extending BBI to rural schools and communities is a concrete and essential objective for provinces, one that is supported frequently in research literature (Ally, 2005; 2009; Gregson & Jordaan, 2009; Wishart, 2009). Further research is warranted to tease out the essential educational services in both public and higher education, and how lack of access to technology exacerbates all the other "isms" to further entrench the rich/poor divide.

Notes

[1] Moodle is a software program for electronic or "e-learning," a category of programs that are variously identified as "Course Management Systems" (CMS), "Learning Management Systems" (LMS), or "Virtual Learning Environments" (VLE). Many of the mechanics of classroom operation—such as assignments, scheduling, and quizzes—can be easily set up through simple resource-based "courses." Moodle also has a broad variety of additional modular features and a relatively quick learning curve, helping educators easily and effectively develop full online classes, either in advance or as the course is being taught. This versatility allows Moodle to be used in a variety of ways depending on the needs and capabilities of the classroom and program of study: from simple classroom management to pure e-learning—or a "blended" combination of the two, with e-learning content and utilities extending on-site classroom learning (Pieri & Diamantini, 2009).

The system allows professors to use a course at the same time they are developing it, and then re-use and improve it each year. Often classrooms start using a single feature such as a calendar or assignment drop box and then expand as professors explore additional features. Moodle has also been built to support a 'social constructivist pedagogy,' which is based on the active contribution and collaboration of the students. In addition to the traditional lesson, calendaring, assignment, and quiz capabilities associated with online learning, Moodle incorporates a variety of modules that support this approach, including wikis, forums, and chat. The development community continues to add Moodle program features, and as well some Moodle users share courses as open content.

[2] Constructivism: The theory of constructivism "acknowledges the learner's active role in the personal creation of knowledge, the importance of experience (both individual and social) in this knowledge creation process, and the realization that the knowledge created will vary in its degree of validity as an accurate representation of reality. These four fundamental tenets provide the foundation for basic principles of the teaching, learning, and knowing process as described by constructivism"(Doolitttle, 1999, p. 1). Moreover, these tenets may be emphasized differently, resulting in various "degrees" or "types" of constructivism.

[3] This article is based on a conference presentation – Wood, S. L. (2009, July). *Higher education and the changing media environment: Enhanced participation and performance.* Paper presented at Improving University Teaching, 34th International Conference, Simon Fraser University, Vancouver, BC.

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Appendix 1

List of Semi-Open Ended Questions:
1. How do you like to learn?
2. How do you like to study?
3. How many computers do you own?
4. How do you use the computer?
5. How do you use the Internet?
6. How do you use the telephone/cell phone?
7. How do you use the library
8. How do you use the television?
9. What technology/programs/software do you use?
10. How has technology changed your learning experiences in public school to university?
11. How do you socialize?
12. How would you like to see your learning environment change?
13. How would you like to see the school you teach at (internship etc.) change?
14. What technologies do you hope to use as a teacher?
15. What technologies would you like to learn to use?
16. Do peers of a 'similar age' use technology the same was as you?

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Effects of Paragraph Length on Reading Latency and Comprehension

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Reflective practice has become a mainstay in many inquiries into teaching and learning, presenting reflective practitioners with the challenge of accounting for their own institutional positions when interpreting student performance in the binary teacher-student configurations of most classrooms. This study analyzes the perspectives of TAs cast as mentors to students in a unique trinary configuration of instructor-mentor-student. During four semesters, TAs in English mentored first-year university composition students by attending all classes alongside them, conducting intake interviews, and following up with numerous out-of-class conferences during the semester. Using standardized end-of-term evaluations by mentors supplemented by focus group transcripts and administrators' field notes, analysts determined that mentors' ranges of actions in the classroom and course enabled them to "think through" the perspectives of both instructor and student to develop "positional reflexivity." By incorporating the factor of institutional position into reflexivity about teaching and learning, mentors gained insight into such issues as interpretations of student performance, power dynamics that inflect students' senses of agency, the challenges of transitioning to college, mentors' own professional goals, and more. Implications are drawn for leveraging this unique form of TA training to enhance learner-centered approaches to teaching when TAs later find themselves teaching their own courses.

"Reflection" has come to figure heavily in much current theory and practice in teaching and learning. Overviews of definitions and uses of the term have traced origins to Dewey (Hatton & Smith, 1995; Rodgers 2002) and noted its value in student teachers' learning and in teacher training more generally (Hatton & Smith 1995; Kreber 2006; Schulman 1986; Ward & McCotter, 2004). As Dees, Kovalik, Huffman, McClelland, and Justice (2007) have noted, teacher reflection, formerly the province primarily of K-12 instructors, has spread to university settings (2007, p. 130), which helps account for a proliferation of nuanced uses. Kreber (2006, p. 91) observed the following: critical reflectivity (Brookfield, 1995; Andreson, 2000), critical reflection (Kreber, 2003), and reflective critique (Glassik, Huber, & Maeroff, 1997). Clearly, research and different theoretical approaches have engendered many ways to tap reflection to boost self-awareness as a teacher, which in turn can prompt revision of approaches to teaching and professional development.

Reflective teachers thus become self-analysts, faced with a challenge depicted by D. Schön in his highly influential work *Educating the Reflective Practitioner*: "The phenomena that [the practitioner] seeks to understand are partly of his own making; he is in the situation that he seeks to understand" (1987, p. 73). Even as this "self"-analysis is ongoing, so is an (explicit or implicit) analysis of the "other"—students— thus presenting yet another challenge of both ethical and epistemological dimensions: how to account for one's own roles, predispositions, biases, filters, and the like, as one interprets reflective teaching practice? For qualitative researchers, one answer lies in exercising *reflexivity*, which, like reflection, has taken on numerous dimensions.

Generally understood as an endeavor in which "the subject/researcher sees simultaneously the object of her or his gaze and the means by which the object (which may include oneself as subject) is being constituted" (Davies et al., 2004, p. 360), reflexivity can be leveraged when writing up research to re-think how instructors and students are constituted in past, present, or future classrooms (Day, Kaidonis, & Perrin, 2003). When articulated to a feminist tradition in teaching, reflexivity entails a "practice of observing and locating one's self as a knower within certain cultural and sociohistorical contexts" (Sinacore, Blaisure, Healy, & Brawer, 1999, p. 267), and may become part of teacher training by focusing on "pupil experience" (Kramer-Dahl, 1997). As part of a dialogical practice of teaching, reflexivity may emerge from personal, "reflex" moments in the classroom that can ground a dialogue linking tacit knowing and explicit knowledge (Cunliffe, 2002). The tugs between the personal and the epistemological clearly play a role in reflexivity, and Willig makes the distinction:

> "Personal reflexivity" involves reflecting upon the ways in which our own values, experiences, interests, beliefs, political commitments, wider aims in life and social identities have shaped the research. . . . [E]pistemological reflexivity encourages us to reflect upon the assumptions (about the world, about knowledge) that we have made in the course of the research, and it helps us to think about the implications of such assumptions for the research and its findings. (2001, p. 10)

In the realm of ethnographic inquiry—a methodology that drives much teacher-research either explicitly or implicitly (Ray, 1993)–reflexivity "enables ethnographers to see their research within historical and structural constraints that result from asymmetrical power distributions" (Heath & Street, 2008, p. 123). When we reflect on our students' performances in our own classroom, this consideration of asymmetrical power distributions is vital: we are always hampered in gaining insight into students' perspectives and experiences by the power differential, in the information we receive from students and in the ways our own *position* as teachers in the classroom and college or university hierarchy influences our interpretations of them. Hence for teacher-researchers, the two overlapping roles of teaching and researching—each invaluable in elaborating a learner-centered pedagogy—can be merged productively by taking "reflective practice" into the realm of "reflexive practice" with a particular emphasis on positional reflexivity.

In *An Invitation to Reflexive Sociology,* Bourdieu and Wacquant identify this last kind of reflexivity, referring in their definitions to "the position that the analyst occupies," and noting "the points of view of sociologists, like any other cultural producer, always owe something to their situation in a field where all define themselves in part in relational terms" (1992, p. 39). The "relational terms" of the classroom are strongly predetermined by the respective institutional statuses of students and teachers, and as Lave & Wenger have argued, probing the relational terms in any situated learning is key to developing a "learning curriculum" (1991, p. 97). We can benefit from probing positional reflexivity when an opportunity arises to shift the terms of relationality. The research that follows resulted from such an opportunity, when TAs were teamed with first-year composition instructors and cast in the roles of writing mentors to all students in the class. The shift away from the binary positions of instructor/student that the introduction of a new actor into the classroom created, along with the need for these mentors to figure out their own positionality between instructor and students, offered an opportunity to analyze reflexivities related to teaching and learning.

Researching such reflexivity also enabled a probing of this novel configuration of the TA. Although a portion of TAs in university settings teach independently, those TAs who are assigned to work under the supervision of a lead instructor frequently fulfill such duties as grading student assignments; conducting seminar or lab sub-sections, either in traditional classrooms or online; meeting with students in need of additional tutoring; and delivering an occasional lecture (Goodlad, 1997; Muzaka, 2009; Shannon, Twale, & Moore, 1998). In short, the TA's primary responsibility is usually to lighten the professor's workload (Park, 2004). However, as these TAs constitute the future of the professoriate and often bring to their positions a strong interest in teaching, TA-ships could be more intentionally configured to meld their instructional duties with research on learners' performances *in situ*, and thus bring reflexivity as an educational practitioner into TA training. In the study presented below, with Teaching Assistants re-positioned as both (1) mentors to students and (2) researchers of student performances with respect to course expectations, data were gathered from mentors and instructors to probe this question:

> In these "trinary" classrooms, in what ways did mentors reflexively consider teaching practices through the perspectives of the organizational others—instructors and students?

Background: Program Inception and Administration

In the spring of 2007, the English Department at a public university in Hawai'i was given a package of support to team MA and "apprenticing" Ph.D. graduate students in English with instructors to teach first-year composition (FYC). At this university FYC is a general education course conceived as students' "foundation in written communication." Because this unique teaching situation was part of a pilot initiative funded by the Chancellor's office at the university and supplemented by a one-year grant from the National Education Association, administrators sought to document and assess the initiative in multiple ways. To prepare for this pilot, the English department ran two pre-pilot sections in the fall of 2006 in which all twenty students were tutored in a version of "on-location tutoring" that embedded tutors in classrooms (Spigelman & Grobman, 2005). These pre-pilot sections were monitored and yielded insights on individual conferences, providing a basis for standardizing conference documentation logs (Bruland, 2007). During the spring of 2007, four pilot sections were run, in which the graduate students working with all students in the section were formally designated as *mentors*. Data collected on these conferences yielded insight on the roles that were co-constructed by mentors and students in individual conferences (Henry, Bruland, & Omizo, 2008), enabling subsequent training to prepare mentors for such roles.

The scholarship on mentoring is vast, spanning both educational and corporate scenarios and addressing many configurations for mentoring, both formal and informal. To refine the conceptual framework of this mentoring initiative, administrators

supplemented their own findings on the pre-pilot sections with scholarship outlining mentoring origins (Colley, 2002; Roberts & Chernopiskava, 1999), definitions (Mullen, 2005), attributes (Roberts, 2000), key practices (Chan, 2008) and constructs (Nora & Crisp, 2008). This research also underscored the importance of structuring the mentor-mentee relationship as supportive and non-evaluative, and so it was decided as formal program policy that mentors would not grade student writing. These mentors were instead tasked with attending all classes and participating in class activities, taking notes in the dual roles of model note-taker and researcher of student learning, and conducting regular individual out-of-class conferences with all enrolled students.

To prepare instructors and mentors for the first official semester of the pilot, the initiative director and research/administrative assistant provided a two-day, pre-semester workshop during which they accomplished the following with mentors: discussed a formal job description (as 1/4 TA-ships); presented the array of possible roles that mentors had filled the preceding semester; provided a standardized log for documenting student conferences; instructed mentors in fieldnote taking during class sessions in their dual roles as teachers and researchers focused on their students' performances; and provided a panel of the four mentors from the previous spring, including a presentation by one of them on "motivational interviewing" techniques to be used during intake interviews that mentors were instructed to hold with students. (The 5,000+ mentor logs submitted to date have documented individual conferences that last from two minutes to over two hundred minutes, reflecting in many cases a "talking within" [Lave & Wenger, 1991, p. 109] the practice of writing—supplementing the "talking about" writing of the classroom with one-to-one conversation grounded frequently in the mentors' own approaches to writing.)

Instructors' workshops also included discussion of mentors' job descriptions and standardized logs for individual conferences; discussion of possible roles that mentors would fill during those conferences; a reminder that mentors would be both mentoring students and researching (and analyzing) their performances as part of their note taking in the classroom; and suggestions to solicit writing samples from students early in the semester so that instructor and mentor could already chart possible mentoring to be needed. In addition, instructors and mentors were given time to confer over the syllabus and to make the mentor a formal part of it, emphasizing the value of individual conferences as a form of supplemental instruction. Because mentors and instructors affirmed the value of these pre-semester workshops, they were institutionalized for subsequent semesters.

Methodology

All program-related research underwent IRB approval. This study's primary data set consisted of end-of-semester surveys completed by mentors. Secondary data sources, which were used to triangulate findings from the surveys, included administrator fieldnotes from beginning-of-semester instructor workshops and biweekly mentor roundtables, transcripts from five focus group interviews with mentors, and students' anonymous end-of-term evaluations.

Research Participants and Data Collection

From 2007-2009, graduate teaching assistants were formally positioned as "mentors" in 65 sections of first-year composition offered at the university. Program participants included approximately 1,250 students (with the strong majority in their first year of college), 48 instructors, 29 mentors, and two program administrators. The average mentor-to-student ratio in these courses was 19:1. The instructors, all members of the English Department, spanned a number of institutional positions ranging from full professor (14% of the total mentored sections), to associate professor (20%), to assistant professor (9%), to Ph.D. student (27%), to lecturer (11%). Mentors, who were also affiliated with the English Department, occupied the institutional statuses of unclassified graduate student (5% of all mentored sections), MA student (88%), and first-semester Ph.D. student (8%). After one semester of mentoring, these Ph.D. students moved into the role of instructor. Whereas Ph.D. students occupied the position of mentor with "instructorhood" in their immediate futures, the MA mentors also saw themselves as preparing for future teaching roles, as 96% of the total mentors responding to an anonymous survey claimed that they intended to teach after completing their graduate degree. (All of the Ph.D. students who transitioned from "mentors" to "instructors" requested to be paired with mentors of their own in subsequent semesters.) As mentors entered the program at different stages in their degrees, their participation ranged from one semester (seven mentors), to two semesters (13 mentors), to three semesters (seven mentors), to four semesters (two mentors). In cases where mentors served multiple semesters, program administrators attempted to pair them with instructors of different institutional positions, scholarly orientations, and cultural backgrounds in order to maximize their exposure to various approaches.

At the end of each semester, questionnaires were delivered to mentors online via SurveyMonkey. These questionnaires asked them to provide feedback on their

experiences in the program to the administrators and were anonymous. In the program's four semesters, 50 of 62 possible surveys (81% rate of return) were submitted. (In three cases, mentors served in two sections at once, but they were asked to complete only one survey per semester.) All verbatim examples in the Analysis section come with the respondent's explicit permission.

Researchers/Program Administrators

As stated above, the primary data in this analysis were garnered through anonymous channels from the mentors, providing feedback that in nearly all cases was worded in such ways that individual mentors could not be identified. In roundtable meetings prior to the administration of the survey, administrators emphasized their own roles as researchers who were eager to receive data in all dimensions, whether an apparent "positive" or "negative" reflection on the *initiative* itself. These online surveys directly solicited suggestions for improvement of the initiative, moreover, and a number of such suggestions were provided—some of which have already been folded back into practice.

Functioning in the dual roles of administrators and researchers while occupying the institutional positions of associate professor and Ph.D. student, we, too, were multiply positioned. At the inception of this project, Bruland was working as an "apprentice" to Henry in a section of first-year composition and together we positioned her as a mentor to the students in this class (even though the term "mentor" was not used at that time). Our collaboration evolved with the initiative, to the point that Bruland identified this topic as that of her dissertation, a fact that became known among mentors and many instructors alike. We also brought to this initiative a commitment to teacher-research that places students and student learning at its center, a commitment that we identify as an important element of our reflexivity in this university. As Caucasian instructors, we are in the ethnic majority among our departmental colleagues, yet we are in the minority with respect to student body demographics. We believe strongly in the mentoring initiative's power to help first-year students persist and succeed based on data from mentors and from students' anonymous end-of-term evaluations, and we acknowledge this bias. In our analysis, we have embraced all data, whether or not these data align with this belief.

Data Analysis

Analysis drew upon two questions on mentors' end-of-term evaluations: (1) This past semester, what did your English 100 students teach you? and (2) This past semester, what did you learn from working with your assigned instructor? (This second question was added in the program's second semester: thus question one garnered 50 responses and question two garnered 36.) All responses were first categorized for whether they included elements of reflection, positional reflexivity, both, or neither. To qualify as demonstrating "positional reflexivity," a comment needed (a) to address specifically some element of institutional status and/or relationships among classroom actors and (b) to probe teaching and learning dynamics as inflected by that status and/or relationship. Reflective comments, on the other hand, analyzed teaching and learning practices in ways not explicitly related to institutional status or relationships.

Once those comments that addressed "positional reflexivity" had been identified, they were isolated for further analysis in a second stage. This second stage of analysis proceeded through iterative reviews, beginning in the first review to code comments as they related to the research question. This "descriptive coding" (Miles & Huberman, 1994, p. 57) identified initial categories of positional reflexivity that could be used to include other practices. Once the descriptive coding established these initial categories, subsequent review of all comments was undertaken by each analyst to validate the categories. This "respondent triangulation" (Hammersley & Atkinson, 1993, p. 230) enabled the adjusting of categories or creation of new ones to accommodate *all* assertions relative to positional reflexivity. This process enabled the definitive stabilizing of categories presented in the Findings. In the Discussion section, analysts further reviewed these findings via "technique triangulation" (Hammersley & Atkinson, 1993, p. 231) by consulting the three other data sources previously identified. Unless otherwise noted, all mentor comments analyzed in the subsequent sections specifically come from this second round of coding which included only those comments that embodied some degree of "positional reflexivity."

Findings

Whereas mentors' job descriptions mandated reflection (through tasks such as taking fieldnotes, keeping conference logs, attending roundtable discussions), the exercise of reflexivity more generally or positional reflexivity more specifically was not an explicit part of training or roundtable agendas. However, analysis of those comments by mentors that referenced institutional position revealed that they did leverage positional reflexivity by "thinking through" the positions of students and instructors. Here, the phrase "think through" takes on double meaning: (a) mentors reflect *about* the positions of students and instructors in higher

education; (b) mentors also embody a unique position in this trinary classroom arrangement that enables access to the perspectives of "others" and to insights about teaching and learning not easily available in academic settings organized around the traditional teacher-student binary. As the strong majority of mentors served more than one semester, many of these mentors completed the end-of-semester survey more than once; it is possible that mentors' second, third, or fourth completions of the survey rendered insights and degrees of reflexivity that would not have been available after only one semester of mentoring.

Mentors' Reflexivity through the Position of Student

The 50 total comments in response to the question, "This past semester, what did your English 100 students teach you?" ranged from one to 212 words. Coding these comments according to the criteria for positional reflexivity enumerated above revealed the following: 22 of the comments (44%) included evidence of reflection; 47 of the comments (94%) included evidence of positional reflexivity; and three of the comments (6%) were deemed uncodable due to brevity and/or generality. Many of the comments (22 or 44%) demonstrated both reflective and reflexive dimensions. Analysts isolated and categorized those comments indicating a positional reflexivity with respect to students, revealing seven different categories. These categories were grouped for three different domains of findings that this "thinking through" enabled: surrogate experience and its capacity to inform interpretations of student performance; curricular and programmatic challenges encountered by students; and implications for mentors' professional development into learner-centered instructors. These domains and the categories comprising them are explained below with examples of mentors' comments to illustrate each.

Surrogate experience and its capacity to inform interpretations of student performance. Included in this domain of findings were those comments that recalled mentors' own experiences as students as linked to those of their mentees, with insights into interpreting students' performances more broadly than would be possible based only on a reading of students' papers.

Re-visiting the experience of the first-year student. "They taught me that being 18 as a new freshman is hard," said one mentor. "I learned that many freshman are hesitant to talk to their Professors because of the age difference and because they find the Prof's intelligence to be somewhat intimidating." Said another: "My English 100 students reminded me that transitioning from high school writing to college level writing is a daunting task. Students must 'invent the university' (Bartholomae) and attempt to write like experts when they really are novices." Noting the ways in which technology has inflected first-year students' experiences, a third mentor observed "that incoming students are incredibly technologically-savvy and rely on the internet as a major, or sometimes only, source of information. They are also worried about the transition between high school and college more than we probably imagine, and are very ambitious in general!"

Re-interpreting student performance. Mustering a reflexive analysis of task-representation and performance, one mentor noted "[t]hat the simplest of tasks are at times the most difficult to comprehend—for a first year student. So, not to take for granted—assume that a student's work is always based on their ability to perform, but rather that at times they need someone else to explain the assignment at hand, in a different way." Another mentor probed assumptions based on reading a student's writing, saying that "[t]hey taught me, among other things, that I can't assume too much after reading one example of a student's work or hearing one in-class conversation, because I was wrong just as often as I was right." Focusing on the challenge as a teacher of ascertaining a learner's skill set, a third mentor said: "They taught me that I may have been overestimating their skills a little bit. Not that they disappointed me or anything like that, but I realized that I had assumed that they knew things that they didn't."

Curricular and programmatic challenges encountered by students. This domain of findings includes those comments that identified challenges that might not be apparent to a teacher without the degree of access to students' perspectives afforded to mentors.

Considering influences of geography as they inflect pedagogy. "This semester, my English 100 classroom was diverse in terms of each student's place of origin, and I had to learn to tailor my approach to each student in a way such that they would be able to engage with the material even if they did not necessarily understand it as if they were 'from here'," said one mentor, adding that "we must always find ways to make our approaches translatable and meaningful to different kinds of students." Another mentor articulated reflexivity by noting that "I've definitely learned a lot about the politics of [place] and the institutional context that we are in, which has been invaluable."

Re-thinking the course or curriculum from a student's perspective. Focusing on the need for a "coach" to help students understand assignments, one mentor said:

> My students have taught me that task representation is a complex thing. Though an instructor might explicitly articulate their expectations—during a lecture or on a two-page assignment handout—students STILL need guidance through the many stages of the writing process. We cannot throw an eighteen yr. old into a 100-level composition classroom and expect them to have all the skills to succeed on their own; freshmen need coaching and encouragement along the way. Don't get me wrong, they might be extremely intelligent, articulate—but the problem is in the fact they haven't learned an effective, processed approach to writing.

Another mentor linked individual personality traits and past experiences to a learner's challenges: "I need to be more sensitive to the shy or reluctant students who'd like to use the Mentoring Program, but are reluctant to do so because of past experiences with English or other tutoring programs." A third had gleaned how difficult it can be for students to discern teacher expectations and academic conventions: "There are times when you can't be completely descriptive, as opposed to prescriptive, because students do need to know the guidelines and expectations of University writing--something that you don't really arrive at 'naturally' or by getting instructor's corrections on your paper." Underscoring the complexity of reception in communicative acts, a fourth mentor noted that "no matter how clear the instructor may sound in the classroom, some students are still baffled."

Acknowledging dissonance between mentor program goals and individual students' goals. "Not every student wants to do their best in improving their writing and getting a good grade from the course," noted one mentor. A second mentor linked students' predispositions based on previous English experiences to the challenge those predispositions present for a teacher: "Some students loathed English because of past experiences--it was hard to break through those experiences." A third mentor saw the dissonance between program goals and students' goals as a teaching-and-learning challenge: "This past semester, my students taught me that I cannot force anyone to accept my help. I need to work harder on making seeing the mentor more 'common sense' and less obtrusive."

Implications for mentors' professional development into learner-centered instructors. In this domain are included those comments that reflexively viewed institutional position with an eye to professional development as a teacher.

Acknowledging the subject position of student as an enduring quality in one's institutional life. "They also taught me that I haven't really come as far (emotionally, psychologically, professionally, what have you) since my freshman year as I previously thought I had," said one mentor. A second mentor developed this thought in more detail:

> Many of the students I worked with this past semester had personal issues with college life and time management. As I listened to their concerns and talked it out with them I realized I myself had the same problem. Every time I suggested to the students to set their priorities, I was telling myself the same thing. This issue was magnified as finals week came into view, and I worked with the students in setting and balancing priorities between school work, personal life, and part-time jobs.

De- and re-constructing one's own professional goals or orientation. Such reflexive thinking about institutional subjectivity led mentors to glean ways in which the mentor-mentee relationship opened doors for their own development, as in this comment: "Seriously, they taught me to become a better person. I used to be a very snobbish academic in the so-called ivory tower. Working closely with them made me reevaluate my roles as a future teacher and researcher." A second mentor looped such reflexive thinking back into career considerations:

> They taught me more than I think I taught them. I felt that they reaffirmed for me the reasons that I entered into the mentoring program at [the university]. I was initially curious about teaching as a career to supplement my creative writing endeavors. Having that label placed upon me makes me aware that I need a "real" job. I have always wanted to teach and this experience with the students made me more confident in my choice not only as a supplement, but as a viable exchange between myself and the first year learner.

Taken together, these three domains of reflexivity show mentors thinking through the positionality of students as learners to identify important elements that might figure in a reflexive practitioner's repertoire of teaching. In the following section further elements were identified by thinking through the positionality of instructors.

Mentors' Reflexivity through the Position of Instructor

The 36 comments in response to the question, "This past semester, what did you learn from working with your assigned instructor?" ranged from six to 170 words. It should be noted that throughout training,

mentor roundtables, and informal discussions, administrators had requested that mentors suspend judgment of instructors' pedagogies; instead, mentors were to focus their energies on improving students' performances within the parameters of those pedagogies. Thus, this end-of-semester survey was the first instance in which mentors were asked to comment explicitly on instructors' pedagogies. While carefully keeping instructors' identities anonymous (in all but one case), mentors almost always responded to this question with descriptions of their assigned instructor's approach to teaching and orientation toward students. Drawing on the same operationalized definitions of "reflection" and "positional reflexivity" noted above, analysts arrived at the following results: 21 of the comments (58%) included evidence of reflection; 29 of the comments (81%) included evidence of positional reflexivity; and two of the comments (6%) were deemed uncodable. Sixteen (44%) of the comments included both reflective and reflexive dimensions. Reflective comments addressed such topics as delivering instruction, using effective examples, running successful classroom activities, creating writing assignments, assessing student work, responding to student writing, structuring groupwork, facilitating discussion, increasing engagement, managing time, managing student behavior, and creating effective classroom policies and consequences.

Several mentors prefaced their comments with analyses of how their conclusions were influenced by their unique positionality, including the benefits of being able to observe the teacher and students without fully occupying either position within the traditional educational binary, as in the following example:

> Because of the 'observing' aspect that goes along with the mentor's role we are hyper-aware of all classroom dynamics--both of the teacher and of the students. We are able to see what the students are "connecting" to and what they aren't and make modifications (in our head) for future use.

In the strong majority (71%) of their comments, mentors cited something they had learned from their instructors as positive examples, often noting that they planned to imitate their instructor in future teaching scenarios. In two cases, mentors wrote about approaches they deemed to be effective but did not plan to use themselves, as in the case where one mentor wrote:

> My assigned instructor's approach is quite different from what I imagine my own approach would be in teaching an ENG100 classroom; thus the instructor was able to provide me with opportunities to think and see beyond my own otherwise narrow focus.

In mentor roundtable discussions, mentors often positioned themselves as admirers but not necessarily imitators of their assigned professors, displaying reflexivity in admitting that they would not attempt to "pull off" the instructor's approach because they did not have the same scholarly expertise, discursive experience, personality, or pedagogical goals as the lead instructor. A few mentors (n=5) also claimed to have benefitted from observing and analyzing what "didn't work," either for individual students or the class at large.

Those comments indicating a positional reflexivity with respect to instructors were isolated and categorized, revealing six different categories. As with the categories of reflexivity enabled by thinking through student positionality, these categories were grouped into four overarching domains of findings: integrating first-year experiences into classroom pedagogy; recognizing how instructor attitudes toward and beliefs about students influence pedagogy; contemplating professional conduct as it shapes teaching and learning; and analyzing alignment between mentor and instructor expectations.

Integrating first-year experiences into classroom pedagogy. This domain includes categories of comments focused on the specificity of first-year courses and first-year experience more generally as they require instructors to adjust approaches that have proven successful in upper-division and graduate courses for first-year students.

Articulating classroom persona and policies to the institutional position of first-year course instructor. "Some instructors that are fantastic with upper-division students aren't as effective with FYC students," commented one mentor, and a reflexive comment from another expanded upon this observation: "From my instructor, I learned that a classroom persona was extremely valuable in the repertoire of the composition educator." Focusing on "rapport" as enabled (at least partly) by a classroom persona, a third mentor commented: "The instructor had a very good rapport with the students, and I learned much about how one can position oneself in a way in which students are less intimidated and are therefore more likely to speak and be engaged in the classroom." A fourth discerned ways to draw on reflexivity in elaborating course policies: "Even well-meaning students make mistakes such as missing/skipping too many classes, especially incoming freshmen, but for a process class like ENG 100, where you need to see their progress through draftwork and revisions, it is crucial to work a clear attendance policy into the syllabus."

Fostering learner-centered classroom dynamics. Tapping their positions to reflexively analyze classroom

dynamics, mentors revisited familiar teaching scenarios to shift focus to the learner, as in this mentor's comment: "My instructor created an atmosphere where students felt comfortable with voicing their own ideas without feeling intimidated. The ability to connect with the students enriched my own ideas about how I want to approach my own teaching of a class." A second mentor reflexively tracked the outcomes of such re-positioning:

> I learned how to ask a question and WAIT for an answer. The instructor I worked with had an infinite amount of patience, and I often commented on it. Oftentimes, teachers ask questions and invariably answer them themselves - but not this time! My instructor always waited for a student - any student - to answer - always! And while we began the semester with an awful lot of silences, we finished like gaggling geese.

Recognizing how instructor attitudes toward and beliefs about students influence pedagogy. Among the most difficult goals for the reflexive practitioner is that of monitoring one's own attitudes and beliefs about students as they shape pedagogy. In this domain are included mentors' comments that indicate a heightened reflexivity about attitudes and beliefs as afforded by their unique positions in the classroom.

Pondering how instructors' attitudes position students with regards to the course and the institution. One mentor noted an instructor's performance that clearly took into account the pragmatics of scheduling: "I would never have thought anyone could keep eighteen tired students not only awake but interested at 7:30 in the morning, but he did, week after week." A second mentor linked her or his learning as a pedagogue directly to perceptions of students: "I learned to be more engaged in my students' work/their writing. I learned to see each student as an individual, a young person who has something important to say and contribute to the college community of [the university]." A third noted the power of first impressions: "An instructor's first impression can set the tone for the entire semester."

Recognizing instructors' efforts to engage students (and students' responses). Closely related to an instructor's apparent attitudes towards and beliefs about students are the behaviors that reflect them. One mentor reflexively considered such behaviors and witnessed results:

> The instructor was trying to assist his students every way he could for the course assignments and whatnot. He was very open-minded and rather flexible than strict with the students and I find the students genuinely like him. He also tried to look at things from the students' perspective and understand them as much as possible, and yet did not lose his authority as an instructor and facilitator.

A second mentor identified in an instructor's behavior an "optimism" about students:

> How to be more understanding, how to enhance student understanding through a more narrative-flavored format (i.e. story-telling), what kind(s) of writing prompts students best and least respond to, how to leave comments on student papers (by looking at model comments from the professor), what it means to truly "believe" so optimistically in students.

Contemplating professional conduct as it shapes teaching and learning. This domain of comments consists of only one category, yet mentors probed professional conduct from a variety of perspectives, contemplating both positive and negative examples of professionalism as perceived by the mentor. One mentor noted the value of class preparation: "Coming to class with a workable plan was a point she made every session and it showcased her ability as an instructor." A second mentor noted a counter-example, prompting a reflexive comment on power dynamics in the classroom as they inflected student agency:

> Since the instructor I worked with was not the most professional, I really learned about the power of the instructor and the classroom space. This has made me think a lot about the power dynamics in the classroom and the potential abuse of power. I think I've taken for granted how little agency undergraduate students feel that they have. It's got me thinking a lot about the ethical and moral limits of what we should or shouldn't do as instructors. I've definitely learned a lot about professional conduct.

A third mentor offered a contrasting example on professional conduct that focused on work ethic and a "habit of being":

> Professionalism is more than simply taking one's job seriously and with passion. It is an active, 24-hour self-awareness and self-assessment of work ethics and mentor pedagogy. It is a habit of being mindful and ethical of how I act, how I express myself as a mentor and educator. Because of our collaboration and rapport, I feel I have picked up

> on many of such habits from my instructor, and I'm very grateful.

Analyzing alignment between mentor and instructor expectations. Like the previous domain, this one consists of only one category, yet it signals the value of making reflexivity part and parcel of ongoing practice as the parties involved keep expectations at the forefront of awareness:

> Instructor and mentor expectations need to match in order for the semester to go well. Experience with different instructors is useful, but it can take a month or two to adjust to one another if you've never worked together before (e.g., in a course where the mentor had the professor as her instructor or had the professor as an advisor).

Like the domains of reflexivity identified in the previous section, these four domains of reflexivity show mentors thinking through the positionality of instructors as teachers to identify elements that might figure in a reflexive practitioner's repertoire of teaching. In the Discussion we probe ways in which positional reflexivity might be consciously incorporated into TA training and ways to tap such training to foster future learner-centered instructors.

Discussion

Incorporating Positional Reflexivity into TA Training

As with much qualitative research conducted without a control group, it is impossible to attribute the positional reflexivity developed by mentors in this study uniquely to the mentoring experience. Claims to generalizability of findings are therefore difficult to make. Yet the internal validity of this research achieved through data triangulation, coupled with easily-imagined similar configurations of TA training in other settings, make the results of this study compelling in the realm of what Miles and Huberman, drawing on Schofield, characterize as "what may be" and "what could be" generalizable to other contexts (1999, p. 279). The array of categories and the quality of mentors' insights into teaching and learning when thinking through the institutional positions of instructor and student suggest at the very least that incorporating occasions for positional reflexivity into teaching and TA training in other settings can enhance practitioners' conceptualizations of pedagogy as it takes form within their disciplines.

By taking reflection into the realm of reflexivity, mentors tap a valuable tenet from research methodology to augment their understandings of teaching and learning. Leveraging personal and epistemological reflexivity as an instructor undoubtedly renders the practitioner more careful when conceptualizing courses, designing syllabi, or planning lessons. Positional reflexivity augments these categories of reflexivity in important ways. For example, the positionally-reflexive TA has had an experience that could well inform those moments later when, despite careful conceptualization or planning, the actual course falls short of expectations for teaching and learning. This practitioner, having thought through the positions of *both* teachers and learners during TA training, brings an enhanced perspective to those future challenging pedagogical situations that could well enable learner-centered solutions to ensue.

As the comments from mentors demonstrate, moreover, positional reflexivity in many cases actually surfaces topics that call for personal and epistemological reflexivity, too. Like the dialogism that emerged from Cunliffe's (2002) reflex moments in the classroom linking tacit knowledge and explicit knowledge, a similar interplay might emerge through positional reflexive thinking. The discussion that follows revisits insights afforded through mentors' positional reflexivity to elaborate on the value of experiencing such reflexivity for TA teachers in training.

Of undeniable value to future teachers is the realization that student performance as evidenced through conventional channels for evaluating it does not necessarily represent aptitude and in fact may derive from many factors having little to do with aptitude. As Dees, et al. have noted, students' understandings of the teaching and learning in a given classroom may "conflict, complement, or intersect with" a teacher's understandings (2007, p. 131). TAs with experience in positional reflexivity might plan syllabi and course activities that supplement conventional scenarios of assessment with other performances, thus garnering more information about students' understandings of teaching and learning expectations. In our own field of composition studies and its heavy emphasis on process, instructors often require students to supplement submitted compositions with commentary on their composing processes that shed new light on performance. Reflexive practitioners in any field might incorporate similar approaches to performance and its appraisal to enable greater entry into learners' perspectives and understandings of the task with which they are being presented. Such process exchanges might even become dialogic and could be structured intentionally in a register intended to "humanize" instructors and make them less intimidating. The discussion forums and chat rooms that accompany many new learning technologies might

be self-consciously shaped by instructors to such ends. Mentors' comments alluding to students being intimidated by instructors were frequently validated in students' end-of-term anonymous evaluations of the initiative, indicating a potentially counter-productive effect of institutional status on learning. Reflexive practitioners, having been sensitized to this fact, can perhaps self-consciously enact a personal reflexivity in such dialogues all the while remaining attentive to moments when their students, performing within this new scenario, alert them to opportunities to exercise epistemological reflexivity—whether as part of the dialogue or as part of subsequent teaching and learning activities.

In the realm of personal reflexivity, the issue of student "difference" has received much attention in past decades, opening doors for re-thinking approaches to learners who, belonging to a subgroup marked by race, class, gender, etc., might benefit from pedagogical approaches not immediately apparent to an instructor who is not a part of that subgroup. In mentors' comments another category of difference surfaced: geographical provenance. At first glance, such a category might seem idiosyncratic and perhaps unique—and therefore of little interest to teachers in other locations. Yet from another perspective, this category of geographical difference can invite epistemological reflexivity across the disciplines, as a globalized economy places new kinds of challenges on engaging the values of specific locales. Instructors who are positionally reflexive within an institution and who have learned from local students' perspectives might forge links to extra-institutional initiatives that ground pedagogy quite literally. Such chances for eliciting enhanced student engagement have been borne out by other similar teaching and learning forays in the realm of experiential learning.

While these anonymous surveys rendered a number of insights into mentors' perspectives and experiences, findings from such a data collection instrument include at least the following two limitations: (1) anonymous surveys do not allow room for further probing of responses; and (2) a single survey is not adequate for capturing respondents' longitudinal development. While asking for responses immediately after a semester's end means that mentors are still quite close to the experience, it also means that they are unable to speak to how the experience as mentor-researcher has impacted later teaching and learning scenarios.

Implications for Mentors' Professional Development into Learner-centered Instructors

In order to understand how TAs' experiences as mentors shaped their beginning teaching careers, program administrators conducted a focus group interview with five former mentors who were now filling the ranks of instructors. These former mentors, who were currently in their first or second years of teaching in university or community college settings, all spoke of building rapport with their students as a primary pedagogical consideration. In order to build this rapport, many repeated or modified practices they had used as mentors: some regularly reflected in writing about their individual students' performances, adopting the mentor program tenet of "wondering about students"; others conducted one-to-one "intake interviews" in the opening weeks of the semester to learn more about their students' interests and decrease intimidation; all relied heavily on individual conferences with *all* students (and not just those students already inclined to seek help) as a central pedagogical practice; and finally, all five described themselves as intentionally working to create an approachable teaching persona and a comfortable classroom environment. These mentors-turned-instructors noted that the kinds of rapport they could build with students as an instructor were different than when they had occupied the role of mentor, largely because of their additional authority as assessors. In fact, most admitted that the element of "instructorhood" that mentoring had least prepared them for was assessment. Although having to sanction certain grading criteria and then apply them to students' work proved initially challenging for several of these new instructors, they all felt that they had grown reasonably proficient as assessors within a short time. Conversely, graduate students in traditional teaching assistantships emerge having spent a large portion of their TA hours assessing student work (Park, 2004) rather than gaining practice in the more complex arts of building rapport, interpreting student performance, and observing closely how students respond to various assignments and course policies.

Trask, Marotz-Baden, Settles, Genry, and Berke (2009) have observed the value of mentoring graduate students into learning-centered instructors who are prepared to contribute to the Scholarship of Teaching and Learning. The research reported here extends this idea by casting graduate students not only as recipients of mentoring, but also as mentors to students in their own right. Such positioning of graduate students enables them to envision their current and future classrooms as scenes of situated learning in which structures of social practices—including, for example, the practice of interpreting student performance—can be problematized to enhance teaching and learning. By positioning TAs as researchers of student performance, the mentoring role orients future academics to see not only their immediate disciplinary areas of expertise as worthy of scholarly inquiry but also teaching and learning more generally. (In the first four years of the Writing Mentors Program, eleven mentors have

presented their research on student learning at our college's annual peer-reviewed graduate student conference; in 2010, eight current or alumnae/i of the mentoring program presented at the national peer-reviewed conference on teaching composition, the Conference on College Composition and Communication.) By stoking reflexivity, mentoring prepares future instructors to conduct themselves as professionals who are continually attentive to the enlarged responsibilities that their institutional positions of privilege and power demand. Such initial TA training establishes a unique orientation to teaching and learning that equips future tertiary instructors with tools to render their teaching as successful as their disciplinary scholarship.

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Sink or Swim?: Improving Student Learning Through Feedback and Self-Assessment

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This paper identifies a number of problems with the mechanism by which teachers give feedback to students and reports the findings of a unique self-assessment activity aimed at countering these problems. The activity, based on the principles of Learning-Oriented Assessment (Carless, 2007), involved tutors providing written feedback but withholding grades on assignments submitted by a cohort of second- and third-year History students. Giving consideration to supplied assessment criteria and grade descriptors as well as the feedback they received, the students were then required to award themselves a grade and write a 100-word justification, which was submitted to the tutor. Analysis of the grades awarded by the students and tutors, and an evaluation of the exercise administered by an anonymous and non-compulsory questionnaire, revealed a high degree of grade agreement, and that students became much more motivated to read and heed the feedback they received. Moreover, the students reported gaining a greater understanding of the assessment criteria, the work required to attain a particular grade, and the means for improving their written work. Drawing particularly on the research of David Carless and David Boud, the paper concludes by discussing options for improving the feedback mechanism, such as the use of self-assessment rubrics.

Introduction and Rationale

It comes as a surprise to many students – and evidently some teachers – that assessment tasks can be a means to promote learning rather than just blunt instruments to measure student performance. In order to facilitate learning, David Carless (2007) suggests that curriculum designers and teachers devise assessment activities (both formative and summative) that adhere to three core principles of Learning-Oriented Assessment:

1. Assessment tasks should stimulate the kind of learning that is sought (that is, they should be related to the course's key concepts and subject matter);
2. Assessment should involve students actively engaging with assessment criteria, notions of quality, and their own and/or peers' performance; and
3. Teacher feedback concerning student performance should be timely and forward-looking so as to support current and future student learning.

For these things to occur, students need to have a sound understanding of the criteria by which they are being assessed (either by their teacher, a peer, or themselves). Basically, they need to understand the characteristics of "good" and "poor" performance (be this an essay, report, or recital, etc.) and what it means to receive a particular grade (for example, a "High Distinction" or a "Credit"). Second, feedback needs to be provided in a form that enables the student to judge or acknowledge their level of performance and also indicate how the student can improve. Carless (2006), Hattie, Biggs, and Purdie (1996), Black and Wiliam (1998), Hattie and Jaeger (1998), Ramsden (2003), and Housell (2003), in particular, provide strong cases for why teacher-provided feedback on classroom and assessment tasks is central to student learning.

Regretfully, neither of these crucial elements in the learning process can be assumed to be taking place. My own observations, supported by published research in the field and a survey that I conducted among my students, suggest that even second- and third-year university students are generally unsure about assessment criteria and the characteristics of "High Distinction" or "Credit" standard performances (see O'Donovan, Price, & Rust, 2001; Rust, Price, & O'Donvan, 2003). Moreover, many fail to receive adequate feedback from their teachers or peers, or make the effort to heed the advice that they do receive (Bailey, 2009; Hounsell, 2003; Mutch, 2003; Salter, 2008). For example, I administered an anonymous and non-compulsory self-completed questionnaire concerning feedback to students in my upper level Australian History course in second semester 2008, from which I received 73 responses (85.9% of the student cohort). The students (in their second or third year at university) were asked to reflect on the provision, and their use, of feedback in courses that they had previously undertaken in the Faculty of Humanities and Social Sciences. Four students (5.6% of the respondents) stated that they had failed to retrieve marked assignments from their tutors on at least five occasions during their time at university, while 17 students (23.6%) indicated that this was the case on 3 – 4 occasions (see Figure 1). Adopting a different methodology, Winter and Dye (2004) reported a similar trend. In their survey of academic staff at the University of Wolverhampton, 46% of their respondents professed that at least 20% of student assignments remain unclaimed at the end of semester.

When asked in my survey to nominate if they always read the comments that were provided on their assignments (including notes in the margins), 21.9% of the students answered in the negative. This suggests that a significant proportion of students are not giving themselves the opportunity to learn from the written feedback they are receiving from their tutors. Furthermore, it suggests that teachers are wasting a good deal of their time by providing written comments on these assignments.

Or are they? One of the reasons given by students for their failure to retrieve marked assignments was that the general standard of written feedback was poor and thus it was not worth their effort. This feeling was quite pervasive among my students who reflected on courses they had previously taken. Nearly 7% said they had "often" (that is, on at least 5 occasions during their university career) received no written feedback on work that they had submitted for assessment (excluding exams). Approximately 36% said this occurred "sometimes"; that is, they had received no feedback on 3 – 4 occasions (see Figure 2). The extent of written feedback they did receive was modest: 57.5% of students reported that they generally received feedback consisting of five sentences or less (including margin comments), where a phrase of six words was taken to be the equivalent of a "sentence" (see Figure 3). While quantity of feedback should not be confused with quality (and accepting that some tutors provide verbal feedback in addition to written comments when they return essays), this would appear to be a very poor return on the students' effort, especially since History students are required to produce sophisticated arguments in 2,000-3,500 word (or 10-15 page) papers. Such findings suggest that the experience of one of my colleagues, who remembers receiving a graded essay with the single comment "Not unintelligent," and a "tick" at the bottom of her concluding paragraph, is not uncommon. It is little wonder that some students ignore the feedback process entirely. Conversely, given the proportion of students who report failing to retrieve assignments or who do not read written feedback, teachers might feel justified in offering the bare minimum. The problem thus becomes self-perpetuating.

Determined to break the cycle and frustrated that in the past I had spent many hours of my time writing detailed comments on student essays that were sometimes never retrieved or possibly never read, I implemented an activity based on the principles of Learning-Oriented Assessment that encouraged – indeed, demanded – my students engage with written feedback, and which aimed to improve their understanding of the assessment process so that they could critique their own work with greater competency and assurance. This paper outlines the nature of that activity and reports the findings of an evaluation that I conducted to determine whether it did indeed (a) encourage students to read and take heed of written feedback on their assessed assignments; and (b) gain a greater understanding of the requirements of academic essay writing and the level of performance required to receive a particular grade. It also relates some of the other unanticipated beneficial learning outcomes resulting from the activity. The paper concludes with a discussion concerning why some students fail to engage with feedback (or at least why they perceive it differently from academic staff) and suggestions for ways in which educators can further assist students develop their capacity for self-critique.

A Learning-Oriented Assessment Task

One of the assessment tasks in my upper level Australian History course requires students to write and submit a 2,500 word research essay on a topic provided by me or of their own choosing. I generally aim to grade and write detailed comments on the individual essays within two weeks, after which time I personally return them to students during tutorial, along with verbal feedback of a general nature for the group. On the last occasion I taught the course (Semester Two, 2008), my tutor and I returned the essays with written and verbal feedback but withheld the grades. Needless to say, this caused some consternation. Our students were then required to re-read their essays, consider our written comments, consult again the assessment criteria and grade descriptors that we provided (and which outlined the desired characteristics of an academic History essay), and award themselves a grade. This was to be submitted to us, with a 100-word justification (most students wrote more), the following week. We informed the students that we had recorded a grade for their essays and that should the tutor and student grades differ, and should the student make a good case in their justification statement, we would consider revising our assessment. Prior to all of this happening, and in order to achieve a level of consistency in our own system of grading and feedback, three essays were selected for the tutor and I to both assess and then discuss our rationale for awarding particular grades and comments.

Features of this exercise – namely the withholding of grades and the provision of feedback prior to the students' self-assessments – are similar to a method employed by Taras (1999, 2001, 2003). I chose to withhold the grades so that the students would be obliged to engage with the feedback. Taras (2001) was more concerned that the provision of grades would interfere with the students' abilities to self-assess. She does also contend that when students receive a grade in which they have emotional investment, they are less receptive to feedback. Taras additionally argues that since learners are limited by their own knowledge and expertise, they

Figure 1
Number of Occasions that Students Reported Failing to Retrieve Marked Assignments

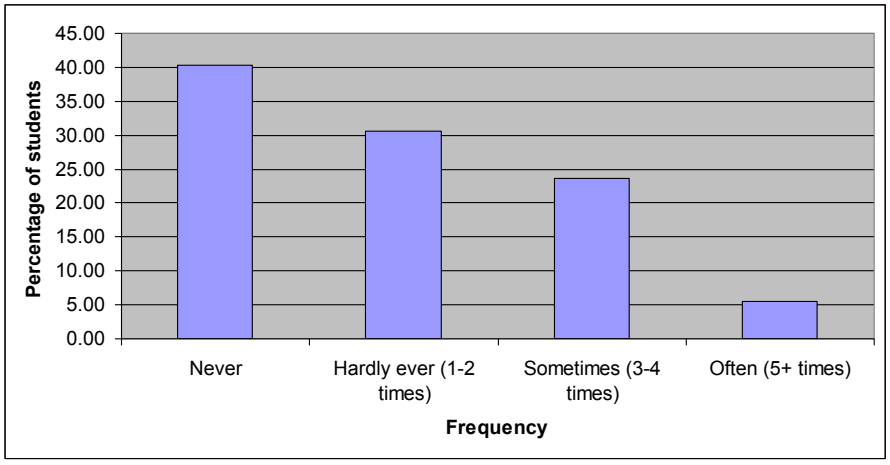


Figure 2
Number of Occasions that Students Reported Receiving No Written Feedback on Assessed Work

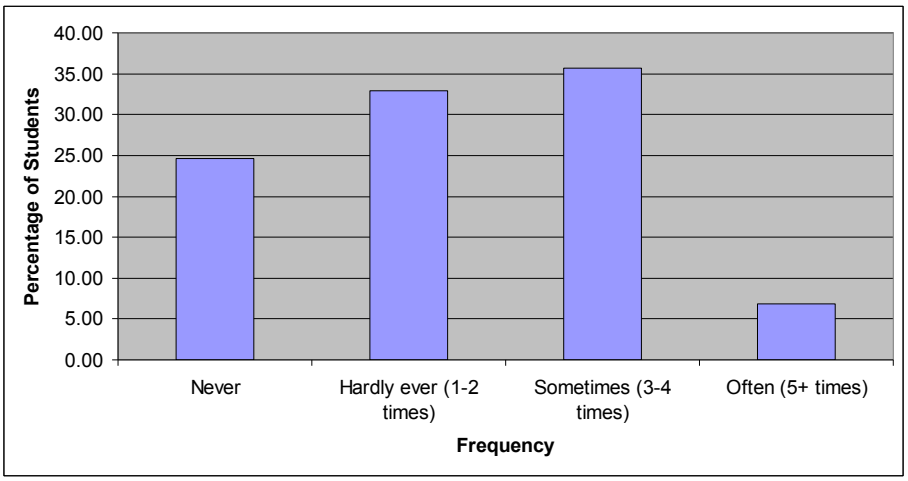
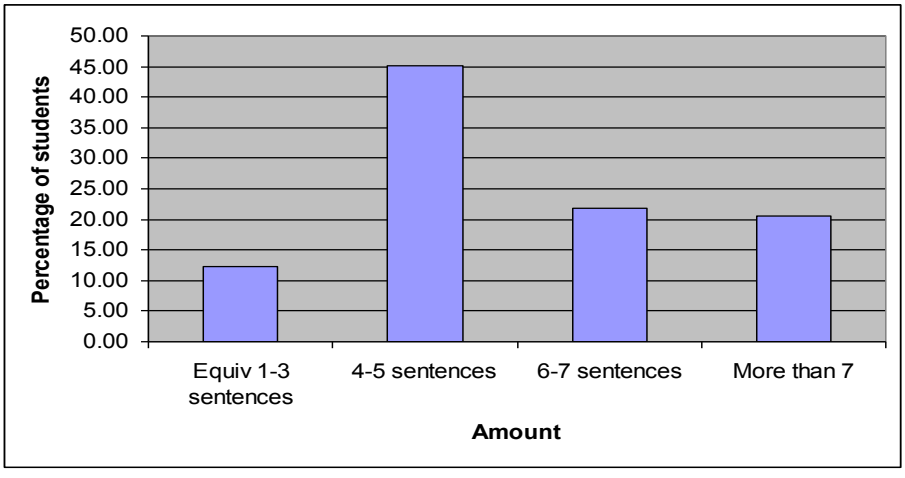


Figure 3
Average Extent of Written Feedback, Including Margin Comments



require the assistance of tutors to inform their self-assessment. A survey of students that she undertook (*n* = 34) revealed that they overwhelming preferred to have this assistance before assessing themselves (Taras, 2003). My exercise differed from Taras's approach in that I provided substantial feedback (as opposed to "minimal" feedback, such as just underlying problematic passages) and required students to submit 100-word statements that engaged with the assessment criteria and justified their grade. My course was also much shorter in duration, which meant that I did not have the opportunity to incorporate a practice exercise or peer assessment component, which are elements of Taras's approach (see Taras, 2003). I am aware that some teachers ask their students to complete and submit a self-assessment rubric when they submit their assignment, but I could see little benefit in this apart from forcing students to read the assessment criteria prior to submission. Most students, I imagine, would profess that they had complied with the criteria and had done their utmost to achieve the highest grade. Student feedback collected by Taras (2003) confirms this suspicion. She notes that self-assessment prior to tutor feedback could even have a detrimental effect, in that students could be misled into believing that their engagement with a rubric had allowed them to remedy and eliminate errors and so distort their expectations of the grade to be awarded (Taras, 2003).

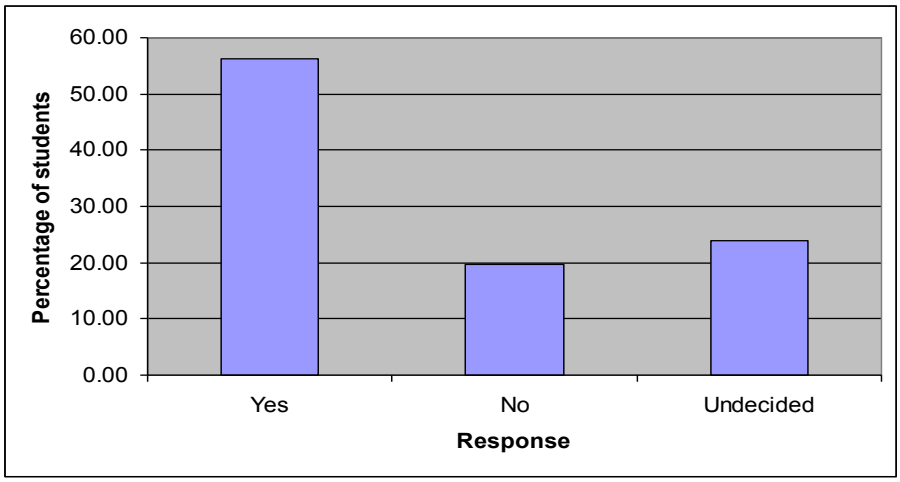
At the conclusion of my feedback-and-self-assessment activity, I collected data concerning the degree of grade agreement between the tutors and students, analysed the statements in which the students rationalised their self-assessed grades, and administered an anonymous and non-compulsory questionnaire about the students' experience of the activity and their perception of what they had learned through the process. A total of 85 essays were graded and self-assessed (providing the basis for analysis of the degree of grade agreement and the students' justification statements), while 73 students completed the questionnaire (a response rate of 85.9%). In quoting from some of the anonymous questionnaire responses below, I refer to them by number (#1 – #73).

Results

Analysis of the degree of grade agreement between academic staff and the students, and the possible reasons for discrepancies, is very interesting but is not the focus of this particular paper – I have written and presented on this topic elsewhere (Sendziuk 2009a; Sendziuk 2009b). In summary, I can report that nearly two-thirds (64.7%) of students concurred with the grades awarded by their tutor. Of the students who disagreed, almost half (48.3%) over-estimated their performance while the remainder (51.7%) under-estimated their performance. The majority of those who over-estimated their performance awarded themselves a "Credit" grade when the tutor deemed their essay to be of "Pass" standard. Given that very few students who meet the submission deadline fail History assignments, it is perhaps inevitable that students would not wish to award themselves the "lowest" grade. The pattern was reversed at the other end of the scale. The majority (53.3%) of students who under-estimated their grades were deemed to have written a "High Distinction" essay by their tutor; modesty perhaps prevented these students from acknowledging this. In the anonymous questionnaire, 36.1% of students admitted to deliberately under- or over-estimating their grades, which lends some credence to the above hypotheses. Various studies have also found that high achieving students generally perform at a high level precisely because they are so self-critical and set exacting standards, and are thus prone to underestimate their achievements when self-assessing. Kruger and Dunning (1999) suggest they underestimate their performance because they assume other students are of a similar standard and thus do not consider themselves above average. There are, of course, other reasons for the students' under- and over-estimation of grades, just as there are other explanations for why the staff and students sometimes differed in their opinion of the essay quality. I touch on this topic below but, as noted, such analysis is the subject of a different paper. Those interested in this theme should also consult Boud and Falchikov (1989), Falchikov and Boud (1989), Boekaerts (1991), and Kruger and Dunning (1999).

Here, I am interested in whether this exercise encouraged students to take greater note of the comments provided by their tutors and whether they gained greater understanding of the requirements of academic essay writing and the assessment criteria. Based on students' perceptions of the task that were expressed in the questionnaire, and the statements they made in justifying their grades, I can only conclude it to have been extremely successful on both counts. When asked if the activity had given the student a better understanding of what was required in writing an academic essay, 53.3% answered in the affirmative while 19.7% disagreed. The remainder were undecided (see Figure 4). Unfortunately in the questionnaire I did not inquire as to why some students disagreed with this proposition. More than 73% of the students agreed that the task had given them a better understanding of the generic grade descriptors that the tutor used when assessing the quality of the essay. Less than 10% of the students felt this was not the case, while the remainder were undecided.

Figure 4
Responses to the Question "Has the Self-Assessment Task Given You a Better Understanding of What is Required in Writing an Academic Essay?"



It was heartening to find that 61.6% of students felt that the activity encouraged them to take more notice of their tutor's written feedback than they otherwise would. Of these students, some noted that they were effectively forced to read the feedback in order to comply with the task (which is not necessarily a bad thing when the learning outcome is so desirable) but others genuinely appreciated the opportunity to engage with the feedback and saw merit in continuing to do so. One student reported, "It was really helpful in evaluating the pros and cons of my essay" (#68), while another admitted "I actually read the criticism rather than shunning it" (#70). This latter comment reveals one of the other benefits of this particular self-assessment task: It compelled the students to face the consequences of their actions. If they knew they had put little effort into the assignment and would be criticized accordingly, they could not simply ignore the feedback or fail to retrieve the essay from their tutor.

While 45 students (61.6%) felt that this particular self-assessment activity encouraged them to take more notice of their tutor's written feedback than they otherwise would, this still left 28 students who did not. But when asked to explain why they felt this way, all but one noted it was because they already took keen interest in the feedback that they received: "I always read the comments. It's impossible to improve if you don't" (#44). I suspect that one student who offered the following opinion in a conversation with me fell into this category: "I don't know why you're trying to save students from themselves. Let them sink or swim. If they choose to ignore your advice, let them suffer the consequences."

The statements made by the students in justifying their self-assessed grades offer further proof that they were reading and engaging with the feedback provided by their tutors and the assessment criteria. They were clearly enhancing their skills in critiquing their own work, which is essential for improving their performance at university and is a key requirement for life-long learning (Boud 1995b; Hounsell, 2003). The following extracts are representative of the statements written by the students:

> I think my essay is a high-distinction essay trapped in a distinction-essay's body. If we focus on the first half of the essay, all of the high-distinction attributes are achieved. For example there is evidence of wide, independent research and insight beyond the surface of the topic. As noted, it is also well articulated and follows the conventions of academic essay-writing extremely well. Things fall apart a little bit in the last part of the essay . . .The argument is a bit watery and doesn't touch on some important points related to the topic. (a student who wrote an agreed "Distinction" standard essay)

> In terms of my research for this essay, I think I read beyond the core texts and materials, using quite a few primary sources and documents such as newspaper articles. However in order to improve this mark I would have perhaps tried to explore more aspects of these documents and also analysed and evaluated their context and value more closely . . . In evaluating this essay I realised there were many things that I could have included to improve it. (a student who wrote an agreed "Credit" standard essay)

> The comment you gave about not giving enough time to examine the counter argument in this essay is definitely a key problem in my essay . . . To tell you the truth this is not exactly the best piece of writing I have done, the style I wrote it in could have been a lot smoother, especially the placement of paragraphs. Although my research is definitely inadequate in many cases, I have definitely felt that I gained a better knowledge of communism in Australia in the 1950s . . . [I]t could have been much stronger, if a little more thought, time and research had been put into its construction. (a student who wrote an agreed "Credit" standard essay)

The exercise was not a complete success. A few students evidently still had difficulty in comprehending the feedback they received or aligning their performance with the assessment criteria. One student who awarded herself a High Distinction (opposed to the high Credit conferred by her tutor) wrote:

> From the marker's comments, it appears that my originality was not supported by expert opinion, which was a downfall that does not damage the argument too much. Evaluative skills were clear and reasonably developed, for both sides of the argument were considered in depth and weighed against one another. The marker of this essay did not encounter many issues with expression, suggesting that this area was highly developed.

The student assumed her failure to cite authorative sources ("expert opinion") was only a minor problem when the opposite is true (the student actually hardly cited any sources at all), and the tutor's reluctance to correct every grammatical error was taken by the student to mean that her English expression was "highly developed." The discordance arose, in part, because the tutor's comments were ambiguously phrased, the provided assessment criteria did not adequately prioritise the most important elements of academic History essay writing (such as comprehensive research and the incorporation of scholarly arguments), and the student's misunderstanding that the tutor's unwillingness to correct every mistake or comment on every aspect of essay writing meant they were of a "High Distinction" standard.

The student mentioned above was disappointed when she learned of the grade awarded by her tutor, but the submission of her statement enabled her tutor to explain his rationale and the reasons for the discrepancy in the assessments. Indeed, one of the benefits of this activity was to alert tutors to students who felt aggrieved by the feedback they received so that the tutor could initiate dialogue. For example, in his justification statement, a student who reluctantly awarded himself a "Pass" wrote:

> I was disheartened to see that what I thought was an honest attempt at researching and presenting my findings, was read by you as actually being a thin argument based on simple sources which would indicate that I didn't try hard enough to research my topic, which wasn't the case. You also seem to think that I've wasted my time in my essay not addressing the question, but I honestly thought that you were supposed to assume the audience is intelligent but uninformed and that's why I gave a brief account of what happened [during the Gallipoli campaign] . . . It wasn't for my lack of trying that my essay was bad and I would have initially expected a Credit grade based on my efforts but after reading your comments I can see that I cannot expect anything greater than a Pass grade at best.

This provided the tutor with an opportunity to affirm the student's honest effort, but to also reiterate the essay's major problems (namely, the student's main sources of information were promotional websites rather than academic texts and journal articles, the essay was considerably under-length and took much too long to begin addressing the actual question. Insufficient attention was thus paid to developing an argument.). The student was again encouraged to consider the assessment criteria rather than relying on effort exerted as the key performance indicator. It is interesting to note that Taras (2003) reported that her student cohort also frequently cited "time and effort invested" as a key performance indicator in their self-assessments, despite these being excluded from the assessment criteria.

Given the opportunities to initiate dialogue, and given the general nature of the student self-reflections and the data yielded from the questionnaire, I am confident that this activity imparted a greater understanding of assessment criteria and the requirements of academic essay writing, and encouraged the students to meaningfully engage with the feedback they received. The assessment task became an opportunity for students to learn. If this constitutes helping them to "swim" instead of sink, I am very happy to continue doing so.

Improving the Feedback Process

The self-assessment activity described above is based on the premise that teacher-provided feedback is central to student learning, but that feedback in itself is redundant unless students engage with it and act upon it (Gibbs & Simpson, 2004). Yet, in the excitement of

getting students to read our comments, we must not overlook the qualities of feedback that make it useful. In order to be effective, written feedback needs to be comprehensible (and legible) and timely (Bailey, 2009; Carless, 2006; Gibbs and Simpson, 2004). Ideally feedback should be offered in iterative cycles so that refinement and improvement is possible over the duration of a course or unit of study, in much the same manner that academics utilise peer-provided feedback to refine academic papers that they compose (Hounsell, 2006; Taras, 2006). In the case of my course, I employed the self-assessment activity half-way through a twelve-week unit of study, and in the first of two essay-based assessment tasks, so the students had the opportunity to act on their tutor's comments. I was unable to measure if this did improve the quality of the second set of essays as they were written under different (exam-like) conditions, and were thus assessed by different criteria. Had I the opportunity to teach the same students again, such an evaluation might be possible.

In order to optimise the feedback process, educators also need to be aware that students are generally dissatisfied when the comments they receive lack specific advice for improvement (Bailey, 2009; Higgins, Hartley & Skelton, 2001), are difficult to interpret (Chanock, 2000), or exclusively focused on the student's shortcomings rather than also acknowledging their achievements. High achieving students can become especially frustrated when their desire for feedback (particularly in regards to refining their arguments or prose style) is ignored because tutors deem that they either do not need the assistance or that less capable students warrant their attention more. Furthermore, James (2000), Yorke (2003), and Carless (2006), among others, note that teacher-provided feedback can have a negative impact on students' self-perception and confidence. They thus argue that in addition to carefully crafting feedback, teachers need to acknowledge the *psychology* of giving and receiving feedback. Boud (1991) remarks that these points stand for feedback provided by peers as well.

Carless's (2006) research is related to understanding how student and teacher perceptions of feedback differ, and it goes some way in explaining some of the discrepancies between the tutor and student assessments noted above and which I have also described elsewhere (Sendziuk, 2009a). Carless acknowledges that many teachers report that students are disinterested in feedback (as opposed to just receiving a grade), but found this to be not entirely true for his students, as did I. He argues that students might become more interested in feedback and use it more effectively to improve their learning if teachers understand that feedback is a social process in which elements such as discourse, power, and emotion impact how messages can be interpreted and heeded by students. In this context, *discourse* refers to the language (e.g., jargon) and even the handwriting in which the feedback is delivered. *Power* refers to the unequal relationship between students and the teacher, who has the authority to determine their fate, of which students are plainly aware and sometimes resent. Finally, given that students invest something of themselves in the assessment process, it is an *emotional* activity and likely to impact on the students sense of self-worth. Boud (1995a), Higgins et al. (2001) and Ivanic, Clark, and Rimmershaw (2000) have also identified these features, which impede the ability of students to engage with feedback provided by their teachers. Accordingly, to improve the effectiveness of the feedback process, it is suggested that teachers:

- provide feedback using specific examples and language (and in handwriting) that is intelligible to students;
- provide students with annotated exemplars of quality assignments (Sadler, 2002);
- allow students some input into designing the assessment criteria or the nature of the assessment tasks, and/or provide an opportunity for the students to feed-back to the teacher (about the nature of the task or the student's own performance), so that students gain a degree of ownership or control over the assessment process (Orsmond, Merry, & Reiling, 2002; Carless, 2007);
- provide adequate advice for improvement and justification for a grade that is awarded in order to limit the possible emotional hurt of the student receiving a lower-than-expected grade; and
- provide an opportunity for student peer- or self-appraisal prior to receiving a grade by the teacher, thus making it possible for students to draw conclusions, regrettable or otherwise, for themselves (Falchikov, 2001, 2005; Liu & Carless, 2006; Taras, 2003).

Indeed, Boud (1995b) and Andrade and Boulay (2003) remind us that teachers need not be the sole source of feedback. This can be provided by the peers of students or the students themselves. Gibbs and Simpson (2004) propose that "imperfect" but prompt feedback from a fellow student may be more useful than more "perfect" feedback from a tutor four weeks later. In such cases, students need to be supported by clearly defined assessment criteria (as utilised in my activity) or self-assessment rubrics and instruction about how to use these tools.

Self-Assessment Rubrics

The use of assessment rubrics (sometimes called "proformas") is becoming increasingly popular in higher education. My colleagues at the University of Adelaide, in particular, are working very hard to develop assessment tasks and rubrics that align with a Research Skills Development Framework, which is itself based on the university's desired Graduate Attributes (McEntee, 2009; Snelling & Karanicolas, 2008; University of Adelaide, 2009; Willison & O'Regan, 2006). In order to be effective, Andrade and Boulay (2003) argue that assessment rubrics should be written in language that students can understand, define and describe quality work in as concrete terms as possible (possibly using actual examples), refer to common weaknesses in students work and indicate how such weaknesses could be avoided, and be used by students to evaluate their works *in progress* and thereby guide revision and improvement. Baron and Keller (2003), however, caution against making rubrics too long and detailed, as they introduce a level of stringency that is off-putting for students.

While this is all sound advice, I have yet to find or devise an assessment rubric that offers the kind of feedback that I believe is ideal, and thus did not employ one in the activity described in this paper. Rubrics are useful for helping students identify their standard of performance and in stressing aspects of the assessment task that align with the objectives of the course or the university's desired graduate attributes. But, by their nature, they are incapable of providing specific advice for improvement, except to reinforce the assessment criteria and trust that students themselves make the connection between their level of performance and what is required to move into the next "band." In addition, the achievement statements that constitute assessment rubrics are generally phrased very blandly; they cannot offer enthusiastic praise (or even "praise" in any real sense) and thus tend to be uninspiring. When I myself have been assessed using a rubric, I found the feedback to be of such a generic nature that I was inclined to ignore it entirely. It certainly failed to communicate to me on a personal basis, or recognise the specific elements of the tasks I had performed (for example, the unique aspects of my argument). Bailey (2009) makes similar points based on his interviews with students. Still, with these reservations in mind, should educators choose to borrow or adopt the activity described in this paper, they may wish to experiment with self-, peer- or tutor-assessed rubrics.

Despite the enthusiasm of Boud and others for self-assessment practiced in its purest form – that is, as an activity in which students appraise their own performance before, or even without, receiving feedback from their peers or teachers – I chose a different approach for this activity. Self-assessment in its purest form is very empowering for students [although Tan (2009) problematises this notion], yet my exercise was based, in part, on coercion: the students had to re-read their essays, consider their tutor's feedback, consult the assessment criteria and write a 100-word statement justifying their self-awarded grade, before the tutor's grade was revealed. I admire the project of empowering students, and strive to do this whenever I can, but my goal here was to remove their focus from the grade towards engaging with feedback. The fact that, in the questionnaire, nearly half of the respondents (48.6%) expressed their initial reluctance to undertake the exercise, and that one-quarter of these students said it was because they "just wanted my grade" (which was delayed by one week due to the process), indicates that had the students assessed themselves without their tutor's input, some might have simply stopped at awarding themselves a grade rather than thinking deeply about what the grade meant. Moreover, it helped to mediate the effects of those who deliberately under- or over-estimated their result. For grade-focused students, and for those who admitted in the questionnaire that they frequently neglected to retrieve assignments or read written feedback, I suspect that no amount of cajoling, careful phrasing, or consideration of "power," "discourse," or "emotional well-being" is going to make them take notice of feedback unless the assessment activity is structured in a way that requires them to do so.

Conclusion

The quality of the students' 100-word self-reflections and the data yielded from the evaluation questionnaire strongly suggest that this particular self-assessment activity encouraged the students to meaningfully engage with the feedback they received, and facilitated a greater understanding of assessment criteria and the requirements of academic essay writing. In addition, it created an opportunity to initiate dialogue with students whose self-assessment statements revealed continued misunderstanding of the performance criteria or difficulties in critiquing their own work – a crucial requirement for improvement and life-long learning. The activity might be modified through the use of assessment rubrics and the provision of exemplars of quality assignments. One might also incorporate peer assessment (e.g., Davies, 2002), or invite students to participate in the process of devising the assessment criteria. However, the most important aspect of this particular assessment task should remain; namely, the primacy it places on the process of learning through feedback, rather than just measuring student performance.

It would be remiss not to point out one other, unexpected, benefit of this activity. I have observed that inexperienced tutors find assessing students incredibly stressful (as once did I), especially if they fear hurting students' feelings or awarding a grade that is not warranted. My tutor (who had been appointed for the first time) and I found the emphasis this exercise placed on the assessment criteria a great comfort, but more so the 100-word reflections of the students, who mostly agreed with the feedback that was provided, and who sometimes candidly admitted that they had prepared inadequately, rushed their writing, and gave an effort that was "half-arsed." For example, one wrote: "It was a bit of a shock to read the comments, I thought the essay was better, but they were pretty much correct," while another surmised: "It was rushed and therefore lacking. I had trouble starting the essay and hence realised too late that not all of the research I had done was appropriate." Such statements offer a fascinating glimpse into the minds of undergraduates, who sometimes have more modest goals, and less rigorous work habits, than academic staff, and thus can ease the anxieties of novice tutors. Furthermore, knowing that the students' self-assessments would partly depend on the tutor providing accurate and constructive comments gave us great incentive to approach this task very seriously. I can thus recommend this exercise as an excellent means of developing the skills of inexperienced tutors, and well worth the extra time involved in collecting and reviewing the students' self-appraisals, and attending to the odd student complaint about having to wait an extra week to receive their final grade.

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Course Grades, Quality of Student Engagement, and Students' Evaluation of Instructor

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Students' evaluation of faculty and courses continue to be the most often used gauge in higher education of how well courses are taught. Faculty are particularly concerned that student ratings are highly associated with the grades students expect to receive. However, newer research on student engagement suggests that it is students' own interaction with the course material that determines their evaluation of the course. The purpose of this study then was to examine (1) whether the grades students expected in the course affected the overall evaluation of the instructor, (2) whether the students' quality of engagement in the course affected the overall evaluation of the instructor, and (3) whether students' quality of engagement moderates the relationship between expected grades and overall evaluation of the instructor. Results indicate that students' engagement with the course material significantly moderates the relationship between expected grades and overall rating of instructor.

Students' evaluation of faculty and courses continue to be the most often used gauge in higher education of how well courses are taught, despite questions regarding their validity. In the last decade, Seldin (1999) noted the predominance of the student evaluation system. Since the early 1970s, a great deal of attention has been paid to research on student ratings of instruction (Spooren, Mortelmans, & Denekins, 2007) and indeed, there were well over 2000 studies on the topic referenced in the ERIC system even five years ago (Centra, 2003). Specifically, much of the research and debate centers on the validity of these student ratings. Though the majority of these studies tend to conclude that these evaluations are reliable and valid when compared to other measures of effective teaching (Centra, 2003), there are also studies indicating that ratings are biased by such factors as workload (Marsh, 2001), student effort (Centra & Gaubatz, 2000), and grading leniency (Griffin, 2004), Student ratings have also been found to be related to students' sense of involvement in the course (Remedios & Lieberman, 2008).

Of particular concern to faculty is the perceived relationship between grades and student evaluations. Many faculty believe that they are, at least until they are tenured, held hostage by students because they believe that lower student grades will result in lower course evaluations, a key element in their faculty evaluation process related to tenure and promotion. This belief contributes to doubts about the validity of students' perceptions of the overall performance of an instructor (Sproule, 2002), especially since students are not typically educated about the importance and use of these ratings (Theall & Franklin, 2001). As Knapper (2001) has succinctly pointed out, "it is a rare campus where [student ratings of university teachers] are accepted with equanimity" (p. 3). Consequently, Eiszler (2002) notes, that despite the many studies on student evaluations, the question still remains regarding the relationship between grading leniency and overall ratings.

Another influence on student perceptions of their classroom experience relates to how difficult they perceive the course to be and, what some have labeled, course workload. Factors typically measured that defined this concept include hours per week spent studying (Gillmore & Greenwald, 1994; Greenwald & Gillmore, 1997) or a more general measure of course difficulty (Marsh & Roche, 2000; Centra & Gaubatz, 2000). Broad measures of course difficulty or workload could, however, be problematic. Centra (2003) suggests that hours spent on coursework, for instance, should be refined by dividing those hours into "good" hours (deemed valuable by students) and "bad" hours, a distinction documented by Marsh (2001). Students' engagement with the material and the class is described more accurately by the "good" hours than the "bad."

Student engagement is a broad construct recognized as providing information to measure students' involvement with their learning (Shulman, 2002), an indirect measure of educational outcomes (Ewell & Jones, 1996), and a measure of students' interaction with their universities (Kuh, et al., 2005). As Coates (2005) has described the process, "learning is influenced by how an individual participates in educationally purposeful activities" (p. 26). Students who are more engaged in their educational processes are more likely to be active and collaborative learners (Pascarella & Terenzini, 2005). Thus, spending a lot of hours outside of class studying or doing lab work is not necessarily a measure of engagement. Rather, this time spent

would only contribute to the engagement of students if they felt that the time spent was worthwhile. So the time and effort required for a class, coupled with a student's perception of the educational value of out- of-class assignments, would present a proxy measure of not only the time spent on the coursework but also a measure of the quality of the engagement with the material.

The purpose of this study then was to examine (1) whether the grades students expected in the course affected the overall evaluation of the instructor, (2) whether the students' quality of engagement in the course affected the overall evaluation of the instructor, and (3) whether students' quality of engagement moderates the relationship between expected grades and overall evaluation of the instructor.

Table 1
Percentage of Responses from Undergraduate Students (N = 320,557) to Study Items on Course Evaluation Forms Overall Rating of this Instructor

Overall Rating of this Instructor	
Poor	2.2%
Fair	7.0%
Good	32.2%
Excellent	59.0%
Educational Value of Out-of-Class Assignments	
Poor	2.6%
Fair	12.4%
Good	42.0%
Excellent	35.4%
Time and Effort Required	
Less than Average	10.3%
Average	62.4%
More than Average	26.9%
Less than Average	10.3%
The Grade I Expect in this Course	
A	40.9%
B	40.6%
C	11.5%
D	1.2%
F	0.1%
My Academic Level	
Freshman	26.6%
Sophomore	26.2%
Junior	22.5%
Senior	24.7%
I Would Rate my Gains in this Course Compared with Similar Courses as Follows	
Knowledge of principles theories…	
Less than Average	6.2%
Average	59.6%
More than Average	34.2%
Logical thinking and problem solving ability…	
Less than Average	10.2%
Average	65.2%
More than Average	24.6%
Appreciation of subject matter and discipline…	
Less than Average	7.3%
Average	55.2%
More than Average	37.5%

Method

Between the Fall of 2002 and the Spring of 2007, students at a Research I, state-supported university in the southeastern United States submitted 350,846 course evaluations. The course evaluation form is completed anonymously (with no student identifiers) by students in each course section near the end of the semester. Collected paper forms are then forwarded to a central administrative office for processing and generating reports to individual faculty, department chairpersons, and deans.

The form includes sixteen questions divided into three sections: instructor ratings, course ratings, and course descriptors. In the instructor ratings section, students are asked to rate, on a four-point (poor, fair, good, excellent) Likert-scale, six individual characteristics of the instructor as well as an "overall rating of instructor." The six individual characteristics include such items as "apparent knowledge of subject matter," "success in communicating or explaining subject matter," "degree to which subject matter was made stimulating or relevant," "concern and respect for students as individuals," "fairness in assigning grades," and "administration of the class and organization of materials." There are three items in the Course Ratings section, with "adequacy of textbook and other study materials" and "educational value of out-of-class assignments" using the same four-point rating scale as the previous seven items. The third item in this section, "Time and effort required," requires students to respond with one of three choices: "less than average," "average," or "more than average." The Course Descriptor section contains items asking students to identify whether or not the course was a requirement for their major or an elective, to indicate their academic level (freshman, sophomore, junior, senior, master's, doctoral), to indicate "the grade I expect in this course (F, D, C, B, A), and to indicate level (less than average, average, more than average) of gains related to knowledge of principles and theories, logical thinking, and appreciation of the subject matter. Percentages of responses for each category for variables included in this study are shown in Table 1. For the purposes of this study, only those evaluations completed by students indicating they were undergraduates (freshman, sophomore, junior, or senior) were analyzed.

The Dependent Variable

The dependent variable of this study was student responses on a Likert-scale of 1-4 (poor, fair, good, excellent) to the item—"overall rating of this instructor." Other items on the instrument solicit opinions regarding aspect of instructor performance, such as apparent knowledge of subject matter, success in communicating or explaining subject matter, or concern and respect for students as individuals. However, more weight is typically placed on the "overall rating" by tenure and

Table 2
Analysis of Variance for Overall Evaluation of Instructor

Source	df	F	*p*	Partial eta squared
Quality of Engagement	2	6625.20	.000	.047
Expected Grade	3	2769.16	.000	.003
Quality of Engagement x Expected Grade	6	152.29	.000	.003
Error	269244	(.384)		

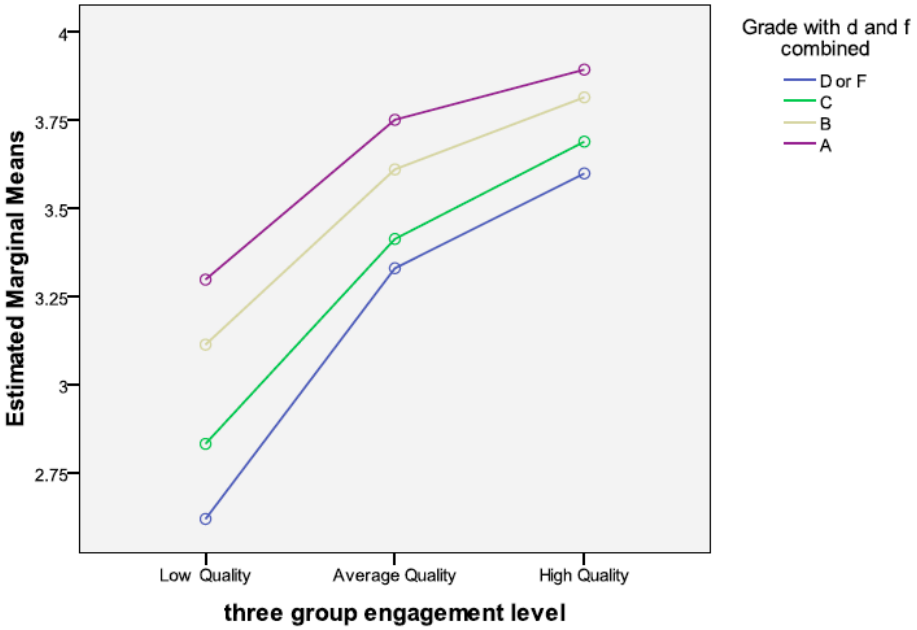
Note: R squared = .24

Table 3
Average Overall Rating of Instructor by Grade Expected by Level of Quality Engagement

	Grade Expected				
	F/D	C	B	A	Marginals
Low Quality	2.62	2.83	3.11	3.30	2.97
	(.012)	(.005)	(.003)	(.003)	(.003)
Average Quality	3.33	3.41	3.61	3.75	3.53
	(.019)	(.006)	(.003)	(.003)	(.005)
High Quality	3.60	3.69	3.82	3.89	3.73
	(.031)	(.008)	(.004)	(.003)	(.008)
Total	3.18	3.31	3.51	3.65	3.41
	(.013)	(.004)	(.002)	(.002)	(.003)

Note: Standard errors are shown in parentheses.

Figure 1
Estimated Marginal Means of Overall Rating of this Instructor



promotion committees, and it is this item that becomes of most concern to instructors.

Independent Variables

The independent variables in this study include the students' expected course grade (as in Centra, 2003) as measured by their response to the item: "The grade I expect to receive in this course is . . . " Response choices were F, D, C, B, A. Classes where students were graded only on a pass or fail scale (P/F) were removed from the data base prior to analyses, as well as those students who were taking a graded course P/F. In addition, no differences were found between those

expecting F's and D's and their correlation with the dependent variable. Consequently, the five grade groups were reduced to four: F/D, C, B, A.

The second independent variable was Quality of Engagement as measured by students' responses to five items on the course evaluation form. The first item was "Educational value of out of class assignments," to which students could respond using a four-point Likert scale – poor, fair, good, excellent. The second item was "Time and effort required." Students responded to this item using a three-point scale: less than average, average, more than average. The other three items used to create the Quality of Engagement scale were items related to students' perceptions of gains in the course. These gains focused on the areas of "knowledge of principals, theories," "enhanced critical thinking," and "appreciation for the subject matter/field." For each of these items, students were asked to respond with one of three choices to provide their perceptions of this class as compared to other courses they had taken at the university: (1) below average, (2) average, or (3) above average. Students' responses were summed for these five items, creating a scale ranging from a low score of 5 to a highest possible score of 16, with an overall mean of 12.11 and a standard deviation of 2.12. Alpha reliability for this scale was. 72. Based on their scale scores, students were then divided into three groups according to their engagement in the class: Low quality of engagement, Average quality of engagement, and High quality of engagement.

To address the three questions guiding this study – whether expected grades affect overall evaluation of instructor, whether students' engagement affects overall evaluation of instructor, and whether students' engagement moderates the relationship between expected grades and overall evaluation of instructor – a two-way analysis of variance (ANOVA) was conducted.

Results

Table 2 shows the results of the two-way (3 x 4) between-groups analysis of variance conducted to explore the impact of expected student grade and quality of engagement on the overall evaluation of the instructor of the course. Though main effects for Expected Grades [$F(3, 3061.28) = 1020.43$, $p<.01$] and Quality of Engagement [$F(2, 4882.72) = 2441.36$, $p<.01$] were both statistically significant, the interaction effect was significant [$F(6, 336.70) = 56.12$, $p<.01$], indicating that the relationship between the overall rating given the instructor and the student's expected grade is moderated by the student's quality of engagement. In other words, both variables are necessary to predict the Overall Evaluation of Instructor. The cell means and marginal means demonstrating this interaction are presented in Table 3 and the graphic depiction of the interaction is shown in Figure 1. As shown in both Table 3 and Figure 1, for example, students who believe they will receive a D or F in the course, but who are also heavily engaged in the course, provide an overall rating of instructor that is higher than students who believe they will receive an A or B but are in the lowest engagement group. The highly engaged D/F students also rate their instructors more highly than the C students who are in the lowest and the average engagement groups.

Conclusions

Despite faculty concerns that students rate faculty more highly when they expect higher grades in the course, the results of these analyses demonstrate that this relationship is moderated significantly by the quality of engagement of the student in that course. With these data, one would be more likely to conclude that engaging students in quality efforts in a course, rather than giving them high grades, would increase students' rating of faculty. These findings echo those noted by Marsh (1987) who suggested that higher workload levels and more difficult courses were positively associated with student ratings.

Of particular significance is that, by including student engagement as a moderator of student ratings of faculty, the focus, as noted by Coates (2005), is shifted back to students and their perceptions of their experience and their learning. Conversations about the quality of education come back to student classroom experiences and the extent to which students perceive they are engaged in their own learning. Given their role as participant observers in classrooms, students are in an excellent position to provide feedback regarding classroom teaching and overall performance of an instructor. They have a central stake in the quality of teaching and learning in the classroom. As Murray (1995) suggested, given the "symbiotic relationship between professors and students, it is not only in our best interests to respect what they can tell us about our teaching, but also in their best interests to assist us to improve our teaching" (p. 50).

The results of this research also suggest that those who are interested in student evaluation of their classroom experiences should consider constructing sound indicators of student engagement as part of the evaluation process, rather than spending time asking questions related to, for instance, whether or not the students liked the textbook. As shown by over fifty years of research on faculty evaluations and student ratings (e.g., Theall, Abrami, & Mets, 2001), students are eager to tell us what they think; we need to supply them with an appropriate, meaningful mechanism that includes information specific to the context of a course, such as student engagement.

As Abrami (2005) points out, promotion and tenure committees have a great responsibility for making life-altering decisions about their colleagues based on limited data regarding their performance in the classroom. Student evaluations are summative data and their use, especially across institutions but even within an institution, can have wide variability. He provides several suggestions for improving judgments about teacher effectiveness and several of these deal with examining the data more closely and in more disaggregated ways.

March (1987), recognizing the predominant use of student evaluations as summative data, noted that a central purpose guiding student evaluations of professors should, instead, be to provide feedback for the improvement of teaching. When the focus of teachers, and those who evaluate those teachers, is limited to only a part of the student rating instrument and how that one item may or may not be related to grades, the formative evaluative power of student feedback is lost. This is especially true when the relationship between grades and teacher ratings are strongly moderated by course contextual factors, such as the student's own engagement with the course material. Given the time and resources devoted to the collection of student ratings regarding the evaluation of teachers in higher education, imagine if student feedback and evaluating that feedback actually led to better teaching and enhanced student learning.

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Influence of the Pedagogical Context on Students' Evaluation of Teaching

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The purpose of this study was to compare the characteristics of teaching performance in accordance with the opinion of students of different academic fields and curriculum stages in a Mexican state public university. The sample was composed of 729 randomly-selected courses, distributed over four semester periods. Descriptive and comparative statistical analyses were made. The results determined significant differences when natural-exact sciences were compared with administrative sciences ($p = .003$), and engineering with administrative sciences ($p = .022$) in the overall ratings and by dimension. Moreover, differences were found in the ratings by dimension between the curriculum stages. The study concludes in favor of considering the particularities of the pedagogical context in the interpretation of ratings, and of using them as a source of information when designing strategies for improving teacher training.

In the university, the evaluation of instruction plays a determining role in advancing the quality of learning. Key documents of Mexican and international educational policy recognize that instruction is important in achieving educational quality (Asociación Nacional de Universidades e Instituciones de Educación Superior, 2007; Anderson, 2004). The importance of evaluating instruction stems from its potential as a tool contributing to teachers' becoming professional and thus, improving their training.

Teacher evaluation based on Student Evaluations of Teaching (SETs) effectiveness is characterized by two particularities: it is the strategy most often used in North America, Europe and Asia, and is also the one most studied (Theall & Franklin, 2000; Seldin, 1993). In this context, two situations stand out regarding rating forms: first, there is a good deal of evidence for the misuse of the ratings students give; and second, teachers show a growing unease about the use of these ratings in the making of administrative decisions.

A great part of the criticism regarding rating instruction concerns the procedures of application, interpretation, and use of the results (Sproule, 2000; Díaz-Barriga, 2004). In particular, one of the most frequent errors related to the interpretation of the results is the aggregation of all the teachers' ratings without consideration for the particularities of the pedagogical context, such as the disciplinary field in which they teach and the educational stage.

The purpose of this work is to compare the characteristics of the teacher's performance, according to students' opinion, by disciplinary field (natural-exact sciences, engineering and technology, and administration sciences), and curriculum stage (basic and disciplinary/final stages). The objective is to contribute to the discussion regarding the interpretation and the use of the results of students' evaluations of university teaching.

In Mexico, as in other countries, the evaluation of teaching has resulted from social demands coming from different audiences with heterogeneous needs of evaluation and has been linked to the establishment of federal policies in this area. Until the end of the eighties, the evaluation of instruction was conducted primarily because of the institutions' need to obtain information on the quality of teaching and, in theory, to provide feedback on the strategies of teacher training (Arias, 1984; Luna, 2002). Since 1990, with the widespread implementation of merit pay programs, the evaluation of teaching has been included as one of the indicators of these programs. Hence, attention has been given principally to the need for administrative control over instruction (Canales & Gilio, 2008). Today, expectations for the evaluation of teaching are diverse: teachers and students expect fair and appropriate systems to improve teaching; the authorities seek to have better information for administrative decision making, allocation of courses, promotions and economic incentives; and governmental institutions seek a means of accountability for the quality of instruction (Luna, 2004; Secretaría de Educación Pública, 2007).

In Mexico however, research on the evaluation of university teaching is a recent development and is still in its infancy. The investigation into the evaluation of instruction began after evaluation policies were instituted at the beginning of the nineties, and it was in 1996 that the systematic production of literature regarding the topic began (Luna & Rueda, 2008). This is unlike the situation in other countries where there is a long history and tradition regarding SETs. Furthermore, the Mexican State has promoted an evaluation of teaching associated with policies of control and wage compensation, and as a result, this type of assessment has idiosyncrasies which have transcended research—for example, the difficulty of creating evaluation procedures apart from control.

In general, the main reasons for using the SETs are related to measuring the effectiveness of administrative decisions; the diagnosis and feedback of teachers to improve the process of instruction; and general research on teaching (Marsh & Dunkin, 1997). As a result, the ratings are considered useful for teachers, students, and administrators.

The practical and theoretical usefulness of the rating forms depends on complying with the psychometric standards for designing and applying the instrument. In the 80s and 90s, research was oriented toward studying the reliability and validity of the rating forms to measure teaching efficacy. Today, it has been demonstrated that the ratings of these instruments are reliable, stable, and relatively valid by means of their application in different educational scenarios (Abrami, D'Apollonia & Cohen, 1990; Marsh & Dunkin, 1997; Marsh, 2001).

One line of investigation in recent years studied the procedures of application, interpretation, and use of the results. This line of inquiry is important, as it has been shown that an incorrect procedure may invalidate the results (*v. gr*. Theall & Franklin, 1990). Therefore, we must emphasize the need to take great care regarding the validity and reliability of the instrument, as well as the credibility and fairness of the evaluation system.

As a result of research on validity, it is particularly relevant to investigate the impact of factors that affect the students' evaluation of the teacher, apart from the teacher him/herself. Although at the moment there is no consensus regarding a definition of bias in the ratings, an inclusive definition is that of Feldman (1997). This author defined bias in the ratings as one or more factors that directly and inappropriately influence the opinion of students about the evaluation of a course. The bias is determined based on the analysis of correlation between the opinion ratings and other variables. In classifying the factors that influence the students' evaluation of teachers, the following categories were identified: administration, characteristics of the course, characteristics of the instructor, characteristics of the students and characteristics of the instrument (Braskamp & Ory, 1994).

Research has also been done on the influencers of the results obtained from the rating forms for evaluation of instruction. The nature of the disciplinary field, the level of the course, and the size of the group in the classroom were found to have significant influence. Regarding the first, evidence obtained from the hierarchization of teachers' ratings has shown that students from different disciplinary fields evaluate in a differential manner. There exists a consensus that the ratings for teachers of english, humanities and the arts tend to be located in the upper and middle levels; for those in the social sciences (political science, sociology, economics and psychology) in the medium low; and the ratings for those of the natural-exact sciences, and engineering, in the low level (Cashin, 1990; Beran & Violato, 2005).

Differences in ratings between teachers in different disciplinary fields have been found both in the dimensions and in the overall evaluation. However, it is recognized that the results are not conclusive for determining the manner in which they differ (Hoyt & Lee, 2002). Furthermore, it should be emphasized that these studies are based upon particular SETs of universities in the United States of America, Australia, and Canada.

In Mexico, Luna & Valle (2001), and Luna (2002) studied the hierarchy of the dimensions of evaluation of instruction of teachers and students in the graduate programs of a public university. They found that trends of opinion do exist among teachers and students of the different programs, as regarding the preference of the dimensions, so that the groups obtained reflect a pattern of clusters by academic field in both populations. Garcia (2003) investigated the case of a private university and reported significant differences in teacher performance by academic field. The entire faculty of the Department of Humanities and Sciences of Mankind obtained averages that were higher for teachers of the science and engineering department, economic and administrative sciences, and the arts.

Regarding the influence of the educational level on the ratings, early works investigated the overall effectiveness of the instructor in relation to the level of the course—the first semester compared with the last, and found no differences (Erdle & Murray, 1986). However, research carried out in the 90s analyzed the ratings given to the dimensions and concluded that differences do exist between the ratings. For example, Smith & Cranton (1992) found that for students in the early years of college, the organization of the course and the clarity of exposition are the most important dimensions. For advanced and graduate students, the most important aspects are the atmosphere in the classroom and the evaluation of learning. Hativa (1996) found that first semester students place more importance on aspects related to the teacher's interaction with students, while students in advanced semesters attach greater significance to the teacher's mastery of the subject s/he teaches.

One common limitation of SETs is that they concentrate teachers' ratings in one group without recognizing the individual characteristics of the teaching context (Stake & Cisneros, 2000). For example, it has been demonstrated that it is possible to compare the ratings obtained by teachers from different disciplinary fields, with groups of the same size and level of education, only when it is clear that the ratings between the schools or departments are similar and there are no important differences between the means of

Table 1
Distribution of the Courses that Make Up the Sample
by Academic Field and Curriculum Stage

Nature of the Discipline	Academic Field	Curriculum stage		Total Courses
		Basic	Disciplinary/Final	
Hard Pure Sciences	Natural-exact	52	70	122
Hard Applied Sciences	Engineering and Technology	141	114	255
Soft Applied Sciences	Administrative	174	178	352
Overall Total		367	362	729

the questions (Theall & Franklin, 2000). In Mexico, no studies have been conducted to analyze the impact of teaching context on teacher performance, nor are there any concrete guidelines as to how these results should be interpreted to improve teaching practice.

The Context of the Study

This study was performed at the Autonomous University of Baja California (UABC) in Mexico. The UABC offers 57 undergraduate degree programs, and 48 postgraduate, distributed over various disciplinary fields. There are 36,432 undergraduate students enrolled, and there are 1,516 full-time faculty members (Universidad Autónoma de Baja California, 2007). At the UABC, curricula are organized by stages of training. The stages are basic and disciplinary/final. The basic stage comprises the first three semesters, while the disciplinary/final stage is the fourth through the eighth or ninth semester.

The evaluation of teaching, based on rating form answers provided by students, began in a systematic manner in 1988, with the purpose of obtaining information to be used in reorienting the training and development of the academic staff. In 1994, the ratings the students provided the teachers were added as one of the components of the academic staff's economic stimulus program (*merit pay*), which transformed the use of the results from what had been originally planned.

Since that year, reports have been provided to each academic unit so that the directors and the teachers themselves can use evaluation results. Moreover, the results are compiled in a database in a central administration office of the university as part of each teacher's record for the economic stimulus program. In other words, the institution's scores are primarily used for purposes of administrative control.

A central university office manages the SET process. Students answer the computerized rating form at the end of each semester period. A sense of scope regarding the amount of data generated by this process can be gained by considering the first semester of 2008. A total of 28,210 students (74.6% of the enrollment) assessed 3,629 teachers during that time period (S. Osuna, personal communication, October 20, 2008). The objectives of this study were:

1. To compare the characteristics of teaching performance according to the academic field: natural-exact sciences, engineering and technology, and administrative sciences.
2. To compare the characteristics of the ratings, according to the stage of training (basic, and disciplinary/final).

Therefore, the central questions for study were: (1) Are there differences in the ratings students give to teachers, according to the disciplinary fields to which they belong? (2) Are there differences in the ratings assigned by students to teachers according to the students' curriculum stage?

Method

Source of Data and Sample

The data used in this study were obtained from UABC undergraduate courses delivered during the four semester periods of 2004 and 2005. Specific disciplinary areas were considered. They were natural-exact sciences (BS in Physics, BS in Mathematics and BS in Biology), engineering and technology (Civil Engineering, Electronic Engineering, Industrial Engineering, Computer Engineering), and administrative sciences (BA in Accounting, BS in Computer Science and BA in Business Administration). These disciplinary fields were chosen as criterion of comparison because of an interest in contrasting the results of teacher evaluations between pure hard sciences (natural-exact sciences), hard applied sciences (engineering and technology) and soft applied sciences (administrative sciences) (Biglan, 1973).

The selection of the sample was made according to the following criteria: (a) included were all courses which have been evaluated by a minimum number of students, based on the reliability indices proposed by Centra (1993); (b) of the total courses fulfilling the

above criteria in the areas of engineering and administration, 30% were selected at random; (c) in natural-exact sciences, the criterion was to have a minimum of 30 courses, since there were few records that met the requirement for inclusion. The distribution of the sample by academic field and training stage is shown in Table 1. The overall sample was composed of 729 courses.

This investigation employed a retrospective and comparative study methodology (Mendez, Namihira, Moreno & Sosa, 2001). It is retrospective because it analyzed evaluation ratings for courses given during periods prior to the study. It is comparative because comparisons were made to identify characteristics of teacher performance, according to students' opinion by academic field and curriculum stage.

Instrument and Variables

The ratings were collected using the *Rating Form for the Evaluation of Teaching* designed *ex profeso* for the UABC. The instrument contains 20 questions: two closed-response and 18 Likert-type. It focuses on eight dimensions of teaching: (1) structure of objectives and content; (2) clarity of instruction; (3) organization of the class; (4) mastery of the subject; (5) teaching strategies; (6) quality of interaction; (7) evaluation of learning; and (8) work methods.

The rating form also includes information that allows the identification of the course and the teacher, such as: course name, degree program to which it belongs, and teacher's name. According to the study done on the psychometric characteristics of the instrument, it was concluded that it belongs to the theory of cognitive learning, and has a reliability index of 0.94 and a 75 percentage of explained variance (Luna & Valle, 2005).

Students answer the rating form at the end of each semester period using a computer. The ratings are concentrated in a database of the university (central administration) that processes the ratings and provides reports for each subject. These include average ratings by dimension and the overall average of the course on a scale of 1 to 10. In addition, these reports identify the course, the major to which it belongs, and the teacher evaluated.

In this study, the variables considered were academic field of the course; curriculum stage of the course; overall average of the course ratings; and average score for the dimensions.

Procedure

The procedure was developed in two phases:

Phase 1: Design of the software for processing the information. Because the students' ratings are concentrated in a university database, a program was designed to allow us to obtain the information from that database and to organize it according to the variables of interest. The program is linked to the institutional database and collects the necessary information. Information required for this study, but not contained in the university database—specifically the identification phase of curriculum courses—was fed in manually.

Phase 2: Statistical analysis. Calculations were made with the Statistical Package for the Social Sciences (SPSS), and the analyses were descriptive and comparative. The first type consisted in analyzing the variations in teaching performance by academic field, training stage in each of the scholastic periods, and the sum of the four periods. To do this, the arithmetic means and standard deviations of the ratings were calculated by academic field and training stage. The average ratings for each of the eight dimensions of teaching by academic field and curriculum stage were also calculated.

The first comparative analysis considered the four scholastic periods by academic field, and Analysis of Variance (ANOVA) was used. Afterward, the following tests were used: F-Levene (to detect homogeneity of variance); one-way ANOVA (to compare differences between the mean ratings of the three academic areas and between dimensions); the *post-hoc* analysis (Tamhane, DunnetT3, and Tukey – to locate significant differences); and finally, a *t-student test* (to contrast the means of the overall ratings of the courses and the dimensions for the basic and disciplinary/final stages).

Results

The results are presented in two blocks, according to the objectives of the research, by academic area and by curriculum stage. The dependent variables are: overall average of the course ratings and average of the ratings of the teaching dimensions. The independent variables are: academic field and the curriculum stage of the course.

Results by Academic Field

ANOVA was used to compare the average ratings of the four scholastic periods. No significant differences were found between the four periods. This suggests that there is stability in the ratings given to the teachers over time. In Table 2, we see the average ratings by disciplinary fields. This demonstrates the significant differences revealed by the ANOVA test. When the

Table 2
Comparisons of Overall Averages by Academic Area,
and Values and Levels of Significance in the ANOVA Tests

Disciplinary Fields	Basic Descriptives		Homogeneity of Variance	ANOVA	
	$\bar{X}$	*s*	Significance	*F*	*Sig.*
Natural Sciences	8.91	0.68	0.011	6.64	0.00
Engineering	8.98	0.85			1
Administrative Sciences	9.15	0.64			

Table 3
Differences Between Academic Areas, Shown by the Execution of the Post Hoc Analysis

Comparisons by Areas of Knowledge	Levels of Significance
Natural-exact *vs.* engineering	0.804
Natural-exact *vs.* administrative	0.003*
Engineering *vs.* natural-exact	0.804
Engineering *vs.* administrative	0.022*
Administrative *vs.* natural-exact	0.003*
Administrative *vs.* engineering	0.022*

Note: * Values with statistical significance of level $p < 0.05$.

Figure 1
Averages for Teacher Performance by Dimension and Academic Field

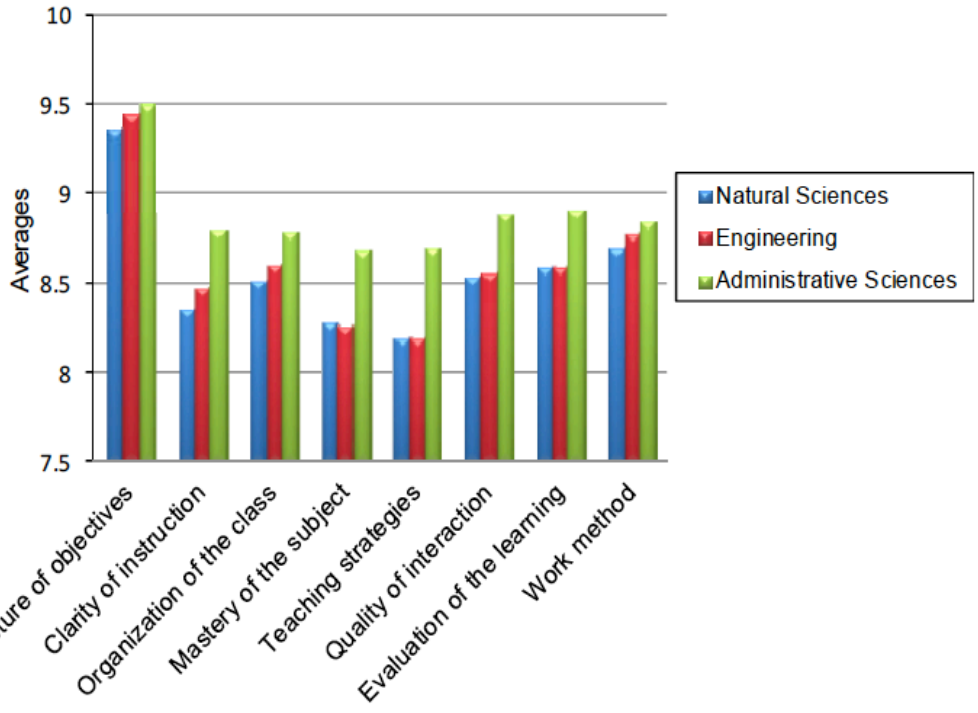

Table 4
Comparisons Between Basic and Disciplinary Stages, by Dimension, for the Three Areas of Knowledge, by Means of the t-Student Test

Academic Area	Dimension	Curriculum Stage	*n*	$\bar{X}$	*t*	*Sig.*
Natural-exact Sciences	Organization of the Class	Basic	52	8.28	-2.52	0.013*
		Disciplinary/final	70	8.69		
	Mastery of the Subject	Basic	52	8.0	-2.48	0.014*
		Disciplinary/final	70	8.48		
	Teaching Strategy	Basic	52	7.88	-2.79	0.006*
		Disciplinary/final	70	8.43		
	Quality of Interaction	Basic	52	8.24	-2.42	0.017*
		Disciplinary/final	70	8.70		
Administrative Sciences	Quality of Interaction	Basic	174	9.0	3.13	0.033*
		Disciplinary/final	178	8.79		

post hoc analysis was executed, statistical differences were found between natural-exact sciences and administrative sciences, and between the areas of engineering and administrative sciences (see Table 3). In contrast, no differences were presented between the areas of natural-exact sciences, and engineering. The results of the foregoing analysis affirm that students in the field of administrative sciences evaluate the teacher with significantly higher ratings, followed by those of engineering and the natural-exact sciences.

The averages of the ratings of the dimensions of teaching and the academic areas are presented in Figure 1. In the three areas, *structuring of objectives and content* is conspicuous as the best-evaluated dimension by students. By contrast, the lowest averages coincide in the three disciplinary fields in the dimensions *mastery of the course* and *teaching strategies.* These are fundamental teaching functions.

The results of the ANOVA indicated significant differences in six of the dimensions of teaching by academic field. The differences according to the post hoc were between administrative sciences and the other two areas, particularly in: *clarity of instruction* (F = 14.4, p =.000), *organization of the class* (F = 5.03, p = .007), *mastery of the subject* (F = 9.2, p = .000), *teaching strategies* (F = 15.1, p = .000), *quality of interaction* (F = 12.1, p = .000), and *evaluation of learning* (F = 8.9, p = .000). Thus, there were no significant differences in the dimensions *structure of objectives* and *work method*. Hence, it is confirmed that administrative science is the area best evaluated, both in the overall averages and in averages by dimension.

Results by Curriculum Stage

Comparative analysis of the overall analyses between these two stages resulted in no significant differences. Similarly, comparison of the overall averages by training stage and academic area did not report significant differences.

The results of the t-student test of the dimensions by curriculum stage revealed significant differences in four dimensions of natural-exact sciences and in one of the administrative sciences (see Table 4). In natural-exact sciences, students of the disciplinary/final stage gave better ratings to teachers than did students of the basic stage, particularly in the dimensions *organization of the class*, *mastery of the subject, teaching strategies,* and *quality of interaction.* In administrative science, only in the dimension *quality of interaction* were significant differences found. Finally, in engineering and technology, no significant differences were found in any of the dimensions of any of the stages contrasted.

Discussion

Since the nineties, the literature has insisted upon the use of SETs as part of a broader system of teacher evaluation. Implicit in this is a number of basic requirements, including an explicit articulation of the purposes of evaluation; assurance, in the administrative management, of the reliability of the process; and a determination of those actions that would lead to an improvement in teaching practices. Moreover, there is an emphasis on the need for linking the findings of SETs with evaluation systems for the purpose of improving evaluation practices.

Recognition of the complexity of the evaluation of instruction obliges us to investigate the various elements involved in the teaching/learning process, as well as to determine the importance of the elements of interaction and its principal effects. The context in which evaluation takes place has shown that it has serious effect, both in interpretation and in the usefulness of the students' ratings. In this study, we hoped to make advances in the analysis of the results of the students' evaluations of the teacher, according to the academic field and the curriculum stage of their training.

In this work, stability was found in the ratings for the four periods studied; this is consistent with previous

research (Abramian, D'Apollonia & Cohen, 1990; Marsh & Dunkin, 1997; Marsh, 2001). Traditionally, this datum has been used only to justify the reliability of the ratings. However, in the framework of a system of teacher evaluation, it should be considered as empirical information for finding out the individual strengths and weaknesses of teachers and groups of teachers, by disciplinary fields.

One of the findings of this study concerned the differences in the ratings given by students to teachers according to their academic field. It was discovered that teachers of the pure hard sciences (natural-exact) as well as those of hard applied sciences (engineering and technology) received lower ratings than teachers of soft applied science (administration). These findings concur with those observed in other educational environments (Hativa, 1996; Beran & Volato, 2005) and must be considered when analyzing and interpreting the ratings for administrative purposes, if we expect the system to be fair to teachers.

Concerning students' perceptions of teacher performance as related to the curriculum stage, significant differences were found only in natural-exact sciences in analysis by dimension. Disciplinary/final stage courses received higher ratings. Other studies have found that the courses of the last semesters of undergraduate and postgraduate programs tend to receive higher ratings (Marsh & Hocevar, 1991; Marsh & Dunkin, 1997). In this regard, Marsh & Dunkin (1997) argue that the effects of the stage of the course tend to disappear when other prior variables are controlled, although these findings are difficult to interpret, given that there a specific model does not exist for organizing the variables.

In this work it is assumed that evaluation procedures must be sensitive to the complexity of teaching. It is likewise assumed that teaching can be judged in an appropriate manner only if it is evaluated within the framework of the factors that determine it. From this point of view, it is expected that the systems be differentiated, and they be congruent with their educational context and with the characteristics of the teachers. The results of this work support this expectation, since they consistently show differences in the ratings students give teachers in the various disciplinary fields.

The particularities of the teaching process in different disciplinary settings; as well as the particularities of the context, such as the type of course, the size of the group and the characteristics of the teacher, must be investigated in future studies for the purpose of gaining a better understanding of the factors which affect teacher competence. Various authors have noted the maneuvering power wielded by evaluation processes, and specifically, it has been argued that an adequate program of teacher assessment using rating forms can lead to the improvement of teaching (Marsh, 2001). Although the ratings obtained are useful for teachers, students, administrators, and for improving educational practices, the possibilities for the extrapolation of the results depend on the way technical factors (described extensively in this article) and organizational factors (Darling-Hammond, 1997) interact.

In terms of organizational factors, it is important to mention that the rating form results cannot be applied for the improvement of teaching unless certain things are taken into consideration. According to Centra (1993), the processes of teacher evaluation can support the improvement of teaching if they meet four critera: they must provide the teacher with new information, permit the teacher to value the information, provide the teacher with strategies for improving his/her performance, and motivate the teacher to make improvements. Similarly, for Seldin (1993) the usefulness of rating forms depends on two factors: that the teachers feel personally motivated to improve, and they know how to improve. The university, as an organization, must integrate these considerations into its improvement endeavors.

Another crucial aspect of organization is the way in which this information is made known to the teacher. At an empirical level, changes have been demonstrated in the effectiveness of teaching based on feedback derived from rating forms; however, it is important to note that modifications are minimal when the results of the ratings are only provided in writing. Feedback can have a far great impact when it is accompanied by a personal interview (L'Hommediu, Menges & Brink, 1990). The data provided by the ratings given by students provide an information base for delimiting skills to develop in the teacher-training programs, insofar as they report the strengths and weaknesses of the teaching task.

Undoubtedly, the information derived from student ratings should be part of an overall diagnosis of needs, which furthermore can be complemented with other methodologies which would explore particular needs in detail (Luna, Cordero & Galaz, 2007). In this sense, the authors concur with Duke & Stiggins (1997) in the sense that this type of proposal should nurture plans for evaluation that would have as their fundamental objective the professional development of our teachers.

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When Undergraduates Teach Undergraduates: Conceptions of and Approaches to Teaching in a Peer Led Team Learning Intervention in the STEM Disciplines: Results of a Two Year Study

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This study addresses the question of how undergraduates with an opportunity to serve as teachers, or "peer facilitators", at the college level think about and approach teaching. Peer facilitators in the "Gateway Science Workshop" Program at Northwestern University serve in a teaching role for one to two years, leading weekly, small group workshop sessions for students in their first year "gateway" science, technology, engineering, and mathematics (STEM) courses. The research took place within a large, funded intervention aimed at reducing the gap in performance and retention between undergraduate minority and majority science students. The study found that the sample of 19 peer mentors conceived of and approached their teaching task in distinctly different ways, adopting a teaching-centered or a learning-centered framework that changed over time with gains in experience. The developments documented over the course of their teaching experience have important implications for understanding how undergraduates think about learning and how they understand teaching.

This paper shares findings from a two year study of student "facilitators" teaching in a peer led team learning (PLTL) educational intervention at Northwestern University. The Gateway Science Workshop Program (GSW) is a joint Mellon Foundation and Northwestern University funded learning initiative serving undergraduates in science, technology, engineering, and mathematics (STEM) disciplines. The goal of the program is to improve the retention, performance, and experience of all students, particularly minorities, in their first year "gateway" science, engineering, and mathematics courses.

The evaluation of the program has demonstrated that all workshop participants derive specific benefits: students generally earn higher grades and are more successfully retained in the discipline than are non-participants (Drane, Smith, Light, & Pinto, 2005; Micari & Drane, 2007; Pazos, Drane, Light, & Munkeby, 2007; Swarat, Drane, Smith, Light, & Pinto, 2004); faculty rethink the way they teach and write homework and exam problems (Streitwieser, 2005; Streitwieser, Drane & Lainez, 2009); administrators support institutionalizing the program as a regular, self-sustaining part of the curriculum (Chow & Munkeby, 2005); and peer facilitators report numerous cognitive and affective gains based on their experience (Micari, Light, & Streitwieser, 2005). It is on the issue of how facilitators change in their approach to mentoring and teaching through their experience of the program that further questions have arisen and additional study has been undertaken. In this respect, we are concerned with the ways in which student peer facilitators change how they think about and approach teaching in the program. We are not focused specifically on behavioral changes. Previous observational studies of facilitator behavior on this program's collaborative learning environment have been reported elsewhere (Pazos, Micari, & Light, 2009; Micari, Pazos, Streitwieser, & Light, under review).

Theoretical Framework

Over the last several decades, research into university teachers' conceptions of and approaches to teaching has steadily grown (Akerlind, 2003; Dall'Alba, 1991; Kember, 1997; Kember & Kwan, 2000; McKenzie, 2002; Ramsden, 1992; Trigwell, Prosser, & Taylor, 1994). The issue has been researched in particular using phenomenography, a qualitative research approach that seeks to highlight the variations regarding the ways people experience and understand educational phenomena (Marton, 1986, 1994; Marton & Booth, 1997; Marton & Säljo, 1976; Micari, Light, Calkins, & Streitwieser, 2007; Micari, Knife, Gould, & Lainez, 2010; Trigwell, Prosser, & Taylor, 1994). Research has disclosed two broad orientations of instructors. They are those who are concerned with teaching as essentially an organization of the content of the teacher's knowledge for transmission to the students, and those who regard teaching as focused on learning as conceptual change (Kember, 1997; Prosser & Trigwell, 1999; Trigwell & Prosser, 2004). Research also suggests that how teachers understand or conceive of teaching informs their teaching approaches (Kember & Kwan 2000; Prosser & Trigwell, 199); indicating that a learner-centered conception of teaching is necessary for quality teaching and learning to occur.

In addition, phenomenographic studies have also looked at how students approach and conceive of learning (Biggs, 1987; Entwistle & Ramsden, 1983; Marton & Säljo, 1976; Säljo, 1979), and links between teachers' approaches to teaching and students'

approaches to learning (Light, Calkins, Luna, & Drane, 2009; Light, Cox & Calkins, 2009; Trigwell, Prosser, & Waterhouse, 1999). A number of studies have revealed a relationship between teacher approaches to teaching and student approaches to learning (Gow & Kember, 1993; Kember & Gow, 1994; Prosser & Trigwell, 1999; Sheppard & Gilbert, 1991). They reveal that transmission teaching approaches are linked to surface approaches to learning, and teaching approaches focused on fostering conceptual change are linked more strongly with deeper student approaches to learning. The relationship between deep approaches to learning and better learning outcomes, moreover, has been widely demonstrated (Biggs, 1987; Dart & Boulton-Lewis, 1998; Entwistle & Smith, 2002; Kember, Biggs, & Leung, 2004). While a limited number of research studies have looked at the development of new university-level teachers (French & Russell, 2002; Nyquist & Sprague, 1998; Thompson, Westfall, & Reimers, 2001), there has been little study of what undergraduates who have peer teaching opportunities at the university level derive from the experience.

For the purpose of studying undergraduate peer facilitators' first time teaching experiences, phenomenography offers a particularly relevant research paradigm. As Bowden (1995, 2000) has argued, this line of inquiry can be helpful to "develop generalizations about better and worse ways to organize learning experiences in the particular field of study" (1995, p. 146). By learning more about how one group of students experiences a particular type of learning—in this case undergraduates in science serving as first-time teachers instead of as learners, a role to which they are traditionally unaccustomed—we stand to learn in two important ways. First, how one educational activity, teaching experience, may be particularly impactful as a learning exercise for students who must come to know the material well enough to make it comprehensible to their fellow students. And second, how administrators leading this kind of learning intervention in the sciences can help us gain valuable information about the ways our inputs, creating peer-led teaching opportunities, are meaningful to students and may lead to better outputs, the learning experiences of advanced undergraduates.

The concept of peer-led team learning (PLTL) in undergraduate science disciplines has blossomed over the last several years with the growth of programs at a large diversity of institutions (Dreyfus, 2002). According to Gafney (2001), PLTL is a learning environment in which small groups engage in challenging work with trained peer leaders; instructors are involved, and activities are linked to the course in a meaningful way (2001). Although research has documented academic gains for students in PLTL programs (Gosser, Cracolice, Kampmeier, Roth, Strozak, & Varma-Nelson 2001; McCaffrey & Meyers, 1994; Treisman, 1992), it is the facilitators acting in the role of peer mentors who many believe in fact experience the most significant gains (Gafney & Varma-Nelson, 2007).

The Program

In 1997, Northwestern University launched the Science Workshop Program, a series of small-group, peer-facilitated workshops open to first- and second-year students in biology. Since then, with additional funding from the University, the program has expanded to include chemistry, physics, engineering, mathematics and Organic Chemistry. Today the program runs 75 workshop groups of 5-7 students each and serves a total of approximately 750 students, 107 facilitators, and 17 faculty per year. Faculty write the weekly workshop problems, and students participate in the program voluntarily; they receive a notation on their transcripts but no grade or credit. In terms of which subjects are covered for each participating discipline, the program engages students in challenging problems from the first year 'gateway' courses. These courses include the biology 210 courses, the chemistry 100 level and 210 sequence courses; the four Engineering Analysis course sequence; the mathematics 200 level calculus based courses; and the physics 130 and 135 courses. While students remain in their workshop groups for the duration of the program, they may participate in more than one discipline thus, for example, participating in the biology workshop as well as the chemistry workshop. While facilitators only cover one subject per workshop group they are leading, they may, however, choose to facilitate in more than one discipline. And, while facilitators only cover the topic of the discipline in which they are facilitating, some content may be integrated, thus they may cover some concepts in calculus as part of the physics workshop problems. The facilitators, who meet with students weekly throughout the year, are advanced undergraduates who performed well in the course previously. First year facilitators receive one academic credit after taking a training course in the education school, and second year "Senior Facilitators" receive a modest financial stipend. Finally, although the program spans one year, the resources of the program continue to be available in the form of the facilitators and peers they have come to know and work with on solving challenging, conceptual problems.

The Study

How do peer facilitators, who effectively serve as teachers of undergraduates for one to two years, think about teaching in higher education? Although facilitators do not assign grades or write workshop

problems, they lead students two hours each week through complex, conceptually challenging problems in the discipline. Although facilitators' employment is not contingent upon the performance of their students, they receive financial compensation for their work and, by their own admission, feel a strong responsibility for the performance of their "kids." Sustained and intensive teaching opportunities are rare for undergraduates. With the exception of oral presentations or leadership on a group project, most undergraduates do not gain university-level teaching experience. While previous educational research has explored ways that faculty think of and approach teaching, little is known about how undergraduates teaching at the college-level view the experience and vary in their beliefs about the purposes of education and the goals of teaching.

The Sample

Over a period of two academic years, two groups of peer facilitators were interviewed in the first few weeks of the fall semester (pre-interview) and again during the last few weeks of the spring semester (post-interview). Facilitators were asked to discuss their experiences as peer-leaders. The sample of facilitators represented the program's overall ethnic, gender, and disciplinary breakdown. In the first year of the study, eight facilitators were interviewed; in the second year, another 11. Of the 19 total in the sample, 12 were female, seven were male; 13 were White, three were Black, and three were Latino/a. Four students were in chemistry, two were in organic chemistry, three were in mathematics, four were in engineering, four were in physics, and two were in biology.

Data Collection and Analysis

Data Collection

Interviews lasted between 45 minutes and one hour. In each interview, facilitators were asked the same questions in the same order, with only occasional digressions to expand upon relevant points of interest (Patton, 2002). There were only slight modifications made to the items asked over the two years. Generally, the first part of the interview asked facilitators to describe what they did in the classroom (i.e., "Take me through a *typical* workshop session that is representative of your experience as a facilitator in SW"). The second part of the interview asked facilitators to reflect on their beliefs about teaching (i.e., "What do you think are the essential ingredients of teaching? How does that relate to what you've done as a facilitator in the SW program?"); how they felt their beliefs shaped their classroom behavior; and (in the post-program interview) how they felt they had developed as teachers through the experience. Each interview was fully transcribed by an independent transcriptionist and analyzed by a team of researchers. The analysis placed special emphasis on those items investigating how facilitators described their teaching goals, what they regarded as exemplary teaching, and (in the post-interview), what they reported in terms of changing their teaching behavior and beliefs over the year. Examples of items included, "What would you say is your main goal when you facilitate?"; "What do you feel is essential to being a facilitator, to doing it the way you think it should be done?"; and "How, if at all, have you changed in terms of your approach to facilitating over the year?"

Analysis

Three researchers conducted the analysis of the data. The initial coding stage of analysis in which the coding structure was developed was conducted by the study's senior analyst and a trained graduate student in the school of education. The latter was hired to work on the project on a part-time basis. To analyze the data, the two researchers independently went through each transcript and highlighted the answers to those questions deemed in advance to be of particular interest for learning about facilitators' conceptions of and approaches to teaching. Second, statements corresponding to those questions that were "found to be of interest for the question being investigated" (Marton, 1988, p. 154) were independently highlighted. Third, an independent summary of each highlighted statement was made, thus creating a list of the different types of conceptions of and approaches to teaching being taken by the pool of facilitators. Fourth, the independent lists of summarized statements were compared with respect to those types and after discussion were combined, based on consensus between the analysts, creating the intermediary coding table that laid out examples of facilitator's answers to each question of interest. Fifth, from this summarized table, combined facilitator statements with supporting quotations as illustrations were used to code teacher-centered and learning-centered conceptions and teacher-centered and learning-centered approaches.

In the second stage of analysis, the coding scheme described above was used to assign individual facilitators to the coding categories. For this, each researcher went through one year's set of transcripts independently to create summaries and a data table of their individual assignments. Second, the researchers switched piles and independently critiqued one another's analysis and identified points of difference with respect to each of the 19 facilitator data sets. Third, the researchers met to discuss their analysis of the full, two-year pre and post sets of data and came to

consensus on discrepancies in the analysis. Each data set was assigned to one of two types (teacher-centered or learner centered) of conceptions of teaching and one of two types (teacher-centered or learner centered) of approaches to teaching. Agreement was reached on the analysis of all data sets. Finally, a third, independent researcher reviewed the assignment of conceptions and approaches to their respective categories. The first and the third researcher then mapped out the individual differences in the pre and post conceptions and approaches to examine individual change over time for each of the 19 facilitators.

Results

The analysis of the data found that facilitators share some important similarities but also diverge in significant ways in their views of teaching. In terms of how they see their students, all of the facilitators clearly expressed an interest in having their students perform well in the STEM courses and enjoyed the experience as much as possible. The facilitators recognized that the gateway courses are difficult and that the large lectures classes with their inherent "weeding out" mentality can be intimidating. Many of the facilitators explained that, aside from hoping to gain teaching experience and an opportunity to refresh the material they expected to encounter on the Medical College Admission Test (MCAT) and Graduate Record Examination (GRE), they also wanted to help students in ways their own peer mentors had helped them when they were GSW students. One student expressed this idea in terms of paying thanks to past professors, "I have had good professors in the past, and it always been very good to interact with them. I feel that it will be good if I could give to someone what the good professors have given me;" while another facilitator expressed the idea of thanking past facilitators, "I was a student in GSW and my facilitator was good and so that was something I wanted to be able to do for other people."

As a group, the facilitators also evidenced a keen sensitivity to the needs of their students. When they noted deficiencies in student understanding or discomfort in the classroom, they tried to be adaptable and react by changing technique. Facilitators provided examples of how they tried to modify the learning atmosphere, such as making sure everyone had a chance to participate, changing the way they went through the workshop problems (i.e., setting up more group work or using the blackboard), or altering the way they lead the class (i.e., stepping back and letting students work more on their own or, conversely, taking more time to explain basic concepts).

Another trend that became evident over the sample of 19 facilitators was that they became more comfortable and confident over the course of the year (Streitwieser, Light, & Micari, 2005) and generally worried less about how the students perceived them than what they could do to help students have a more fulfilling experience. However, despite some of these similarities among facilitators, a clear pattern also emerged regarding how differently they thought about their teaching and carried it out over time in the classroom. Primarily, two distinct conceptions of and approaches to teaching were taken by facilitators, which encompassed a practice-centered framework (in the literature termed "teacher-centered") and a learning-centered framework (in the literature termed "learner-centered"). These two frameworks are illustrated in Figure 1.

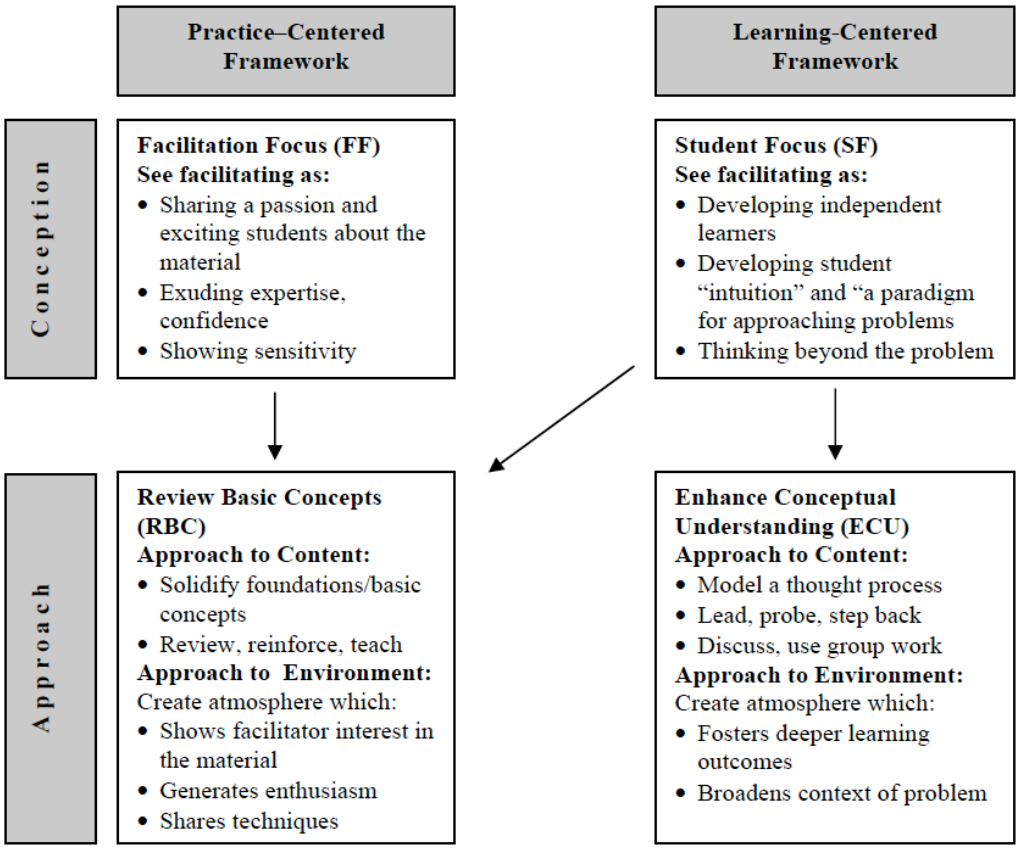
Figure 1 illustrates that, on the whole, facilitators answered the same set of interview questions with two distinct frameworks in mind: they either focused on their role as a teacher, thus using a teaching- or "practice- centered" framework and focusing primarily on how they cover the workshop material; or they focused on what they could do to enhance student learning, thus taking a student- or "learning-centered" framework that primarily concentrated on thinking about how students learn the material.

It should be noted, however, that despite these clearly differing frameworks, the two should not be seen as mutually exclusive. Rather, they suggest generally differing views but some natural, expected overlap, as well. Overall, however, facilitators appeared to adopt either one framework or the other. Each conception and approach encompassed for them different goals. In the practice-centered framework, the behavior of the facilitator played the prominent role, whereas in the learning-centered framework, the facilitation of a particular set of cognitive skills was most important.

Practice-Centered Conceptions and Approaches

Conception. Facilitators with a practice-centered conception were primarily focused on the facilitation process. They saw their teaching task as one where they should share their interest in the material and, thereby, excite students to learn; they should know the material thoroughly to exude expertise and, thereby, inspire confidence in their students; and they should create a classroom environment that generates student enthusiasm and, thereby, active discussion and sharing of problem solving techniques. Finally, these facilitators made special efforts to be attuned to the needs of their students. The following facilitator statements attest to these convictions:

Figure 1
Two Frameworks – Facilitator Conceptions of and Approaches to Teaching in the SW Program



I think overall my goal was kind of just in general to make them like the subject as much as I do because that's what every teacher wants. Every teacher wants the students to say 'this is what I want to do for the rest of my life. (Female, chemistry)

I try to make sure that they learn the material. I try to make it enjoyable for them; several of my illustrations have been humorous. I also make sure that they enjoy themselves but mostly focus on their learning the material enough to be able to do well on tests. (Male, engineering)

My number one goal is to provide the students with a positive experience in the academic setting. I really want them to enjoy it; not a chore that they dreaded (sic.). (Male, chemistry)

Approach. This conception of teaching, then, translated into an instructional approach that emphasized reviewing the basic concepts and shoring up the foundations. These facilitators felt that the best service they could provide to their students was to help them get through the course by understanding the fundamental concepts tested on the exams. Therefore, practice-centered facilitators primarily strived to review the material the instructor was covering in the large lecture course. They did not shy away from actively teaching (rather than moderating or guiding as the SW program staff encourages), using the blackboard, or standing in front of students to explain concepts. The following facilitator statements express their feelings:

Let the students discuss among themselves, use group work and then share good problem solving techniques as a group, based on the good group work problems you've given them. Teach, review, and reinforce so that everyone understands. (Male, mathematics)

Good teachers don't have the choice of sitting down and letting anything happen because the first time they teach it the students know absolutely

> nothing about the subject and so they have to get up to the board . . . The most important thing as a good teacher is to know when they have to switch between the roles of being the lecturer to being another student. (Male, engineering)

Learning-Centered Conceptions and Approaches

Conception. Facilitators with a learning-centered conception, on the other hand, were primarily focused on the end result of student learning. They saw their teaching task as one where they should help students develop into independent learners who, over time, would be able to, as one facilitator put it, develop an "intuition" or, as another put it, "a paradigm for approaching problems." Generally, these facilitators tried to help students see problems in a way that compelled them to incorporate wider issues in the discipline rather than just calling forth the necessary calculation or formula to attack the worksheet problem. The following facilitator statements attested to this view:

> I want them to walk out more inquisitive and curious about the subject and feeing that they just don't want to learn the formula and get an A, but they want to understand why these theories work and why these formulas are used. (Male, mathematics)

> I like them to be able to understand what's going on and often what's behind the [problem], to physically have more intuition about the system . . . and not just stating points of the equations but to start to develop an intuition about what we are working with. (Male, engineering)

> I am pulling apart problems or concepts. I try and get into the nooks and crannies of concepts so that I can explain it to other people if they happen to ask that question . . . really understanding why this is the way that this is. It is more like getting below the surface. (Female, Biology)

Approach. This conception of teaching, then, translated into an instructional approach where facilitators mostly strived to model their own thought process by, for example, talking through solving one problem but then stepping back and encouraging students to work on the rest on their own or within small groups. These facilitators thought about how best to convey the material and to generate discussion that allowed students to see the larger issues behind the problems. Thus, they encouraged wide-ranging debate and willingly deviated from the worksheet questions so students could reach a more profound level of conceptual understanding on their own. These facilitators made efforts to probe for answers or lead students to their own realizations and only stepped in when necessary. They also strove to create a classroom environment where what some facilitators termed "deeper" learning could take place. These facilitators, thus, tried to listen to students' questions and guide them but never to directly teach, encouraging students to think independently beyond the concepts and the given set of workshop problems. The following facilitator statements illustrate this view:

> [Facilitators should be] Going in with the attitude that you are not a teacher and you should never instruct – rarely instruct. The students are supposed to look it up. The tenets of the program is (sic.) to actually to observe and understand; it makes facilitating much easier. (Male, physics)

> I have learned to look deeper into problems and think about other concepts that may be connected to those problems that would help students. I have realized how hard it is to get students to think outside of the box and to get them interested in other ideas connected to problems. What helps is that I enjoyed learning about whenever I am facilitating. I am actually excited about connecting the ideas together. A lot of the teaching is also social interaction and it is hard to teach a group that is not committed or involved. Part of teaching is to get the group excited or get them in a good and positive mindset. (Female, organic chemistry)

> A good facilitator must make sure that the students are comfortable and create more of a friendly atmosphere than that between a student and teacher in class. He/she should be able to constructively criticize all the students in a way that doesn't make them feel stupid or inferior... A good facilitator should know what they are doing but then be open to new ways of doing or solving conceptual problems. (Male, mathematics)

As with the previous types of facilitators, learning-centered facilitators also spoke about the importance of paying attention to student needs. However, they emphasized trying to create a classroom atmosphere conducive to self-driven, student-initiated learning rather than one where they would overtly direct the activity. The following facilitator comments explained this view:

> I've had to kind of stifle myself and sort of change my instinct and remember that "I am not a bad teacher trying to help them; in fact, I'm a better teacher if I let them really delve into the problem on their own." (Female, mathematics)

> I think listening is very, very important because just coming in with some set idea isn't going to be very helpful. I meant you'll definitely lead them through the answer but they may not get anything from that. So, you first have to listen and then see where each individual is and where they need help. I think also being able to be flexible in terms of how you give information. (Female, chemistry)

> A good facilitator has to maintain a good atmosphere that encourages students to think about the questions deeply for themselves instead of just giving them the ideas. An article I read says that at the end of the workshop the students should feel as if they did it themselves. (Female, organic chemistry)

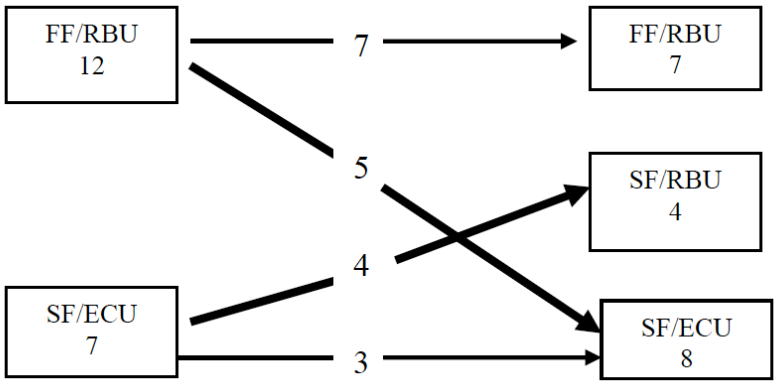
Relationship between Conceptions and Approaches

While the teaching-centered and learning-centered facilitator dichotomy is suggestive of how this sample of facilitators varied in their conceptions of and approaches to teaching, facilitators adopting one or the other framework should not be thought of as locked exclusively into only one model. Some overlap is natural. For example, a learning-centered facilitator may generally believe that students are best served when they learn independently, are able to think beyond a given problem, and can approach it from a wider breadth of conceptual understanding in the discipline. And yet, concurrently the facilitator may realize (or be told by their students) that fundamental concepts are still unclear, thus making a broad, ranging, conceptually rich discussion premature. Therefore, a facilitator may, indeed, have a learning-centered conception but consciously decide to approach teaching and classroom activities in ways that stress the review of basic concepts. On the other hand, it is worth noting that it would be highly unusual for a facilitator with a teaching-centered conception to take a student-centered approach. The reason being that it would be unlikely that someone who's general conception is that students need to review basic concepts would take an approach that focused on engaging students in independent learning. While the study showed evidence of students with student-focused (SF) conceptions taking a review- of-basic concepts (RBC) approach as well as an enhance-conceptual-understanding (ECU) approach, and facilitators with facilitation-focused (FF) conceptions with taking a review-of-basic concepts (RBC) approaches, there was no evidence of a facilitator with a facilitation-focused (FF) conception taking an enhance-conceptual-understanding (ECU) approach, as indicated by the placement of the arrows in Figure 1.

Change Over Time

The typing of facilitators into practice-centered and learning-centered outlooks, along with the fact that they were interviewed two times over the course of a yearlong teaching experience, begs the question of whether facilitators developed in their conceptions of and approaches to teaching over time. One would expect that with weekly preparation and teaching, increased subject matter knowledge, familiarity with one's students, and an education training course on group management and learning approaches, facilitators would be expected to revisit their initial thoughts and practices of teaching. Figure 2 illustrates what changes we observed in our sample.

Figure 2
Change Over Time – Facilitator Conceptions and Approaches: Patterns of Change Over the Program Year



Key: Facilitation-Focus (FF); Review Basic Understanding (RBU); Student-Focus (SF); Enhance Conceptual Understanding (ECU)

Discussion

Generally, when a teacher moves over time from a teacher-centered to a learner-centered framework, such development is regarded as positive. Students stand to gain when their learning is squarely the focus of their teachers' attention. In our sample of 19 facilitators who served as first time peer teachers for one year, twelve of them began the year with a facilitation-focused framework, and seven began with a student-focused framework. Over the course of the year, while seven retained their facilitation-focused conception of teaching, five developed a student-focus. The change in conception was also accompanied by a shift in approach to teaching and a move away from reviewing basic understanding to one focused on enhancing conceptual understanding. While three facilitators retained their student-focused conception and their teaching approach of enhancing conceptual understanding, four changed their teaching approach to one where the review of basic understanding took precedence. No one moved from a student-focus to a facilitation-focus. Such a change would have been considered a negative development. A facilitator who began with a primary concern for students over time would have become increasingly focused on him or herself, which is counterintuitive. Such an instructor would, presumably, be fixated on his or her own development at the expense of the needs of the students.

What explains those facilitators who changed conceptions and approaches and those who did not? Of the five facilitators who changed from a teaching-centered to a learning-centered conception, all of them also changed in their approach from reviewing basic concepts to enhancing conceptual understanding. These facilitators over time realized that through a variety of ways of setting up the learning process and class atmosphere –such as group work or whole group discussion, individual use of the blackboard or individual problem solving– they could step back and allow students to discover and problem solve more on their own. However, some facilitators who began the year already with a learning-focused conception retained this conception but changed their approach from one that worked to enhance conceptual understanding to one that reviewed basic concepts. For these facilitators, in contrast to the former facilitators just discussed, it became clear that their students needed more basic review and were not ready for deeper, conceptual discussions. This decision was one that, arguably, was based not only on a sensitivity toward the needs of the students but also a simple pragmatic realization that students need to feel the workshop is helping them in concrete ways. That is, past evaluation of the SW program has shown that when students regard their workshop problems as too far removed (because they are too conceptual) from those they will see on the exam (which are more specific), they become disillusioned with the program.

This last point sets up one dilemma for the program that, from an evaluation perspective, still needs to be resolved. While the intention of the program is to be challenging for students and not remedial or focused on exam review, and facilitators are instructed not to lecture or drill students on problem solving, students often complain that broad ranging, conceptual problems are irrelevant to those they encounter on the exam. Therefore, while facilitators are prepared to draw students into conceptually deep discussions around solving problems in the discipline, if students are stuck on basic misunderstandings or complain that conceptual problems are too esoteric, facilitators often acquiesce. Although students are told by their peer facilitators (based on what the peer facilitators are taught in the facilitator training course) that working through conceptually challenging problems is valuable and is likely to help them perform better on course assignments and examinations, this information is not always well received if the students do not believe it will help them with their exams and grades. Pressure on facilitators to review the basics requires more teaching on their part and leaves less time for conceptual discussions. The question then becomes should facilitators be giving in, why or why not, and if so, is the program serving its intended purpose. One answer might lie in the way the facilitators are currently trained in the educational course they take during the year they serve as facilitators. Perhaps facilitators need help learning how to balance student pressures for basic review with the program's emphasis on conceptual discussion.

Conclusion

The findings from our study of 19 peer facilitators in the role of teachers for the first time in a higher education setting are consistent with some of the studies of other first time college teachers. Our two types of facilitators and their change process matches much of the literature on teachers in higher education. In Nyquist & Sprague's (1998) model for TA development, TAs over time also moved away from worrying about their own performance to feeling concerned about their students' learning. French & Russell (2002) found that as teaching assistants gained experience they saw themselves as guides rather than presenters and placed greater emphasis on the quality of their teaching than on simply transmitting information. The educational literature has previously argued that there is often an important dichotomy between "teacher-centered" and "student-centered" approaches

taken by instructors at various levels of education (Brown, 2003). Over time, one type of teacher may develop into another type or some variation thereof. Further, conceptions of teaching like those identified in our study are not uncommon for first time teachers (Nyquist & Sprague, 1998). The beliefs and behaviors of the undergraduate facilitators in this program share many points of agreement with other first time teachers. However, our study shows that while in the eyes of the program the facilitators may serve primarily as a means for improving student performance, the facilitators are not a homogenous group: they have highly unique undergraduate experiences which they perceive in dramatically different ways.

When researchers study faculty, oftentimes these instructors appreciate learning important information about themselves and, in turn, make adjustments in their teaching and classroom behavior (Trigwell & Prosser, 1996). In most cases, these changes are beneficial to student learning. Along the same lines, when facilitators in the GSW Program learn about different ways they approach teaching, again benefits accrue to the students. We argue, however, that the benefits these undergraduate teachers derive are, perhaps, even greater and more important in the long-term than those for established faculty. Undergraduates with teaching experience are at the start of their careers and will continue to teach as TAs, medical school interns, laboratory leaders, and instructors in a myriad of other settings. Although we have not conducted a tracking study of this particular cohort of facilitators yet, we believe that a follow-up study, along with collecting more information generally about the alumni of this program, would be an important and valuable future undertaking. The experiences the facilitators in the GSW program have gained as teachers, and their sensitivity to students and the learning process, will likely have powerful influences on future students with which they interact in years ahead.

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Epistemology, Pedagogy, and Latent Functions: The Peculiar Nature of Web-based Public Access Courses

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Dialogue is "at the heart of the e-learning experience" (Littleton & Whitelock, 2004, p. 173). It is the means to building mutual understanding, encouraging the construction of personal meaning and ensuring engagement. Inquiry requires dialogue. If we value processes of inquiry, then it is at our peril that we ignore the complex issues and aspects of designing and facilitating in online environments for inquiry processes. How do we design online learning experiences that encourage dialogue and a process of inquiry? A phenomenological inquiry using student postings, student interviews and survey data from an online undergraduate course is undertaken to explore the dynamic interrelation between design, facilitation, tools and learning. As part of the analysis, a heuristic device was developed – the *Map of aspects of dialogical inquiry*. In this article, this device and the dynamic interrelation between design, facilitation, tools and learning are discussed, and implications for practitioners teaching in online environments are explored.

Sometime, somehow, over the past dozen years, since 1996 at least, changes in computer technology wormed their way into the craft of teaching, almost virus like so it seems. Once, it will be recalled, instructors learned how to make filmstrips and overheads to help bring life into the classroom. Now the technology available for teaching has become increasingly complex and sophisticated. Programs like Authorware, Director, Flash, and new mediums like podcasting or Wiki can make a sociologist's head spin. Not withstanding these new mediums, the heart of teaching with computer technology is still the basic html page. Simple coding that allows straightforward presentation of text and graphics on the web. As programmers make the World Wide Web user-friendlier, it is becoming more commonplace to see and hear about distributed education. The idea that universities can reach out to an otherwise untapped revenue resource, those non-traditional students who are not in a position to travel any distance to attend university, has enticed administrators to expand the traditional academic universe. The normative structure of the classroom is being deconstructed and the university will instead travel the distance to meet the student. Where this might have been accomplished through INI courses (individualized instruction) with material being sent via the post, now computers allow instant access via the web.

According to the CIA World Fact Book (2007), there are 77 countries that have over one million Internet users. Of those countries, 52 or 67.5% have under ten million users; 11 or another 14.2% of countries are between ten and twenty million users. Ten countries have between twenty and fifty million users. Two countries sit between 50 and 100 million users, India with 60 (as of 2005) and Japan with 87.54 million users (as of 2006). Only two countries are in the world top 100 million users: China with 137 million Internet users and the United States with over 208 million Internet users (as of 2006). Consequently, the plethora of Internet users makes non-space specific learning more appealing and probable if at the same time not equally distributed across nations. It is the case, however, that specially designed distributed education courses are not usually public access. That is, "online" courses are specifically designed for students who are paying to gain access to knowledge. Universities and professors who deliver such courses would be undermining their own revenue stream by letting course material remain open to the public. And this does not even begin to address the issue of intellectual property, which continues to be a huge concern. Thus, those courses designed for distant education are most usually protected within some sort of shell, such as WebCT, that allows for password protection, a gated community, if you will, of scholars. These intellectuals live in a silicon, rather than ivory, tower. But the anarchy of the web still has its place.

A search of the web will quickly reveal that a number of sociologists have at least some, if not all, of their course material open to the public. Anyone and everyone are free to access their material and see what is occurring in their classes. This paper addresses the issues surrounding such a set of course pages. It will explore some basic latent functions of public access material as well as epistemological issues involving open web pages. This paper contains then, two slightly divergent but interwoven pieces. First is the general description of unsolicited emails received directly as a consequence of the author's collection of webpages. The description of these emails must remain at a very general level given that this information, although unsolicited, was not procured using any disclosure or guarantees of privacy. Second, the more important portion of the paper, discusses how technological changes are more than mere pedagogical tools. They

have, in fact, laid the groundwork for a new epistemology.

The Web Material

Once professors were paid to pontificate on subjects near and dear to their academic souls. Then it was deemed important to more directly involve the audience in the learning process. Greater emphasis was placed on the "craft" of teaching and learning. To state it more practically, over twenty-seven years of teaching has presented this author, and clearly others as well, with many opportunities to reinvent the way we practice pedagogy. Prior to 1980, the normative order dictated professors lectured and waited for the eager student to ask questions and challenge the material being presented. By the mid-1980s, learner directed pedagogy emerged and many gave their hearts and souls to active learning. From 1985 to 1995, student involvement was believed the best alternative pedagogical practice for helping students embrace sociology. For me, a simple act in 1994 changed my way of thinking about teaching. Not that I abandoned active learning or lecturing, I have too much of an ego to let that go. But, a straightforward request from a hearing impaired student suggested that technology might help her and others with class material. The student simply requested permission to copy the overheads before class started. Early on, the practice of using overheads with outlines of lectures was a direct response to the notes I saw students taking in class. They were often filled with examples and references to my poor humor but quite frequently missed the major points being made. Putting up an outline of the main points would allow them to pay more attention and fill in necessary detail. Trying to follow the overheads and the interpreter in front of the class was a difficult task for this particular student. I had been creating web pages using html in a text editor and realized by placing course material on the web, I could free students from the drudgery of note taking and potentially enhance their listening and participation. (On the flip side of this issue, one might argue that removing note-taking responsibility from students is aiding in the alienation of students from the process of work, learning, and their product!)

Method: Email as Data

The data serving as the impetus for this paper is a collection of emails received as a result of the public posting of course web pages. The data is serendipitous in as much as it was not collected systematically with any conscious design or project in mind. The emails were just kept as a matter of course. The final set of email data did not originate at the institution of my employment and only contacts from individuals not personally known to me were included. This project spans a ten-year period from 1996 through 2006, starting two years after the web pages were posted. As noted above, the existence of these data is the result of serendipity rather than deliberate data collection. As emails were received, they were kept in folders on the computer. Some of those folders remained on a central server while others were downloaded to the computer in use at the time. Over this ten-year period eight computers were used regularly, in serial succession mostly, but with overlap between portables and desktop computers. The primary reason for the large number of computers used was a result of a series of computer failures, such as hard drive crashes, motherboards gone wild, etc. Consequently, not all of the email has been retrievable. Nonetheless a large enough number of emails exist to garnish useful information. To carry this project out, it was decided not to count each email message since a large number of the email messages were follow-ups to an original contact. The emails were placed in an excel file for simple coding and manipulation. The result, after elimination of those follow-up emails, was a total of 332 separate and distinct contacts. Given the loss of data, there are years in the study with low numbers, making it relatively impossible to discern whether the low numbers are due to deletions or just lack of contact. My suspicion is a bit of both since there is likely a natural attrition as the popularity of the web expanded. Indeed, the number of web pages related to sociology is much larger in 2006 than existed in 1996. A simple coding structure was used to catalogue the data. Location was noted as given by the sender, primarily state of origin or country. Student status was coded along the following strata: high school, community college, four year university, graduate student, and post-graduate student. Other statuses included college professor, high-school teacher, professional, and citizen. Salutations were coded as formal, casual, sender identified, or none. The intent of the email was identified as seeking information, recognition of the pages, asking permission to use the web material, personal-life issues, or suggesting corrections.

From the existing 332 separate inquiries the vast majority, 251 (75%), were from students. One hundred ninety-nine (30%) were written by college students attending a four year institution, another 29 (9%) from graduate students, seven (2%) from community college students, two from post-grad students, two that were not clear concerning their level in school, and 14 (4%) from high school students. Among the other contacts were seven (2%) from citizens seeking information, 23 (7%) from professionals working in various agencies, 28 (8%) from college professors, and five (1.5%) from high school teachers. Three of the college students

Table 1
Email Contact by Year Regarding Online Sociology Course

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Contact	18	37	57	62	58	3	29	24	23	6	15

clearly stated their professional occupations as well (all three were police officers), but they were classified primarily as college students due to the nature of their requests being more consistent with college assignments for programs in which they were enrolled.

The contacts were not evenly distributed by year (see Table 1), most likely due in large part to the number of computer failures over this period of time, but the trends are clear and in keeping with expectations. As the material on the Internet expanded over the years, the number of sociology and criminology resources expanded. Thus an inverse relationship was likely to occur. That is, the greater number of potential resources would lead to some decrease in accessing this particular set of web pages. The fact that no meta-tags are used on this set of web pages decreases even more the likelihood of web searches finding these web pages immediately. As can be seen, the trend is for greater number of requests in the years just before the turn of the century. There is an obvious decline in the number of emails in the first part of the twenty-first century even if one discounts 2001 and 2005, years in which emails were lost.

Requests came from a wide variety of locations as well. Of the total number of contacts, 95 did not provide any indication of where they originated. The remaining 237 either stated explicitly where they came from or their email address indicated location, or in a couple of instances, the IP address showed on the email allowing for a quick search indicating the location. Thirty-seven different states were represented in the emails originating from all four-census bureau regions. The states most likely to host requests were California with 15, Texas with 11, and North Carolina and Minnesota tied with nine each. There was also a wide variety of countries represented, 39 countries across six continents for a total of 100 international emails. The list of countries originating emails include Argentina, Australia, Austria, Barbados, Brazil, Canada, Caribbean, Columbia, Costa Rica, England, France, Germany, Greece, Guyana, India, Indonesia, Iran, Israel, Italy, Jamaica, Japan, Kosovo, Mexico, Nepal, New Zeeland, Pakistan, Philippines, Poland, Portugal, Scotland, Singapore, South Africa, Spain, Sweden, Turkey, Wales, Zambia, and Zimbabwe. The largest numbers of emails originated in England (16) followed by Canada (15) and Australia (14).

Many email requests start with the sender providing an introduction regarding who they are (86). This is often as simple as a "hello my name is." Also common is the sender providing various indicators of status. Invading even one's virtual personal space seems to inspire, if not who they are, at least who they are *not*. It is not unusual for one to say, "I am not in your class but… would help me with this?" It appears as if they desire to ask one for something, some bit of knowledge in this case, presumes some need to legitimize the request, and the more identity indicators provided the more the legitimation function is served. In an educational setting, even if virtual, control over knowledge is power; professors can grant access or deny it.

Many emailers find difficulty in starting the conversation with a stranger. How does one begin such an encounter in a virtual place? You do so within the normative structure of first time introductions stemming from face-to-face encounters. This is the only normative model with which most of us are familiar and comfortable. The single largest number of emails, 162 or 49% started without any salutations. Examples of such emails include:

- I just want to say thank you . . .
- Do you know where I can find Ceasare Lombroso works in the web for downloading . . .
- I was browsing your web page . . .

Eight-six salutations began by primarily stating their status number (26%). For example,

- I am a student at Austin Community College,
- My name is . . . and I have a few questions . . .
- I am the creator of a page for sexual abuse victims . . .
- I live in Argentina and study law . . .

They may even start with a negative status, such as "I'm not in your class…" Eighty-four emails (25%) started with a greeting either formal (10.5%) or informal (15%). An example of the formal salutation is, "Excuse me sir," "Dear sir," "Professor Hamlin," or "Dear Colleague." Casual greetings were just that: "Hi" or "Hello" or "Hey."

Contacts came from a variety of student statuses. There is something about the status of student that legitimates seeking information or assistance when it comes to educational matters. Although it was possible for a student to ask an

unknown professor for information prior to the advent of the web, it is more probable that libraries were a more likely source. The web turns the stranger into an automated reference source. None- the-less, the status of student is offered as a way of introduction and legitimation. When someone needs an authoritative source, even a stranger on the web will do. Having said that, the formality of emails ends up all over the map. We see this right away with salutations. As stated, many salutations are quite formal with dear Mr., Dr., Professor, etc. There seems to be an underlying nod to authority or at the very least recognition of status differentials. Others are the complete opposite with either just my first name, or a simple "hey" or no salutation at all. The web allows for informality that personal contact may shape differently and, to a certain degree, a leveling of statuses between virtual actors. This holds true at the close as well with formal etiquette such as a "thank you" or "sincerely" or complete informality with no formal ending at all.

Other supporting indicators of status take the form of the sender declaring I am from institution X, from this particular town, city, state, or country. Some will indicate their position in an agency, their academic major, or profession. Early in the email, they will indicate they are a student and more precisely the type of student they are (e.g. high school, college, graduate, etc.). The same is true for the non-student as well, those working in professions like police, publishing companies, etc. More detail may follow such as the name of the school they attend or work at, the city or town they live in, and the state or country in which they reside. All of this of course helps to legitimize and justify what appears to be an intrusion on one's time. Those without status indicators approach requests as a right and suggest it is your obligation to reply. The tenor of the message runs the gamut of very formal to down home familiarity. The actual writing may be the worst form of text messaging lingo to quite proper writing styles. There may or may not be formal salutations.

With regard to the purpose for the email, the vast majority of the senders of these emails were asking for information (225 or 68%). The nature of the emails differs however. As stated earlier, the emails range from high school students to post doctoral students, and high school teachers to college professors as well as a sprinkling of citizens and members writing as professionals. As such, one would expect a diversity of email encounters. The emails fall into two broad categories: compliments and requests, with a few offering both. Compliments are straightforward and frequently are quite short: "Well done!" or "Thanks" or "Nice pages." An example of a shorter thank you email would be the following:

> Thank you for your insightful tags! I think that I might just get a handle on my external studies down (Sociology through University of New England in Armidale Australia) under. I love the net and your pages are worth more money!! Thanks and hugs,

Even in the longer emails the gist of the message is the same:

> I just wanted to thank you for maintaining the information on your home page. I am an English teacher in Israel teaching an advanced reading comprehension course through Bar Iian University's Extension in Safed. We are learning an article which mentions the Durkheimian notion of the inevitability of crime which I knew nothing about. Thanks to your lecture outline, I was able to gain some insight as to what is referred to, plus I took down the names of two books used in your courses which we'll order for our library here in Safed. I'm going to tell our criminology lecturers to refer to your homepage as well to see how well organized a lecturer you are. Your efforts are appreciated world-wide!

The requests for information have a far greater diversity and complexity. From the student side, it may be as simple as asking for an answer to what sounds like a take home exam or a paper assignment. For example, "Hi, I was wondering if u could tell me by today if the British crime survey is useful in official statistics. Cheers." Some will come right out and declare they need to write a paper. Many are looking for help and are seeking assistance in getting them off in the right direction but not looking for an answer. An example of this type of request is "I was browsing your web page and found it quite interesting; would you mind if I asked you questions about sociology and criminology. Now and then." This latter group appears to be in the pursuit of knowledge while the former group only wants answers to get their work completed. Other requests from non-academic or professional sources often are looking for advice or are seeking understanding of some major event in the world or in their life. For example, one person was trying to understand her son's suicide and another his son's ADAH diagnosis. He was tying to put it into the context of labeling theory. Many requests merely want to cite the web pages in work they are doing or in some cases use the material directly (4%). This may be as minor as using pictures from the web site to parts of the material (one or two pages), and in some cases, making the entire site available to their audience. It is in these instances that it is clear that the web pages serve a number of unintended consequences.

Simmel (Wolff, 1950) once observed that the stranger, although this seems counter intuitive, may become a confidant. Strangers are not normally perceived as an integral part of a group. Their social distance in relation to the group may make them the object of distrust. But in part, because of their objectified relations, they may become the one person to whom secrets may be revealed. Electronic communication goes one step further by creating a "virtual stranger." Not only are they not a normal part of your social group, they are physically "unreal" as well. Strangers exist as Max Headroom zipping into your computer screen out of nowhere and as quickly disappear.

Pedagogy vs. Epistemology

Brooks points out that over the years there has been a major paradigm shift from teaching (traditional normative structure) to learning. Practically as a consequence of this shift, it becomes clear that "teaching and learning are scholarly acts, fully equal to research and service" (1997, p. 1). Brooks defines virtual education as incorporating electronic technologies. "Virtual education, therefore, includes traditional modes of learning supplemented by the use of sophisticated technologies" (1997, p. 7). Once freed of the normative and physical structure of the traditional teaching-learning setting, new forms of social interaction are free to emerge. This type of parasocial interaction incorporates a real person with an intangible "not quite real entity or environment" (1997, p. 8), but in a very different way than our parasocial interaction with movie stars, for example. The person on the other end of the email knows a good deal more about you from your web pages and, of course, you know nothing about them. Emails illuminate this type of interaction when in the course of seeking specific information they comment, "Where do you teach?" To the audience, you are a cyber professor; your presentation of self lacks some of the normal tools of impression management. The nature of email chat is a form of "pseudo-Gemeinshaft" – that is, the creation of a fake sense of community to sell you a bill of goods (Merton, 1968, p. 163). This is not to say email identities are purposely deceptive, but rather, virtual education necessitates redefining community and one's place in it. One other aspect of the new pseudo-Gemeinshaft community is the need to create it quickly and for only fleeting moments.

Yet another aspect of public web course pages centers on the role the Internet in general plays in terms of public forums. Public access course pages have a unique ability to function as both second and third places. Oldenburg defines the second place as the realm of work and production. The third place is much more of a social arena both encouraging and enhancing a sense of community, open to celebration and enjoyment (Oldenburg, 1989, p. 14). Without question, these public academic web sites are examples of second place arenas. The producer uploads web pages as part of teaching-learning scholarship. Given the nature of the vast majority of email contacts, consumers are also accessing pages as part of their work. Some emails indicate that they came across the pages while surfing the net. They were just interested and wanted to make comments or ask questions. In this context, the web pages are representing a third place. The shame is that third places are disappearing (or at least changing dramatically) as humans rush head long into what C. W. Mills (1956) called mass society. Habermas provides much the same accounting to the flipside of the more purely social realm as he discussed the disappearance of the "public sphere" (Seidman, 1989, p. 231-236). The public sphere is an open arena that allows for public expression on political discourse. This tended historically to be face-to-face.

As many of the emails suggest, the public access web pages comprise an expansion of second place. Most inquires are directly connected to work, either as student, professor, or professional. But there are those inquiries that clearly cross over to that third place and occasionally the public sphere. The web, although under constant attack, is the last free openly public forum and by posting material one enters, perhaps unintentionally, the public sphere. Content from my web pages, for instance, generates or is used in political discourse around issues such as sexual assault or crime.

As Brooks points out, the shift to using computer technology in teaching is a shift in pedagogical paradigms (1997, p. 12). This apparently happens whether we consciously design a course for distant education or not. To make matters even more complicated, O'Mera and Rice (2005), Lucal et al. (2003), Brooks (1997), Boyer (1990) and many more have addressed the central issue of the blurred lines between scholarship and teaching in this new model and conclude the reward system must be modified to reflect the time, effort, and scholarship of this type of teaching.

Edwards et al. maintain that "electronic technologies may inadvertently provide the improvement of traditional courses" (2000, p. 386). Given the history, one might actually make the case that the reverse is true, that introducing electronic technologies into traditional courses helped make distant education courses possible, as an unintended consequence. Pedagogically, Edwards et al. are correct when they say that "template drawn, cookie-cutter course construction" (2000, p. 386) will not by itself produce a quality educational experience. However, from an epistemological point of view, it may make all

the difference in the world as to how knowledge is constructed and vetted.

In their conclusion, Edwards et al. state "instructors who are forced to use this technology are not likely to be convinced, and uninspired, cynical teachers in the traditional classroom are not likely to become good teachers simply by using distance-education technology" (2000, p. 391). But then pedagogy and epistemology has never been the same thing. Teachers who use this technology, if used properly, will indeed be committing to a new form of scholarship (epistemology) if not becoming better teachers (pedagogy).

Concentrating on pedagogy obscures a deeper issue related to online material. Pedagogically, if one is designing courses for the web or distant learning, all matters related to learning and teaching are taken into account. In other words, issues of method and structure become paramount as one contemplates delivery modes. The question of how we know what we know (and ultimately how we know what we know is "true") suddenly takes on immediate importance or at least far greater concern. One can see that the anarchy of the web redefines truth. For example, a list of rape myths and facts is on one of the course web pages. This data set was compiled by looking at myths scattered all over the web. In that list is a "fact" that states the unfounding rate of rape is at about the same as other crimes, 2%. This is, as a matter of fact, wrong; unfounding rates for rape typically vacillate between 8% and 10%. People cite the information from that web page as evidence supporting the idea that women do not lie about rape. Others see fit to let me know that it is wrong (or in a blog a general reference is made to my stupidity). I would be remiss not to state here that unfounding rates have little, if nothing whatsoever, to do with lying. A person might lie, that is always possible, but unfounding occurs for many reasons. Now back to the issue at hand.

The problem is, that the rape myth web page was designed as a way to generate discussion concerning what makes "facts" indeed facts; how do we know? It also is a way to talk about the authoritative power of knowledge; the mere stating of something as fact makes it undeniable and carries a sense of authority that transcends the individual. However, since this page was created for use within a traditional classroom setting, should it be changed? The creation of knowledge is an outcome of the presentation of information on the web. Knowledge is created as a process, not a static "a-ha" moment. A statement is made, it is picked up, and passed on in perhaps modified form and in the telling becomes defined as truth. Truth to a great extent, although not totally, is socially constructed and validated. One must be careful not to turn Karl Marx into Adam Smith, which can easily be done with the web (sort of Orwellian truth). The immediacy that accompanies web-based material has the potential to transform course material created for pedagogical reasons to transfer knowledge, into its opposite, knowledge creation that may transform pedagogy.

Web Scholarship

As new forms of scholarship emerge, such as teaching and learning and scholarship of integration, it will be increasingly difficult to judge contributions made to the discipline. If knowledge is gauged only on inception, it misses the dialectical or at the very least developing character of knowledge. Is knowledge to be judged by peer review or by how wide spread it is accepted, regardless of its "truth" factor? If traditional scholarship becomes outdated in part due to advances in knowledge, the teaching-learning-scholarship nexus will make knowledge obsolete at an ever-increasing rate. By its very nature, knowledge will change as rapidly as information technology advances. Blogs and wikis, even web pages, represent knowledge as an emergent process rather than one of discovery. In discovery, a domain assumption suggests that knowledge is there to find. In new forms of scholarship, knowledge is more clearly socially constructed. In the traditional measure of contributions, senior scholars would appraise written works as elder statesmen and masters of their discipline. In the new virtual and hybrid virtual world, many elder statesmen are just as likely to be left on the periphery, not knowing how to judge current advancements. It is a brave new world. In 1994, when the initial web pages that make up the basis for this paper were created, there were a limited number of sociological resources on the web. Now, web pages abound and formats like podcasting have emerged, which will place the web page as we know it next to the library book as an existing but outdated depository of knowledge. Traditional forms of producing new knowledge and conveying that knowledge are not likely to disappear anytime soon. The point is the landscape is changing and we must be prepared to embrace new definitions of scholarship, knowledge, and the expression of the ways of seeing. Although the virtual world is not the antithesis of traditional forms of expression, it is clearly transforming the academic world. Public access web pages are a part of the transformation. Users are growing up with the web as part of their landscape, not as a new venture. Just as the printing press took oral knowledge and transformed it into a static set of truths, the web is transforming knowledge all over again, allowing it to morph as we observe it. New users' expectations of that knowledge and the creators of that knowledge will be vastly different than the old standard of books, articles, and authoritative authors.

Discussion and Commentary

The creation of web pages in the early 1990s had the express pedagogical intent of providing access to information in a way that did not disadvantage any student. That is, traditional modes of teaching, the normative structure, were premised on the assumption that students could sit, listen, write, and ask questions, etc. all fundamentally in the same way. That normative structure appropriately provided tools necessary for that learning environment: chairs, lighting, pencils, paper, and so on. The web leveled the playing field just a bit by displaying information accessible anytime, not just during class periods, for students who were in a position of needing to "multi-task." It only gets better as tools make the pages even more accessible to a wider more diverse set of students. One unintended consequence of putting course material into a public access format was to generate an audience outside of the intended audience, a parasitic audience if you will. I say this not to disparage those who seek information. By parasitic audience I mean those who attach themselves to a host seeking nurturance (knowledge) and then detach and move on, a twenty- first century stranger. In many instances, these strangers, part of the parasitic audience, appear as true seekers of knowledge, in some instances only wanting enough to get by (give me this answer). But in either case, it is almost always a unidirectional relationship (parasocial). Emails generated from web pages tend to be unlike blogs and chat rooms in this sense. The host becomes the granter of knowledge (life blood), the expert, and the authority, in the end the keeper of the truth. Where formally one might have made a quick trip to the library and grab Durkheim or Marx off the shelf, now they come to web pages in search of the host's rendition of the ideas, a pseudo-knowledge of the thing, not the thing itself. As such, the web page becomes less pedagogical for the parasitic audience and more epistemological. It appears the opposite for the intended audience where web pages are a pedagogical vehicle for obtaining knowledge.

It also appears the public access web pages contribute unintentionally to maintaining the public sphere. Debate, discussion, arguments, even vituperative fights, seem to spontaneously combust on the web. Blogs and position papers have used information from the web pages that form the foundation of this study, for supporting their arguments. Since it has taken on an air of public domain knowledge, all control is absent. As a consequence, information is quickly interpreted and reinterpreted, misrepresented in some cases void of its original intent.

Finally, it appears that these web pages did contribute unintentionally to a broader phenomenon, the coalescing of third place and the public sphere. Twenty-first century strangers connecting to a host as spokes from a hub, grabbing bits of knowledge and then seeking others for debate and discussion outside of the comfortable surroundings of family or work, more at ease arguing about social issues or politics with those from whom you are emotionally detached. The manifest functions of the web course material at the root of this paper did not envision assisting anyone outside the traditional classroom let alone those in states and continents far away.

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Enhancing Academics' Capability to Engage Multicultural Classes and Internationalize at Home

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This paper reports the rationale, design, implementation, and outcomes of a strategic diversity course for developing the intercultural capability of academic staff at an Australian university. The interactive workshop called "Engaging and Building Alliance across Cultures" aims at developing awareness of and practical skills in facilitating the inclusion of culturally and linguistically diverse students in the classroom, while also engaging local students in internationalization at their home university. This paper reports the participating academics' workshop ratings, as well as their learning reflections regarding curriculum development, strategies that they intended to apply to engage their culturally diverse classes, and the perceived strengths and weaknesses of the workshop. Implications for the potential use of cultural diversity training to internationalize learning and teaching in a higher education environment are discussed, along with suggestions for future research.

Current trends towards increases in international student enrolments and the number of overseas-born in the general population, have given rise to increasing cultural diversity in the tertiary student population in developed countries. Among Organisation for Economic Cooperation and Development (OECD) countries, Australia has the highest proportion of international students in tertiary programs, with the number of international higher education students growing by a factor of 12 between 1985 and 2006 (Bradley, Noonan, Nugent, & Scales, 2008). From 2007 to 2008 alone, the number of onshore international student enrolments in the Australian higher education sector grew by 5% to 182,770, with all of the top five sources being Asian countries (Australian Education International, 2009). In the general population, the proportion born overseas also rose from 23.1% to 23.9% between the 2001 and 2006 Australian censuses (Department of Immigration and Citizenship, 2009).

In Australia and other developed nations, demographic trends fuel the forces of globalisation and have prompted various universities to plan and action an agenda of internationalization, especially that of the curriculum. Encouragingly, an institutional strategic focus on internationalization has been found to be useful for internationalization (Elkin, Farnsworth, & Templar, 2008), whereas an internationalized education, or internationalization at the home university, would also benefit domestic students (Parsons, 2009).

According to Stella and Liston's (2008) report on the Australian University Quality Audit (AUQA) of internationalization of Australian universities, the interpretation of the term "internationalisation" is variable and often not well understood by staff and students. Nevertheless, a widely accepted working definition of internationalization is one by Knight (2003), that it "is the process of integrating an international, intercultural or global dimension into the purpose, functions and delivery of post-secondary education" (Stella & Liston, p. 8). The sector has paid increasing attention to internationalization, and universities generally have an internationalization strategy with varying foci, such as internationalization of the curriculum. At the time of writing, internationalization of the curriculum is a critical component of the University of Canberra's strategic plan for internationalization. The University of Canberra (UC) has also identified "forging linkages between cultures: (enhancing) intercultural student and staff capability" as one of the five signature sub-themes of learning and teaching at UC, embedded in the overarching primary theme of "preparing professionals professionally."

While international and global dimensions of internationalization tend to be better understood and can be embedded into the curriculum with relative ease, intercultural perspectives and skills are often harder to grasp and less readily incorporated into curriculum design and renovation (Mak & Kennedy, under review). However, the cultivation of intercultural capability (including sensitivity, engagement, and competence) among university staff and students is both instrumental to and an outcome of an internationalized curriculum (Leask, 2008, 2009). Growing academics' intercultural capability is essential for engaging and including students from culturally and linguistically diverse backgrounds in the classroom, and for developing an internationalized outlook and global citizenship in all students (Otten, 2003; Stone, 2006; Ward, 2006).

Intercultural communication barriers due to cultural and linguistic differences are very real in Australian university classrooms, as indicated by research findings on disappointingly low levels of meaningful interactions and friendships between international and local students (Battye & Mak, 2008; Mak, 2009; Smart, Volet, & Ang, 2000). Teachers face many challenges of teaching diverse students and

engaging multicultural classes, and can benefit from strategic training and support, including in-service professional development of diversity knowledge, attitudes, and skills (Ho, Holmes, & Cooper, 2004; McAllister & Irvine, 2000; Stone, 2006). Effective internationalization at the institutional level cannot happen without assisting individual teachers to internationalize their personal and professional outlooks and develop their own intercultural competence, which often involve self-reflective processes (McAllister & Irvine, 2000; Sanderson, 2008).

Diversity training (or intercultural training with a diversity education focus) for academic staff could enhance their intercultural sensitivity, engagement, and competence, which could in turn improve the classroom participation of international, immigrant, and indigenous students and enhance all higher education students' intercultural learning. Kulik and Roberson's (2008) review of diversity education initiatives in academic and organizational settings has revealed consistent positive effects of diversity education internationally. Regardless of differences in trainee characteristics (e.g., age and employment status) or intervention characteristics (e.g., length and content of diversity education), diversity education is useful for improving trainees' knowledge and overall attitudes towards diversity.

Despite numerous debates on the meanings of internationalization and what constitutes intercultural effectiveness for students and teachers within the Australian higher education sector, there is a paucity of literature addressing the "how to" in the development of intercultural competence (Freeman et al., 2009). The documentation and evaluation of diversity training for Australian academic staff as a practical approach to internationalize learning and teaching, is strangely lacking. Freeman et al.'s national road show seminars have focused on disseminating a cognitive framework for embedding intercultural competence in the curriculum rather than providing hands-on professional skills development for academic staff. However, Freeman et al.'s report (p. 27) has identified three existing practical resources for actively developing intercultural competence, one of which being Excellence in Cultural Experiential Learning and Leadership (EXCELL).

EXCELL was originally developed as a personal development and learning support program for international and immigrant students, and described by its Australian and Canadian co-developers in Mak, Westwood, Barker, and Ishiyama (1998). It is a structured intercultural training system built on an integrated model of learning paradigms incorporating cultural experiential learning (Mak, Westwood, Ishiyama, & Barker, 1999).

According to Kolb and Kolb (2005), experiential learning theory is based on core propositions of learning that emphasize learning and relearning as an active and holistic process involving synergetic transformation between the person and the environment, and the creation of knowledge enhanced by dealing with conflict, difference, and disagreement. Kolb's (1984) experiential learning model delineates the four cyclical stages integral to this active learning approach – concrete experience, observation and reflection, abstract generalization, and experimentation with new behaviors and perceptions. Pedagogy using experiential learning strategies could engage university students, enhance their student experience, and bring about deep learning outcomes (Barber, 2007). Experiential learning methods are also important for accommodating differing preferred styles in learning and communication in multicultural classes (Ho et al., 2004).

EXCELL targets the development of generic social competencies that many learners would find challenging in crossing cultures. One such competency is participation in a group (Mak & Barker, 2006). A vital part of the EXCELL training system is the Alliance Building tool (essentially a strategic approach to facilitating a multicultural group), which aims to validate culturally diverse participants' original cultural identity, build safety and trust, and encourage every group member to listen and contribute to meaningful exchanges in group settings.

Evaluation studies of the complete EXCELL Program in Canada, the UK, New Zealand, and Australia have shown intercultural learning benefits for both local and overseas-born students (Mak, Barker, Logan, & Millman, 1999; Ho et al., 2004), and that it can be fully embedded into the curriculum in some multicultural classes (Mak & Buckingham, 2007; Woods, Barker, & Daly, 2004). An EXCELL Train-the-Trainer course normally requires three full days of intensive facilitator training, and will suit teachers, counselors, and other helping professionals seeking accreditation to deliver the entire EXCELL Program to assist clients with the development of the full range of EXCELL competencies using all of the EXCELL tools, usually over six group sessions of two to three hours. However, resources for staff training and allocation of class time vary across institutions and courses. Many university teachers may only want or need to attend a one-day staff training course on cultural diversity, especially when it is designed to enhance their intercultural capability to manage classroom diversity.

Training on Engaging and Building Alliance across Cultures

Recently, the author designed and trialed a single-day diversity course for academic staff at the University of Canberra (UC), which includes the use

of the EXCELL Alliance Building tool to engage multicultural classes. The resulting interactive psycho-educational course was a full-day workshop called "Engaging and Building Alliance across Cultures." The workshop was designed to provide diversity training to teaching staff to build the University's capacity to implement its strategic plan in relation to internationalization, and also its learning and teaching signature theme of intercultural competence.

The diversity training aims at increasing teaching staff's awareness of the cultural values underpinning diverse students' classroom behaviours, and enhancing understanding about conditions for positive intercultural contact. Additionally, the workshop promotes the development and sharing of practical skills in effective intercultural communication, and engages staff in applying the principles and methods of cultural validation and alliance building. An emphasis of the training is on promoting teachers' empathy with diverse students' difficulties in participation in groups in academic settings, and what the teachers can do to facilitate the inclusion of these students in learning activities.

Learning outcomes of the Engaging and Building Alliance workshop pertain to increased awareness and knowledge in several general cross-cultural domains. They are: reality and benefits of cultural diversity, challenges for students and teachers, the EXCELL framework for developing social competencies, dimensions of cultural differences, conditions for positive intercultural contact, reduction of barriers in intercultural communication, the EXCELL tool for cultural validation and alliance building, strategies and practical skills for engaging and including students from culturally diverse backgrounds in groups, and enhancing all students' cross-cultural perspective.

A range of active learning methods was employed in the delivery of this diversity workshop for academic staff – experiential learning, a cultural assimilator exercise, demonstration of inclusive practices in a facilitated group, dyadic and small group discussion, and critical reflections. The active learning was supplemented by segments of direct teaching drawing on the relevant literature on theory, research, and practice. Course handouts included a copy of the PowerPoint slides for the course, three key articles on the EXCELL rationale and tools (Mak & Barker, 2004, 2006; Mak et al., 1999), and a list of useful readings and websites relevant to the workshop content. The research findings presented in this paper, which include participating academic staff's critical reflections, provide an evaluation of the pilot trial of this diversity course at UC.

Method

Participants and Procedure

Participants of the initial program evaluation were 16 academic staff members at the University of Canberra who participated in one of two deliveries of a one-day course on Engaging and Building Alliance across Cultures@UC. The academics were teaching staff from a range of disciplines across the university, including accounting, architecture, communication, environmental science, graphics design, industrial design, management, midwifery, nursing, politics, and psychology. There was a mix of genders, birthplaces, cultural backgrounds, and length of service within the university.

The research participants had responded earlier to invitations to attend the workshop, either as associates (eight participants) with a UC teaching project on Internationalising the Student Experience (see Mak, DePercy, & Kennedy, 2008; Mak & Kennedy, under review) or as part of a UC initiative on equity and diversity advertised through the faculties (which attracted another eight participants for a second offering of the workshop). At the end of the one-day course, workshop participants were invited to complete an anonymous and confidential two-page workshop evaluation survey on a voluntary basis, which took about 10 minutes to complete. There was no demographic question on the evaluation form to identify the participants.

Evaluation Questions

The workshop evaluation form surveyed the participating academic staff members' ratings of and critical reflections on the training. Program ratings were assessed with items on the evaluation of various aspects of the workshop and also as a whole, on 5-point rating scales, where 1 = Poor, 2 = Fair, 3 = Average, 4 = Good, and 5 = Excellent.

The participants' reflections on the training were assessed using open-ended questions on their learning on curriculum development, intended application for engaging culturally diverse classes, the most useful parts of the workshop, suggestions for improvements, and whether (if yes, to whom, and why) they would recommend the workshop to others.

Results

Workshop Ratings

Table 1 presents the academic staff ratings of the workshop. On scales of 1 to 5, all aspects of the workshop attracted mean ratings of "Good" (a rating of

Table 1
Means and Standard Deviations of Workshop Ratings by Academics

Aspect of workshop	*M*	*SD*
Workshop activities	4.16	.89
Course materials	4.25	.68
Degree of enjoyment of workshop	4.34	.87
Overall evaluation of workshop	4.31	.70
Workshop's value for professional development	4.25	.84

Note. Possible ratings ranged from 1 = Poor to 5 = Excellent.

"4") to "Excellent" ("5"). The participants were generally very positive about the workshop overall and found it enjoyable, noting its value for their professional development. There was also very favourable feedback about the workshop activities and course materials.

Learning and Curriculum Development

Academic staff gave a range of responses to an open-ended question on one's learning on curriculum development that they are taking away from the workshop. One recurrent theme was regarding teaching pedagogy (five mentions), with such reflections as "establishing group rapport early on with ice-breaker activities"; "need to consider student characteristics when designing content and process of teaching"; and, "methods of getting culturally diverse students to participate in tutes."

Another recurrent theme was on teaching philosophy (four mentions). Learning around this theme include heightened awareness about cultural diversity, with comments like "we need to be aware of the diversity in our cohort of students and allow curriculum design to reflect this" and "I am more aware of the challenges … (of) ever more multicultural student body and the need for academics to improve their teaching towards these students." While some academic staff's learning was around curriculum content (four mentions), expressed as "adding cultural perspectives in examples and case studies"; "use more inclusive examples/content for discussion"; and, "issues of values and stereotypes." One other teacher's learning was specifically on assessment methods, "devise assessments that equalise student capacities to do well" (e.g., choice of written or oral assignments). For one teacher, the learning was about CALD or "Culturally and Linguistically Diverse" as a new term.

Intended Applications to Engage Culturally Diverse Classes

Most academic staff's responses to the open-ended question on one strategy that they are intending to apply to engage culturally diverse classes could be classified as inclusive practices (13 mentions). These were sometimes explicitly linked with values of equity. Common types of inclusive practices mentioned were planning to offer more small group activities, validate different cultural practices, and using diversity within the class as a resource. Examples of these intended applications are "get[ting] small group members to contribute their cultural expertise"; "tailoring some activities to better engage CALD students and to get these students working with the Australian students"; "good, friendly introduction strategies that validate difference and set the tone for the semester's work"; and, "I will try to present more case studies showing diverse answers to a problem, according to different cultures." One particularly interesting intended inclusive practice is "asking students for their individual experience and then exploring the underlying values and beliefs to see how the way things are done in other cultures are different yet the same."

Two other academic staff stated a specific inclusion technique – that of inviting students to participate in class activities – as their intended applications.

Most Useful Parts of Workshop

Academic staff expressed a range of opinions on what constituted the most useful parts of the workshop. One recurrent theme pertains to discussion, sharing and listening to others' experiences (eight mentions). One academic described this as "the chance to hear challenges and solutions to a range of interesting situations," whereas others stated "networking, sharing teaching experience and listening to different ways of solving the same problems," and "I really enjoyed the wide discussion and debate and hearing other teachers' experiences with diverse student groups."

Other staff found opportunities for networking and meeting particular individuals to be the most useful parts of the workshop (five mentions). Two teachers described what they had found useful in terms of "interacting with CALD academics" and "networking and getting ideas from others. Being more aware of what it is like to be new to a . . . culture."

Other responses to the most useful parts of the workshop could be summarised as handouts and readings (four mentions), practical teaching strategies, tips and applications (three mentions), and learning about theory and research in some depth (one mention). One respondent simply said "all."

Suggestions for Improving the Workshop

There were different opinions on how the workshop could be improved, apart from the technology problems at the beginning of the second time the course was run. Two academic staff would prefer a faster paced, half-day workshop, whereas four others would want a longer course allowing more time for a greater number of and more in-depth activities and case studies. There was also a suggestion each for a more discipline-specific dialogue, greater coverage on theory (such as operating paradigms of cultural diversity), and pre-course readings of summary materials. The remaining four academics simply found the workshop to be a valuable experience.

Recommendations of Workshop to Others

All the respondents said they would recommend the workshop to someone, particularly to their colleagues ("all staff," and "all our lecturers and tutors"), including senior academics and administrators, to broaden their perspectives in multicultural Australian society. One comment was that this workshop should be seen as equal value to the Disability Standards Workshop, which is mandatory for staff at the University.

Case Illustration of Application of Diversity Training to Teaching

A participant of the University's teaching project on Internationalising the Student Experience has reported and analysed, to considerable breadth and depth, her subsequent application of the one-day diversity course, to her unit on Introduction to Management, a multicultural class with over 300 enrolments (Mak, DePercy, & Kennedy, 2008). She has incorporated Alliance Building activities throughout her renovated tutorial program to encourage greater social integration and to deepen students' understanding of the international context in which they would develop their careers. Drawing on reflections from her tutors and students, she observed that the diversity training has provided the tools and impetus for teachers and students to engage in cultural experiential learning that links management theory with practice.

Discussion

The quantitative feedback received from university teachers participating in a facilitated one-day diversity course on Engaging and Building Alliance across Cultures, suggests that this type of diversity training is welcome by academic staff regardless of their disciplinary and demographic backgrounds. The preliminary findings show consensus in favorable ratings of workshop activities, course materials, and, importantly, degree of enjoyment of the workshop, overall evaluation of the workshop, and its value for professional development.

Thematic analyses of the participants' responses to open-ended questions have provided a deeper understanding of what the academics found useful. Their learning reflections suggest a self-reported increase in awareness and practical skills in curriculum development with an intercultural competence focus. On completion of the workshop, the teachers expressed that they could take away learning regarding teaching philosophy, pedagogy, and curriculum content. This learning centered around an increased understanding of the interpersonal dynamics in culturally diverse classes, a heightened sensitivity to the needs of culturally diverse students, methods to encourage culturally diverse students' participation, and practical ways of incorporating cultural perspectives in learning materials and activities.

Participating academics' critical reflections have further suggested insight into the rationale and knowhow of inclusive classroom practices. Almost all the participants expressed an intention to apply strategic inclusive practices in learning and teaching to engage students and embed internationalization at home. Common types of inclusive practices include offering a greater number of small group activities that encourage intercultural interactions, inviting culturally diverse students to participate in active learning, validating different cultural practices, and using diversity within the class as a resource to teach international perspectives. An interesting observation is that some teachers' intended applications are explicitly driven by values of equity and diversity.

Post-workshop reflections indicate that the majority of academics found the interactive nature of the professional development to be the most useful part of the workshop. The participants had particularly enjoyed discussion in groups that also happened to represent several dimensions of diversity (e.g., in gender, ethnic backgrounds, years of teaching experience, and disciplinary affiliation). The format of the facilitated workshop encourages networking, as well as the sharing of personal and professional experiences and strategies around the topic of cultural

diversity and the opportunities and challenges that it presents.

In contrast, there were varied opinions on how to improve the workshop. Several participants expressed a desire for a longer course allowing more time for a greater number of and more in-depth activities and case studies; but a couple of academics would prefer a faster-paced, half-day workshop.

Overall, the quantitative and qualitative feedback obtained is aligned with the aims of the cultural diversity workshop. While the workshop evaluation involved only a relatively small sample size and had not included pre-workshop measures, the teacher participants reported clearly favorable experiences with the facilitated interactive diversity course. There are indications of increased awareness of diverse cultural values, empathy with culturally diverse students' difficulties in participation in academic settings, and understanding of conditions for positive intercultural engagement and what teachers can do to facilitate this in multicultural classes. A case study reported by one of the participating academics in management, indicates how cultural diversity training could provide both the impetus and the practical tools for curriculum renewal aimed at engaging multicultural classes while at the same time facilitating internationalizing at the home university.

This one-day diversity sensitivity and engagement course for academic staff in one Australian university, represents one step towards addressing what Freeman et al. (2009) see as a gap in the "how to" literature on strategically building the intercultural capability of academics to develop their students' intercultural competence. Indeed, Eisenchlas and Trevaskes (2007) have proposed that real-life intergroup interactions and the use of experiential methods constitute a preferred vehicle for developing intercultural skills.

Implications for Future Training and Research

Interactive professional development workshops, such as the Engagement Workshop reported in this paper, are likely to provide an effective format for encouraging academics to experience the dynamics of diversity firsthand and subsequently develop strategic inclusive teaching practices to engage culturally diverse students and enhance local students' internationalization at home (see also McAllister & Irvine, 2000; Sanderson, 2008). Feedback from participants in this study suggests the need to offer professional development of varied lengths. This may be accommodated by having a half-day introductory workshop that focuses on awareness raising. On completion of the introductory half-day module, teachers may wish to complete an intermediate half-day module on the practical knowhow of including and engaging culturally diverse students. In combination, the modules would familiarize academics with the use of the EXCELL Alliance Building tool.

For academics who are interested to further their intercultural capability using the EXCELL system, there is the further option of attending another day of training to learn to use the EXCELL Cultural Mapping tool, as in the design of the University of Canberra teaching project on Internationalizing the Student Experience (see Mak et al., 2008). Cultural Mapping provides a schematic framework for describing a sequence of micro behaviors (both verbal and nonverbal), which shows one way of navigating effectively in a specified social scenario (Mak et al., 1998; Westwood, Mak, Barker, & Ishiyama, 2000). Where it is deemed appropriate to embed the complete EXCELL Intercultural Program into the curriculum (e.g., incorporated as six 2h tutorials in a unit on interpersonal communication), academics have the option of completing a three-day EXCELL Train-the-Trainer Course. Generally speaking, more extended types of professional development are required to enhance academics' intercultural capability for preparing graduates who can meet cultural competency standards of professional practice (e.g., in the helping professions) in a rapidly globalizing society (Dana & Allen, 2008).

While the Alliance Building processes represent a generic intercultural training resource and appear to have worked well for most of the teacher participants in the workshop reported in this paper, it may be necessary to adapt the engagement workshop to cater for requirements specific to particular disciplines and types of classes. The most effective design of learning activities and assessment items may depend on curriculum content, the proportion of students from culturally diverse backgrounds, class size, course level, and whether it is a theory or a practicum session. Having international students in the training room in one or more segments of the workshop to share their experiences first hand, could be a powerful addition to diversity training for teachers.

An interesting present finding is a prevalent view that senior academics and administrative staff should also be provided with the diversity training, so as to broaden their perspectives on Australia as a multicultural society. This concurs with Leask's (2009) view that a range of people across education institutions need to engage with the internationalization agenda over time, before any real improvements in interactions between home and international students can happen. Ward (2006) has further pointed out that the rapid increase of onshore international student enrolments has significant impacts on host institutions, but existing support services and research have concentrated mainly on international students, with relatively little attention paid to the impacts on staff and local students.

Future research could focus on improving the methodology of evaluating the outcomes and longer term impact of diversity training with academics. Kulik and Roberson (2008) have identified various unanswered research questions related to the effectiveness of diversity training in improving staff members' knowledge, attitudes, and skills. Ways to improve future evaluations include the use of larger samples, quantitative instruments with sound psychometric properties, the collection and use of pre-training and other benchmarking data, and the conduct of follow-up teacher interviews or focus groups to evaluate the impact on curricular changes and any longer-term change in attitudes towards cultural diversity. Where many academics within a course group have undertaken the same type of professional development, it will be particularly pertinent to capture case studies of good inclusive teaching practices and document systematic changes to the course design and delivery.

Where possible, a comprehensive approach to evaluating the impact of a concerted effort to provide staff members with diversity training, could also include the evaluation of student experience and learning outcomes. These may be assessed in terms of any improvement in students' cultural diversity knowledge, attitudes, and skills, and culturally diverse students' participation in tutorial discussion and other group activities.

Conclusion

The notion of internationalization at home is gaining currency in higher education as the phenomenon of transnational movements of tertiary students and skilled labor has transformed the cultural mix in the classrooms, at a time when the sector has also recognized the need to prepare local-born graduates in a rapidly globalizing workplace. Professional development in culturally responsive pedagogy could increase academic staff's awareness and skills in intercultural competence, and enhance their capability to engage culturally diverse students and facilitate positive intercultural interactions in the classroom. Intercultural engagement and alliance building in classroom interactions would further contribute to internationalizing all students' learning at their home university even where study abroad is not a practical option.

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Literature vs. Practice: Challenges for International Students in the U.S.

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If you talk with international students about their experiences in U.S. universities, many of them will tell you that they feel there is a disconnect between what the literature suggests is "good practice" in accommodating international students and the reality of what is actually happening on U.S. campuses. Research suggests the importance of establishing relationships with international students so that other "good practices" may occur. After conducting an extensive review of the literature and current good practices, the authors concluded that United States (U.S.) institutions of higher education are not "practicing what they preach" when it comes to meeting the needs of international students. They are not using the research to drive practice in accommodating international students. This article reflects on the literature that describes what is considered good practice in U.S. international educational programs, and makes recommendations for improving those practices based on this review of the literature.

International students come to the United States for several reasons: to pursue academic goals (Hull, 1978); to get education and training that is unavailable in their home countries (Woolston, 1995); to acquire prestige through a degree from an institution of higher learning in the United States (Huntley, 1993); and to escape unstable home-country economic and political conditions (Woolston, 1995). Internationalizing U.S. colleges and university campuses have always been an interest and a concern to scholars and higher education administrators. We define Internationalization for this study as "the process of integrating an international, intercultural or global dimension into the purpose, functions, or delivery of postsecondary education" (Knight, 2003, p. 2) and "an ongoing, future-oriented, multidimensional, interdisciplinary, leadership-driven vision that involves many stakeholders working to change the internal dynamics of an institution to respond and adapt appropriately to an increasingly diverse, globally focused, ever-changing external environment" (Ellingboe, 1996, p. 199).

According to Rice et al. (2009), the United States has hosted more than half a million students since 1999. Recent data also suggests that the number of international students show an increasing trend (Institute of International Education, 2008). As the number of international students entering U.S. colleges and universities increase (Chronicle of Higher Education, 1999; Sarkodie-Mensah, 1998; Zikopoulos, 1991), the need to understand and to address their cultural and psychological adaptations to this country grows (Lin & Yi, 1997). "As American universities continue to attract international students as well as expand into global markets, this growing community deserves attention" (Halic, Greenberg, & Paulus, 2009, p. 73-74). The number of international students enrolled in colleges and universities in the United States increased by 7% to a total of 623,805 in the 2007/08 academic year according to the 2009 report conducted by Open Doors – the number of enrollments for first-time international students in U.S. colleges or universities increased by 10 % since the same period last year. This increase is also a result of Department of State Bureau of Consular Affairs issuing 10.2% more student and exchange visas for the same period.

Contribution of International Students

While developing programs to provide U.S. students an international perspective and help them to gain cross-cultural skills for future leadership positions, U.S. universities also gain economically from international students studying in the U.S. Knight (2004) supported these concepts in a report written for the Organization for Economic Co-Operation and Development (OECD). She wrote that there are two economic concerns that need to be considered in the recruitment of international students to U.S. institutions of higher education. First, the U.S. economy has declined over the past two years causing significant budget shortfalls in most states. Second, there has been a decrease in international students caused by 9/11 restrictions. This effect hurts the economic health of universities.

According to Altbach (2002) more than 1.6 million students studied outside their home countries in 2002. Of these students, 547,000 studied in the U.S. The most recent Open Doors Report (2008) explained that international students contribute approximately $15.5 billion dollars to the U.S. economy, through their expenditure on tuition and living expenses. According to the same report, 62% of all international students receive the majority of their funds from personal and family sources. Quazi (1999) argued that the tuition paid by international

students allows institutions to hire more instructors and provide more facilities, which in-state students might not have had otherwise. Bassinger (1999) argued that the international alumni are also important sources of capital gifts. When they complete their studies and return to their home countries, they will not only contribute to their alma maters but to the entire goodwill toward the U.S. The political and economic connections with their home countries are extremely important to the U.S.

Peterson et al. (1999) explained that international students contribute substantially to the U.S. by supplying competent teaching assistants at the college level. They explained that if it were not for the international teaching assistants, many courses required by U.S. students would not be offered because U.S. students will not work for the small amount of money that universities pay for teaching assistantships. U.S. students will rather find other jobs and pay for their education also supplementing it with student loans. Jessica Vaughan, a senior policy analyst with the Center for Immigration Studies, in a congressional testimony on June 29, 2007, House Foreign Affairs Committee, explained that the international students are also an important part of the campus workforce. For example, a huge influx of international student workers would lower the wages (which is approximately 50 billion dollars a year), and even if it is only five per cent, it would mean a payroll savings of 2 billion dollars each year.

With all the benefits of having international students on U.S. campuses, it would be beneficial for organizations that work with international students to pay closer attention to their concerns and needs. It is not necessarily the lack of research on the challenges experienced by international students on U.S. campuses, but it is rather the lack or absence of educated attempts to solve the issues.

Review of the Literature

International students on U.S. college campuses are a diverse population with unique concerns and needs. These concerns and needs are mainly academic and social and are influenced by language ability, cultural differences and pre-conceived expectations of student life on U.S. campuses (Mori, 2000). Even though there is extensive research on international students' adaptation while studying in a foreign environment (Leong & Chou, 1996; Pedersen, 1991), the authors contend that educational professionals do not have a clear understanding of cross-cultural differences. This creates a communication gap between the institution and the international student (Heikinheimo & Shute, 1986).

The following is a comprehensive analysis of the current literature on accommodating international students on U.S. campuses. The literature is clear that institutions must rethink their delivery systems in order to better meet the concerns and needs of international students.

Related Findings

During interviews with six East Asian students, Dillon and Swann (1997) found that one of the major areas of their insecurity was the lack of confidence in their English language skills. Takahashi (1989) reported that contrary to a common American assumption that everybody readily understands English, acquiring foreign language proficiency, especially academic English in adult years, requires relatively long periods of hard studying, strong linguistic ability, and an extensive knowledge of the adopted culture. Tompson and Tompson (1996), as reported in Senyshyn et al. (2001), wrote that international students enrolled in business programs also identify the lack of confidence in language skills to be one of the most daunting barriers to a positive adjustment experience. One of the most widely used tools to measure the language proficiency level of the students is the Test of English as a Foreign Language (TOEFL). However, because of the complexity of proficiency in a second language, there are significant numbers of studies suggesting that there is a lack of a relationship between the TOEFL and academic success (Özturgut, 2001; Stover, 1982). That is to say, achieving a minimum TOEFL score for college admission by no means guarantees sufficient English competency of international students in succeeding in U.S. colleges and universities (Pederson, 1991).

To investigate the factors associated with the academic stress of international students at U.S. universities and to show how this has a strong negative impact on their academic skills, Wan, Chapman, and Biggs (1992) conducted a survey of 689 international graduate students enrolled in three major upstate New York universities. Wan and associates found that the students who considered themselves as having better English language skills were less likely to view academic situations as stressful and believed that they were able to cope with the stresses they experienced. On the other hand, students who considered themselves as having weak English language skills were more stressed and believed that they were unable to cope with the stresses they experienced.

To investigate international students' perceptions of their own adaptation to academic and social life, and to analyze their interaction in the host culture, Heikinheimo and Shute (1986) conducted a study by interviewing and observing participants at a Canadian university. Results covered four aspects: language skills, academic concerns, family support and

expectations, and cultural differences. In terms of language skills, to adapt successfully to North American culture, the students had to master both formal and informal English for both everyday and academic life. As for academic concerns, students experienced heavy academic pressure.

Bunz (1997) argued that the lack of interaction between American and international students has roots in American tendency toward ethnocentrism, the habitual disposition to judge people from other cultures by standards and practices of one's own cultural or ethnic group. In the light of research, one can conclude that the issues international students face have different interpretations and explanations. And, the challenge of overcoming the challenges still lies in the hands of researchers and the professionals who are communicating with these international students.

Various factors influence the adjustment process of international students as indicated in the literature. Stafford, Marion, and Salter (1978) found that homesickness, finances, and housing represented the three most difficult areas of adjustment for two-thirds of the 747 students they surveyed. Lin and Yi (1997) argued that the psychological stressors such as academic demands, changes in their support system, and lack of familiarity with U.S. customs and culture, can lead to social isolation among international students.

In terms of academic adjustment, Boyer and Sedlacek (1986) concluded that the international students considered education to be very important and they were concerned about grades, study skills, ability to think independently and critically, and the issue of time management. Mori (2000) explored the reasons causing anxiety for international students and explained that student-teacher relationships, academic credits, grading scales, class attendance, class discussions, and types and frequency of quizzes, examinations, presentations, and assignments may well present problems. Surdam and Collins (1984) argued that the cultural background of the international students can represent a significant factor in the adjustment experience. They added that adaptation was related to spending leisure time with Americans, adequate knowledge of English, better educated families, and religious participation.

Another significant cause of the students' academic problems was their unfamiliarity with the American educational system (Thomas & Althen, 1989). For example, Asian, Middle Eastern, and African students have been trained to sit quietly in lecture-type classes and take detailed notes to be memorized in preparation for exams that are usually given only once or twice a year (Aubrey, 1991). Many Chinese students are still trained in the Confucian tradition of teacher-centeredness (Yen, 1987). In view of this, the American education system requires of international students a more complex and challenging adaptation.

In addition to academic challenges, most international students face social problems related to social integration, daily life tasks, homesickness, and role conflicts. They often feel overwhelmed by cultural differences (Constantinides, 1992). They also express their concerns about competitiveness, individualism, and assertiveness of American culture (Parr, Bradley & Bingi, 1992). Some even feel that American culture is somewhat offensive (Heikinheimo & Shute, 1986). When the international students come to the U.S. the first time, they feel the absence of their own traditional sources of social support (Pederson, 1991). Therefore, social support is important not only for self-esteem and self-confidence but also for helping reduce stress that plays an important part in academic achievement (Mallinckrodt & Leong, 1992). According to the results of several surveys, international students try to get social support from their American peers, but the relationship between international students and their American peers rarely go beyond the most superficial contact, and many international students quickly abandon the hope of establishing deep cross-cultural friendships (Heikinheimo & Shute, 1986). Studies have also found strong positive correlations between the amount of contact with host nationals and international students' adaptation (Ward & Kennedy, 1992; Ward & Searle, 1991). As mentioned before, adaptation in this context is defined as "the international transformation of an individual challenged by a new cultural environment in the direction of increasing fitness and compatibility in that environment" (Kim, 1988, p. 9). The amount of stress experienced by international students is in direct correlation to the distance between the student's culture and that of the host country (Babiker, Cox, & Miller, 1980).

As more students from abroad select to attend U.S. institutions for their education, pressure is being applied on these institutions to make dramatic changes in the way they conduct business (Wan, 2001). Wan (2001) identified several problems that impact the success of Chinese students. In the study, although Chinese students were highly conscious of the political and cultural differences existing between the two countries and extremely motivated, they were frustrated by language problems, discrimination and disillusionment because things were not as they had expected. For example, most Chinese students expected that U.S. citizens would be more open to their culture, but in reality, they felt isolated and left to navigate the system on their own.

In addition, Wan's (2001) study shows that it is rather difficult to be a cross-cultural learner. It requires courage, determination and persistence. Wan (2001)

also indicated that educators can assist international students by trying to understand their home cultures, different learning styles, frustrations in adjusting to academic life and in overcoming "culture shock." In addition, institutions of learning can help international students by providing a safe and low-anxiety environment, and effective English language classes. Individual professors can help international students by building relationships between them, and promoting friendships among colleagues and other students. If relationships are developed, other solutions will easily follow.

Tseng and Newton (2002) focused on identifying some strategies for well-being among international students. They did not define well-being but asked the students to define it. They did this in order to find out what strategies the international students use to build and enhance individual well-being. The researchers found that well-being in international student life included two general categories. One category included personal satisfaction and the other pursuing a meaningful and successful academic life. They suggested that these findings would be especially significant for student affairs professionals to understand international students' needs and concerns in order to help them more effectively. This study explored a limited population. Therefore, generalization of the findings to other international students is questionable.

Tomich, McWhirter, and Darcy (2003) examined the differences existing between the levels of adaptation reported by Asian and European students. Adaptation, in this context, is defined as "the international transformation of an individual challenged by a new cultural environment in the direction of increasing fitness and compatibility in that environment" (Kim, 1988, p. 9). Tomich, McWhirter, and Darcy (2003) explored the question of whether a difference actually existed and whether certain personality traits correlated with Asian and European students' adaptation. They chose to survey 21 Asian students and 15 European students participating in English as a Second Language program. The results of this study illustrated the significant role and potential value of utilizing personality variables to identify students who may be at greater risk of experiencing adaptation difficulties when studying abroad. That is, results indicated that Asian and European students' adaptation to life in the United States must be viewed differently. This finding can help the educators to understand the international students better and design more effective orientation materials and programs that will assist students to develop styles that are resilient and more open. Tomich, McWhirter, and Darcy (2003) also reported that there were significant differences in mean adaptation scores obtained between European and Asian participants. Specifically, Asian participants had a harder time adapting to life in America than the Europeans because they were more likely to feel uncomfortable with the English language and experienced more adaptation difficulties than the European participants. The researcher concluded that the cultural similarity/distance is a powerful determinant in the adaptation and adjustment of international students and that professors need to understand and learn to communicate more effectively with their international students. Even though most higher education faculty have limited or no training in communicating with international students, they engage in longer and more intense communication with them than other staff members such as counselors. The effectiveness of the university's counseling services is another significant area that contributes to the success of international students.

Yi, Lin, and Kishimoto (2003) conducted a study in a major university in Texas on the utilization of counseling services by international students. They wanted to understand who seeks counseling, how they go about doing so, and why they sought it. After analyzing six years worth of data they explained that international students were concerned with academics, depression, and anxiety. This finding was consistent with other research found in the literature. Nearly 70 % of international students in the study reported that they were extremely worried about their future lives. They also found that more than half of the students were self-referred to the counseling center. Overall, this research did not offer solutions to the counseling needs of international students. It simply reports on their findings without any suggestions other than expressing the need for more research. After reviewing the literature, it would seem that the most important challenge in working with international students lies in the area of communication.

Heggins and Jackson (2003) focused on applying student development and transition theories to understand the collegiate experience for Asian international students. After interviewing 28 Asian international students they found that the Asian international students that participated in this study sought help from familial and social sources of support when coping with problems and challenges. The researchers suggested that faculty and staff, resource centers, and student services offer mentoring opportunities for Asian international students to help them better use existing social support networks.

In a study investigating intercultural communication competency, Hinchcliff-Pelias and Greer (2004) explained that interactions between culturally different individuals involve complex understandings, dispositions, and abilities that must be learned if the intercultural communication is to be

successful. Data were collected through extensive interviews, focus groups, one-to-one interviews and by reviewing 64 international students' written personal narratives from 20 nations. Although they were aware of the fact that these selected students were not to be considered representatives of their national cultures, they considered them to be representatives of a contemporary "international student" culture (p. 9). They found that every one of the 64 students interviewed articulated one or more negative experiences related to their past and present intercultural interactions. A recurring theme across students' responses was the need to reflect on difficult intercultural interactions and then to make the commitment to learn from them. Hinchcliff-Pelias and Greer concluded that educators of international students are in a position to guide the learning of their international students. Because of this, they should take responsibility for helping their students develop better skills that would allow them to communicate more effectively.

Galloway and Jenkins (2005) surveyed the adjustment problems experienced by 215 international students as they adapt to life in the U.S. The perceptions of 44 U.S. university faculty and staff regarding these adjustment problems were also collected. The faculty and administrators charged with working with international students received a modified version of the Michigan International Student Problem Inventory. Galloway and Jenkins' findings indicated that international students had three major problem areas of concern: "Financial aid, placement services, and the English language." Other problematic areas were "religious services, student activities, and orientation services" (p. 180). Check this and see if you cited it correctly.

They also found that faculty and staff often focused on issues that were not paramount in the student's life. For instance, a faculty or staff member of an institution might help a student acquire a driver's license, but never socialize with the student or invite him into conversations. Providing information for an international student is helpful, but it does not give the student the continual emotional support needed to acculturate into the society. Maslow (1943) addressed this problem in his Pyramid of Hierarchical Needs. Galloway and Jenkins (2005) explained that there are several important lessons for campus administrators and student affairs personnel to learn from these findings. Since "language" is the most important determinant of international student success, it is imperative that quality language instruction be provided to help international students understand the nuances of the English language. Often international students are not given the opportunity to contribute what they know. They are treated like children who need to be 'taught' everything. This attitude leads to a feeling of frustration and a disconnect to the society in which international students find themselves. It is extremely important that international students be provided opportunities to share their culture in a variety of ways.

Zhao, Kuh, and Carini (2005) compared the activities of international undergraduate students with American students in selected areas. They focused on "student learning, personal development, and satisfaction with college, including the degree to which they perceive their campus to be supportive of academic and social needs" (p. 211). After gathering data from 317 four-year colleges and universities, they concluded that first-year international students surpassed their American counterparts in levels of academic challenge and student-faculty interaction. International students used more computer technology in course learning activities because they felt comfortable with the technology and experienced immediate success through that medium. In addition, the researchers concluded that there must be an assessment process to understand international students, have strong team of administrators and counselors, and arrange the resources at the university to help ease the transition of international students.

A relatively recent research project conducted by Klomegah (2006) explored the social factors relating to alienation experienced by international students in the United States. Klomegah collected the data from 94 students in two semesters. His data, rather contrary to the previous research (Alexander, Klein, Workneh, & Miller, 1981; Klineberg & Hull, 1979; Owie, 1982), reported that international student and American student alienation, in a relatively small college, does not differ. He concluded that "frequent social contact with other students is a comforting factor that goes a long way to helping students' smooth adjustment to their new campus environment" (Klomegah, 2006, p. 315).

A more recent study by Poyrazli and Grahame (2007) found that students are more in need of support during their initial transition to overcome the challenges related to their academic lives, social interactions, health, transportation, and discrimination. They concluded that the institution has a very significant role in finding and implementing the resources needed to help international students have a successful adjustment experience.

In another significant piece of research, Hsieh (2007) conducted a narrative study to find out why a Chinese female international student kept silent in her American classes. For this study, Hsieh conducted face-to-face, open-ended, and semi-structured interviews. He concluded that the Chinese female was made disempowered in her classes by her American classmates because of their ideology of homogeneity. The participant internalized a deficient self-perception

Table 1
Requirements, Responsibilities, and Preferred Qualifications & Skills

Requirements:	Job Responsibilities:	Preferred Qualifications and Skills:
A bachelor's degree is required	Serve as Designated School Official for F-1 student visa purposes and as Alternate Responsible Officer for the J-1 Exchange Visitor Program	Overseas experience and bilingual skills are preferred.
Managerial experience with financial, business and human resources processes	Advises the College on policies and procedures regarding international students and scholars and serves as liaison with relevant U.S. government and non-government agencies.	Strong cross-cultural skills and fluency in more than one modern language
Experience in higher education, customer service industry, recruitment, marketing or sales	Manages the office's budget; supervises and evaluates student workers	Experience working in a multicultural setting preferred
Knowledge of computer databases, information systems and new technologies including the Student & Exchange Visitor Information System (SEVIS)	Edits various publications, including the newsletters and website, and updates information related to various study abroad programs.	Experience living and/or studying abroad and mastery in at least one foreign language preferred
Experience in higher education admissions, international admissions or international education	Advises individual undergraduate students on available study abroad programs, requirements, and application process	Work within an international center at the college level, and/or experience working in foreign countries/cultures helpful.
Extensive experience related to advising, processing, and administering F and J visa classifications.	Advises individual international students and faculty on immigration, financial, cross-cultural adjustment, and related matters.	A Master's degree in a related field is preferred
Computer proficiency, including the use of databases	coordinates implementation of liaison agreements with institutions abroad	Experience with international academic programs
Evidence of strong administrative, communication, interpersonal and supervisory skills	Provides leadership in promoting proposals that support international funded research and/or development projects	Experience in a diverse community preferred.
Excellent interpersonal skills on both an individual and group basis required	Represent the University, as appropriate, at conferences, symposia, and working groups devoted to international student and scholar issues	Prior experience in a university international office, flexibility, and having a wonderful sense of humor are also helpful

Note. Sources: NAFSA: Association of International Educators: http://jobregistry.nafsa.org/search/results/
Higher Education Jobs: http://www.higheredjobs.com/admin/search.cfm?JobCat=32
Chronicle of Higher Education: http://chronicle.com/jobs/300/100/5750/

as a useless person in her group discussions and perceived that a deficient identity was attributed to her. Hsieh then suggested that the educators should not attribute Chinese international students' silence to only their cultural but also consider the possibility of the disempowering nature of U.S. higher education settings.

Halic, Greenberg, and Paulus (2009) conducted a study exploring the experiences of non-native English-speaking international students regarding language, culture, and identity in the context of their graduate studies. They employed a phenomenological approach to explore eight international graduate students' experiences. They have concluded that the participants perceived English as both a barrier and a channel of access. They have recommended that there is a need for educators who work with non-native English speaking international students to address "not just the academic but also relational and affective issues" (p. 92).

Current Practices

If asked, institutions with international programs would argue that they have read the research and are using it to guide practice. In reality, they are doing "good things" when they foster "international nights" or help an international student with paperwork; however, this does not address the root of the problem expressed in the research which dates back to the late 1970s (Chu, 1978; Stafford, Marion, Salter, 1978;). Specifically, that most U.S. citizens and educators do not understand their roles in the acculturation of international students.

It is clear that there is a concern for international students and these concerns focus mainly on immigration requirements, financial requirements, and employment issues. However, effective communication with international students, while making them feel like they are a significant part of the U.S. cultural mosaic is not a priority, nor is making

their educational experiences worthwhile considered. This gap in service is caused by the fact that it is not a requirement for the people involved in communicating with international students in U.S. higher education institutions to engage in relationships to make their experiences culturally, socially, and educationally worthwhile. U.S. higher education institutions, rather than trying to figure out how to recruit more international students despite visa difficulties, should look into retaining their present international student population. An educational system, which does not recognize its weaknesses and challenges despite the readily available information provided by the literature, is bound to fail in the long run. "While all nations view education as an investment in the future, most nations other than the U.S. treat challenges of academic performance and of globalization as national priorities" (Houlihan, 2005, p. 217). It becomes even a more critical problem for universities when faculty does not see international engagement as a priority for themselves (Altbach, 1996).

Misunderstanding or lack of understanding stems also from the fact that the people hired to communicate with international student populations on campus are not necessarily required to have multicultural and intercultural communications skills. Below (see Table 1) is a quick review of Higher Education job announcements that identify expectations of an "International Student Advisor," or of "Assistant Director/Director of International Student Services."

Most of advising and mid-level administration positions require a minimum of a Bachelor's degree with two-three year progressive experience in international and/or educational settings. Requirements do not generally include knowledge of a second language knowledge or international living and studying experience for most entry and mid-level administration positions. Requirement for multicultural and intercultural communication skills are not emphasized in most of the reviewed announcements. What is more threatening is that, almost none of the faculty jobs require skills and education in multicultural and intercultural communication. This falsely paints a picture in which such communication skills are not required, not even in "preferred qualifications" section of job announcements.

Summary and Conclusion

Some researchers called for more study in the area of understanding cultural differences (Lin & Yi, 1997; Wan, 2001) but in reality, the real need is in application of what we already know. Researchers agree that when there is less cultural dissonance, more learning takes place (Bennett, 1995). Thus, in order to deal with the concerns and needs of international students, U.S. professionals that work in international programs must develop a clear understanding of the concept of "other" as defined by Said (1979). Said defines "other" as people that are alien to the West.

Adjustment challenges encountered by international students in the U.S. have been well documented (Chu, 1978; Fernandez, 1988; Huntley, 1993; Sue, 1981). These challenges might be the result of psychological distress related to culture shock, and therefore may lead to high level of homesickness, social isolation and unhappiness (Dee & Henkin, 1999). This research points out the necessity of host countries knowing the adaptation process of its international students and how to meet their individual needs. If these challenges are taken as natural and expected to fade by time, international students will isolate themselves and form a stronger shell around their circle of trust.

All of the articles analyzed in this discussion agree that there is a great need to understand the international students on U.S. campuses. Wan (2001) recommended building relationships between individual professors and international students and promoting friendships among colleagues and other friends. Tseng and Newton (2002) explained that well being of international student life included personal satisfaction and pursuing a meaningful and successful academic life. Tomich, McWhirter, and Darcy (2003) concluded that that professors need to understand and learn to communicate more effectively with their international students as the cultural similarity/distance is a powerful determinant in the adaptation and adjustment of international students. Yi, Lin and Kishimoto (2003) explained that international students were concerned with academics, depression, and anxiety but did not offer any solutions.

Heggins and Jackson (2003) suggested that faculty and staff, resource centers, and student services offer mentoring opportunities for Asian international students to help them better use existing social support networks. Tomich et al. (2003) informed us of the differences in adaptation processes. Ngwainmbi (2004) confirmed that the American teaching style was considered to be interactive and Chinese students enjoyed this style of teaching. There was no solution offered but understanding the cultures of Chinese students are emphasized. Hinchcliff-Pelias and Greer (2004) concluded that as educators of international students are in a position to guide the learning of their international students, they should take responsibility for helping their students develop better skills that would allow them to communicate more effectively. They further suggested that the challenge in intercultural communication could be overcome through different learning experiences in which the international students are actively engaged.

Table 2
Recommendations for Practice

Recommendations	What this Looks Like in Practice
Hire staff that are not only qualified but also well suited for the positions in International Student Offices.	Staff with overseas living experience, knowledge of a second language, and offer an extensive probationary training period
Provide intercultural and multicultural communication programs/services	Insure that this professional development is provided for both faculty and staff
Plan a host-family program for newly-arrived international students	Newly arrived international students should spend a considerable time with U.S. families. There are already host-family programs at several universities in the U.S.
Offer courses that would encourage students to learn about different cultures	Colleges could offer courses on cultures once a semester and faculty should encourage students to register for those classes. These courses could be offered through Continuing Education at a reduced fee.
Encourage student exchange and study abroad programs	Student exchange and study abroad programs should be made financially and academically attractive. Subsidize the cost and strengthen/or establish partnerships in foreign countries for such programs. In addition, encourage faculty to study/teach abroad (see Özturgut, 2007).
Engage international students in student organizations not only of their own culture, but of other cultures as well.	Not only "International Student Association", but "Chinese, Japanese, Korean, Indian, etc. Student Associations" as well. They should also participate in Greek organizations, etc.
Offer ESL support for international students	Offer ESL program throughout their entire program of study not just the first semester.
Last but not the least, listen to what an international student has to say without being defensive and accusatory	When international students bring their issues to administrators, they are often made to feel that they are ungrateful for the opportunity of studying in the U.S. Ask them what the 'good practice' is for them before deciding on what the 'best practice' is for you.

Galloway and Jenkins (2005) reported that the three major problem areas of concern for international students were financial aid, placement services, and the English language. Zhao, Kuh, and Carini (2005) suggested that there must be an assessment process to understand international students, have strong teams of administrators and counselors, and arrange the resources at the university to help ease the transition of international students. Galloway and Jenkins (2005) and Zhao et al. (2005) further confirm that administrators and counselors need to help international students by giving them an opportunity to explore the differences and possibilities in intercultural communication. Klomegah (2006) explained that the smooth adjustment of international students heavily depends on frequent social contact with other students. Poyrazli and Grahame (2007) concluded that the institutions have significant roles in helping international students. Halic et al. (2009) reported that the international graduate students have difficulties in expressing feelings, ideas, and knowledge. In summary, all of the articles examined in this paper agreed on the fact that international students are having adaptation problems. Both administrators and educators need to understand them better in order to help ease their adjustment.

Recommendations for Practice

After reviewing the literature, the authors add to the further discussions regarding how to help international students studying in the U.S. institutions, by making several additional recommendations (see Table 2). As mentioned above, it is the authors' contention, after reviewing the literature that the root of the problem lies

with U.S. citizens' misunderstanding of their roles in the acculturation of international students. Understanding a culture goes beyond the stereotypes of within a society, but requires a deeper understanding of the particularities, to the individual students and their historical and cultural influences, so that we can adjust our strategies for responding to their needs and expectations. The richness of the U.S. culture is its immigrant population and its acceptance of cultural differences. It is, as indicated above, not the lack of research on understanding the issues experienced by international students, but it is the lack of direction and focus from the U.S. institutions of higher education in making individual connections through effective communications.

We have become a data driven society. This is not necessarily a bad thing. "The world is offering educational leaders ways to learn from data, gain a fresh perspective, and engage in dialogue and practices" that will benefit us all (Houlihan, 2005, p. 218). Through this research, the authors wish to start a conversation about what is being done for international students on U.S. campuses while providing an extensive research database from which to begin this conversation.

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