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Scholarship Reconsidered: Reconsidered

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Abstract: Scholarship Reconsidered by Ernest Boyer generates a flurry of theoretical and applied activity. Much of the research centers on the concept of the scholarship of teaching as researchers explore what constitutes scholarship, which is often misdirected. Through lexical statistics and rhetorical analysis, the text is examined according to its overall intent with attention given to the scholarship of teaching. Results reveal the scholarship of teaching is a minor but important role and the text is intended for the renewal of the academy and society. Conclusions balance research based concepts advanced by scholars with the text's intent.

Key words: scholarship, teaching, models, professoriate, academy, renewal.

I. Introduction.

It has been a little over 15 years since Ernest Boyer (1990) wrote, "The time has come, we believe, to step back and reflect on the variety of functions academics are expected to perform" (p. 2). His words generated and continue to spawn an abundance of perspectives associated with the professoriate, of what it means to be a faculty member, of scholarship. He set in motion a flurry of activity based on what he concluded to be the future work of faculty grounded in four scholarship domains: (1) Discovery; (2) Integration; (3) Application; and (4) Teaching. According to those four aspects of scholarship, Boyer hoped for a renewal of the academy and society. This renewal, he proposed, would come about when the full range of faculty talent is applied to the traditional academic foundation of teaching, research, and service. To provide the impetus, he refashioned them into those four domains with the admonition for scholars to rethink knowledge and its utility for societal well being.

After 10 years of Ernest Boyer's passing in 1995, the academy continues to wrestle with, explore, define, and apply what he queried: "Is it possible to define the work of faculty in ways that reflect more realistically the full range of academic and civic mandates?" (p. 16). Debates ensued about the importance of the role of research and teaching (Altbach, 2001). Moreover, much of the work in the last decade has been a research based approach about what constitutes the scholarship of teaching.

This paper examined the research based approach in seven major sections: (1) purpose; (2) background; (3) premise; (4) perspectives; (5) analysis and conclusions; (6) implications; and (7) recommendations. The purpose establishes the larger context of the scholarship of teaching. The background provides a brief overview of what scholars have done to separate the scholarship of teaching as a research based activity from the excellence of teaching. The premise considers the scholarship of teaching as the act of teaching and addresses the problem of rigor. In the perspectives section, current major models and developments of the scholarship of teaching are reviewed. Comments are also provided in the section as to the benefits consequences of the

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current perspective of scholarship. Then, Boyer's text is analyzed according to lexical statistics and rhetorical analysis to examine the intent of the book as well as the role of the scholarship of teaching within it. Implications stem from the analysis as well as research based perspectives of scholarship. In the section it further challenges the prudence of Boyer's refashioning of teaching, research, and service into the four scholarship domains. The final section, recommendations, offers admonitions to take the next step to develop models for the excellence in the act of teaching.

II. Purpose.

Concerning the scholarship of teaching, Boyer (1990) wrote: "Teaching is also a dynamic endeavor involving all the analogies, metaphors, and images that build bridges between the teacher's understanding and the student's learning" (p. 23). Boyer's statement was clear: It is these linguistic techniques where learning occurs because they build bridges to it. Investigators debate the theoretical aspects of what takes place for learning to occur (Chanock, 2005; Mayer, Fennell, Farmer, and Campbell, 2004; McCroskey, Richmond, and McCroskey, 2002; Quay, 2003; Rink, 2001). The intent, here, is not to delve into learning theory, but to analyze how the scholarship of teaching fits within the context of the book and examine what the overall intent of the text is.

The purpose is to reconsider the larger context of which Boyer wrote. And yet, specific attention is given to the scholarship of teaching to review it in a broader context after so many years of specific research development. The approach, then, is to investigate the scholarship of teaching and the entire text according to lexical statistics and rhetorical analysis. But first, providing a background of the major work resulting from the concept of the scholarship of teaching will help contextualize the need to reconsider *Scholarship Reconsidered*.

Background

Down one road, the academy has made tremendous strides to make teaching more professional and more respectable through the establishment of the Carnegie Academy for the Scholarship of Teaching and Learning (CASTL) (Cottrell and Jones, 2003; Hutchings and Shulman, 1999). One of its programs is the PEW National Fellowship Program for Carnegie Scholars. Pew Scholars are expected to demonstrate scholarly performance in six arenas required by the program: "(1) have clear goals, (2) require adequate preparation, (3) make use of appropriate methods, (4) produce significant results, (5) demonstrate effective presentations, and (6) involve reflective critique" (Kreber, 2002, p. 152). Other advancements include faculty learning communities with grant assistance from the Lilly Foundation (Richlin, 2001; Richlin and Cox, 2004).

Down another road, the sheer number of publications and inability to refine the scholarship of teaching across disciplines and institutions suggest the waters have become more turbulent (Atkinson, 2001; Salvatori, 2002; Wagenaar, 2000). Scholars have even examined the concepts of "scholarship" and "teaching" separately to distinguish the scholarship of teaching from scholarly teaching in an attempt to bring better understanding to the issue (e.g. Richlin, 2001; Shulman, 1998).

Boyer (1990) saw them as a single item. "Yet, today, teaching is often viewed as a routine function, tacked on, something almost anyone can do. When defined as *scholarship*, however, teaching both educates and entices future scholars" (p. 23). These statements are the crux of the matter. In them Boyer both summarized a prevailing sentiment about teaching—"a

routine function almost anyone can do"—and defines the scholarship of teaching—it "educates and entices future scholars." To reinforce this perspective, he quoted Aristotle, "'Teaching is the highest form of understanding,'" (p. 23).

Boyer (1990) was steadfast with his view of teaching as scholarship. Nowhere in the section on *The Scholarship of Teaching,* or in the book, does he deviate from the importance of teaching as a necessary and vital activity of faculty. Other activities, he explained, are to support and enhance classroom teaching. His comments, when related to the scholarship of teaching, resonated in the context of the classroom. Even when expressing teachers as learners, the thrust is toward the benefit of the student: "…teaching, at its best, means not only transmitting knowledge, but *transforming* and *extending* it as well. Through reading, through classroom discussion, and surely through comments and questions posed by students, professors themselves will be pushed in creative new directions" (p. 24). In his view it was not that scholarship necessarily promoted teaching but the other way around: "In the end, inspired teaching keeps the flame of scholarship alive" (p. 24).

III. Premise.

The preceding comments encapsulate the problem. Currently, even though there are programs to advance the excellence of teaching, the scholarship of teaching is viewed primarily as a function of research. For Boyer, the scholarship of teaching centered on student learning. This is a major premise for understanding what is meant by the scholarship of teaching and its function in the larger context of the book: The scholarship of teaching is the act of excellent teaching.

Initially, with regard to the scholarship of teaching, it is not the depth of faculty understanding of their subject matter that concerned Boyer (1990). It is apparent he believed faculty already possess a goodly measure of understanding: "Those who teach must, above all, be well informed, and steeped in the knowledge of their fields" (p. 23). His impetus was that "[w]ithout the teaching function, the continuity of knowledge will be broken and the store of human knowledge dangerously diminished" (p. 24). He was concerned with the outlook of teacher understanding. Can he or she bring analogies, metaphors, and images to bear on the subject matter to where students learn? This does not mitigate the depth of knowledge, skill of course management, and contributions to the academy a faculty member must exhibit.

The analysis in this paper is grounded in the perception that Boyer (1990) was concerned with a larger more crucial aspect of the professoriate rather than establishing the scholarship of teaching as a function characteristic of research activities as frequently and broadly thought (e.g., Badley, 2003; Kreber, 2002; Richlin, 2001; Shulman, 1998; Trigwell, Martin, Benjamin, and Prosser, 2000).

Reconsidering *Scholarship Reconsidered*, particularly as it relates to teaching is not without its troubles. It faces challenges from the academy as a sort of catch-22 phenomenon. On the one hand, teaching is at the core of higher education (Altbach, 2001; Atkinson, 2001). This is problematic for on the other hand, this core work fails to be recognized, broadly across the professoriate, as rigorous activity on even ground with research, or at minimum, demanding legitimate assessment processes for career advancement (Li-Ping Tang and Chamberlain, 1997). Often relegated to a lesser role, teaching must compete with the prevailing attitude of the importance research plays in one's career. Within career progression, then, the act of teaching, itself, is not extensively viewed as a necessarily rigorous activity. As a result, a tremendous

amount of research has been generated to elevate teaching and related activities on par with the rigors of research.

To this stage of the paper, the issue can be summarized in the following terms. "Research will remain a central function" of the academic system in America even though respect for teaching grows (Altbach, 2001, p. 27). Although Boyer purported teaching as a scholarship activity to be evaluated equally with research, scholars have predominately defined it as doing research on teaching versus promoting the actual performance. The next section provides perspectives of what has developed as a consequence of viewing the scholarship of teaching as a research based function.

IV. Perspectives.

For the past decade, exploring the scholarship of teaching has spanned the globe. Scholars in Canada (e.g., Kreber, 2002; Kreber, 2005), the U.K. (e.g., Badley, 2003), Australia (e.g., Asmar, 2004), and the U.S. (e.g., Cottrell and Jones, 2003) have completed considerable research to clarify the work of Boyer, particularly in the area of the scholarship of teaching. In this section, five major models are discussed as they provide perspectives about how the scholarship of teaching might be interpreted. Their development is predicated on how Shulman (1999) described differences among scholarship and excellence as they pertain to teaching.

Shulman (1999) provided momentum for a research based approach to the scholarship of teaching. "What Boyer did *not* do was draw a sharp line between excellent teaching and the scholarship of teaching. Now, however, we've reached a stage at which more precise distinctions seem to be wanted" (1999, p. 13). His work attempted to draw a sharp line in three major areas: (1) making teaching a process open to critique and evaluation; (2) placing it on a platform of community property; and (3) using the previous two in a form for which others could build their work.

The form entailed five elements of scholarship: (1) vision; (2) design; (3) interactions; (4) outcomes; (5) and analysis. Vision is the conceptual representation of a course. Design corresponds to the course activities: the plan. Interactions are active and reflective processes by which students and faculty members achieve the vision. Outcomes address multiple assessments utilized in the classroom to measure learning objectives. Analysis concerns measuring and examining outcomes for future improvement (Cottrell and Jones, 2003). Even given the use of terms emphasizing teaching, Shulman was direct when making the distinction between teaching and scholarship: "A scholarship of teaching is *not* synonymous with excellent teaching" (1999, p. 13). It is at this stage, where scholarship begins to be diverted from excellence of teaching and models emerge to bring clarity to the scholarship of teaching.

Much of the activity surrounding teaching as scholarship stems from "the enormous variation in the ways scholarship of teaching is represented" (Trigwell et al., 2000). Therefore, Cottrell and Jones (2003) framed a study that examined the five elements of scholarship established by Shulman. They suggested faculty design courses in a manner to transfer learning expectations to students. The responsibility of teaching and learning is shared, however, the approach to teaching resides more on the design of the course versus the act of teaching. The scholarship interest of Cottrell and Jones centered on what prompt faculty to implement Shulman's process and how it is measured. This is not an uncommon approach to scholarship given the pressure to define teaching as a scholarly activity "to be recognized as a legitimate form of scholarship in tenure, promotion, and salary decisions" (Pace, 2004, p. 1186).

With groundwork laid regarding the difference between the scholarship of teaching and excellent teaching, scholars have developed methods and models to represent precise distinctions among teaching issues teaching as called for by Shulman.

A. Scholarship of Teaching Model (SofT).

Kreber (2005) took the approach of the SofT (Scholarship of Teaching) model. It builds on the theoretical construct of transformative learning theory of which faculty gather knowledge from their reflection of content (description of a problem), process (method of problem solving), and premise(s) (basis of the problem). The focus is on *faculty* experience. They gain knowledge as constructed by personal teaching experience predicated on firmly grounded educational research and theory. The model also requires three instructional domains of faculty knowledge: instruction, pedagogy, and curriculum. Faculty are to have explicit knowledge in all aspects of instructional design (instruction); how students learn and how to facilitate it (pedagogy); and goals of classes (curriculum). Kreber's purpose for developing and applying the model was to explore how faculty are connected to the SofT process by identifying forms of reflection and engagement. As a result, they should illuminate some variables for future investigation. By applying the model she hoped the process would instill a strong conception toward teaching and "bring about conceptual changes in students" (p. 353).

The model provides a platform for faculty to engage themselves in personal reflection and scholarly endeavors to apply to the craft of teaching. However, the link between SofT and student learning is not readily apparent and should not be assumed. In the larger scheme of scholarship, the model exhibits a single focus of teaching and does not consider all of Boyer's domains to overlap as he also intended. Additionally, it remains uncertain how the model helps address the larger scope of the role that the scholarship of teaching is to serve in society. Other models are similar to SofT.

B. Trigwell, Martin, Benjamin, and Prosser Model.

Trigwell et al. (2000) claimed within recent years there has been a shift in research away from teaching that encourages learning to an agenda that examines scholarship. Based on this assumption the Trigwell et al. model lacks a student learning connection, even though assumptions are made that student learning is improved by enhancement of one's approach to the scholarship of teaching.

From 20 teachers with heavy teaching loads, Trigwell et al. (2000) phenomenographically analyzed questions about how teachers approach scholarship. The information was used for the development of the model. Scholarship in the model contains four dimensions: (1) knowledge of teaching and learning and how it applies to one's discipline; (2) reflection on that knowledge, the faculty member's context, and the relation between the two; (3) focus on a selected teaching approach; and (4) the communication of the significant characteristics of the process to other scholars. By their own admission student learning is not the primary concern of the model: "Our investigations into the relational issue of the *what* of teaching and how it relates to teaching outcome is the focus of our continuing research" (p. 167). One cannot take for granted student learning is occurring because faculty enhance their knowledge of teaching and communicate it to colleagues. Once again, how the model connects to

Boyer (1990) can be brought into question: Where is the bridge between teacher understanding and student learning? How does the model fit within renewal for the academy and society?

Trigwell et al. (2000) viewed the idea of the scholarship of teaching as research based activity and addressed neither the act of teaching as a critical function nor learning as an intended outcome. Both the SofT and Trigwell models reflect the admonition of Shulman (1999) to provide a distinction between teaching and scholarship. A third model reveals a different approach.

C. Decoding the Disciplines Model.

Middendorf and Pace (2004) focused on subject matter road blocks. Faculty should as a series of questions of themselves pertaining to problems student might face. Students are to master tasks toward learning. This approach to the scholarship of teaching was based on the 1986 inaugural address of Lee Shulman as president of the American Educational Research Association. It led to the Decoding the Disciplines model prominence. Faculty examine a series of seven guiding questions in a specific, linear series: (1) What is a bottleneck to learning in this class? (2) How does an expert remove bottlenecks? (3) How can a faculty member show students the steps to remove bottlenecks? (4) How will student practice these skills and get feedback? (5) What will motivate students? (6) How well are students mastering the learning tasks associates with the processes? (7) And, how can the resulting knowledge be shared with colleagues? Ultimately, the scholarship of teaching relies heavily on sharing findings with colleagues. Middendorf and Pace concluded the model links "teaching more closely with the kind of intellectual inquiry that drew the fellows toward being teachers in the first place, and it allows them to bring to teaching more of the skills that they have developed in their research" (p. 11).

The Decoding the Disciplines model tends to be a somewhat sterile progression of teaching versus a "dynamic endeavor" (Boyer, 1990, p. 23). It is represented by a series of stages and tasks, which give a sense of a linear view of teaching and learning. One cannot progress to the next stage without mastering the previous one. However, faculty can be encouraged to enhance their skills, contribute to learning, and share experiences with colleagues, whereas the SofT and Trigwell models promote a more formal research based approach with a much lesser emphasis on student learning. A common thread among the three models is a distinction between scholarship and teaching, which Shulman (1999) called for. Even more so, a fourth approach to the scholarship of teaching advances that distinction.

D. Scholarship of Teaching Inventory.

This view of the scholarship of teaching is not formally a model, but an inventory and is important to include as a model (A broader view of scholarship through Boyer's four domains, Scholarship of Teaching section). It represents more holistically the scholarship of teaching as intellectual inquiry and instructional design. It involves scholarly ventures, such as exams that require higher-order thinking skills; preparation of learning activities; development of a new course; presentation of techniques to colleagues; new instructional practices; development of strategies to help students learn difficult concepts; and creation of approaches to assist students to think critically about course concepts. Subsequently, faculty members can convert their

materials into acceptable compositions for publications. Although a helpful list, faculty unfamiliar with the study of teaching and learning most likely will not benefit from it.

There is a consistent theme among the four previous models. They neither demonstrate broader renewal of the academy and society nor address the overlapping functions of the other three scholarship domains. Moreover, to varying degrees they separate scholarship from teaching. This aspect was clearly portrayed in the fifth model.

E. Teaching><Learning Connection™ Model.

Another model, Teaching><Learning Connection™, was developed by Richlin (2001). Richlin articulated the dichotomy between the scholarship of teaching and scholarly teaching more clearly. She structured to the model to establish teaching activity separate from scholarship. She, then, demonstrated the links to learning. "In my view, the purpose of scholarly teaching is to impact the activity of teaching and resulting learning, whereas the scholarship of teaching results in a formal, peer-reviewed communication in the appropriate media or venue…" (p. 58). Others scholars maintain similar views (Hutchings and Shulman, 1999; Kreber and Cranton, 2000; Richlin and Cox, 2004). Some do not (Atkinson, 2001; Salvatori, 2002; Wagenaar, 2000) in that the scholarship of teaching is the act of teaching not research based approaches.

In the model, the scholarship of teaching is the foundation. The scholar identifies key issues, synthesizes results, places them in a larger context, prepares manuscripts, submits them for peer review, disseminates, publishes, and presents the information, which adds to the knowledge base of teaching and learning. Scholar teachers consult this literature, select and apply an intervention, conduct systematic observations, document them, analyze results, and obtain peer evaluations. Baseline performance is established during the process and other performance is continually checked against the baseline. Richlin (2001) concluded that experienced teachers help students achieve learning objectives. However, scholarly teaching involves justifying "the selection of methods from what is known in the literature; it must be explicit" (p. 60). Her discussion does not necessarily consider the possibility of excellence of teaching, which may not be found in the literature. She further assumes the process naturally results in student learning.

Even though a tremendous amount of work attempts to clarify the scholarship of teaching, there remains a significant amount of uncertainty. Whereas the five major models about the scholarship of teaching endeavored to define what Boyer considered "to be the work of the professor" (p. 23) in teaching as it is critical to "human knowledge" (p. 24), the reality is that the models appear not to capture the aim of the *Scholarship of Teaching*: "Almost all successful academics give credit to *creative teaching*—those mentors who defined their work so compellingly that it became, for them, a lifetime challenge" (Boyer, 1990, p. 24) [italics added].

With the work surrounding scholarship for well over a decade, it appears not much has changed. American postsecondary institutions and their faculty come under intense scrutiny and scathing indictments (Finkelstein, 2001; Newman, Couturier, and Scurry, 2004). Poskanzer (2002) related that "higher education today faces unprecedented demands to demonstrate productivity and efficiency to all its stakeholders" (p. 200). Among the scrutiny and indictments, and variations of scholarship interpretations, they have given rise to reconsider previous work and *Scholarship Reconsidered.*

F. Reconsiderations.

Distinguishing scholarship from teaching has been both beneficial and adverse consequences. On the one hand, the academy has advanced the importance of teaching as a vital function of the professoriate. It has analyzed Boyer's views, reshaped them, built upon them, and internationalized them. It has elevated teaching as a major topic of inquiry. It has given it a framework to evaluate peers. It has provided teaching institutes and programs for improving one's approach to scholarship activities.

On the other hand, the research based approach to clarifying what Boyer meant by the scholarship of teaching has created tensions among disciplines. Teaching has even been criticized about being too narrow (Scholarship of teaching: Now too defined?, 2005), particularly as a research activity. Atkinson summarized this issue, "If the Scholarship of Teaching and Learning is operationalized only as publishing in journals, we have simply begun to emphasize another research area" (2001, p. 1224). If true, how does the scholarship of teaching differ from the scholarship of discovery? This is an important notion because she further stated, "Many excellent teaching sociologists will never publish a refereed journal article about teaching, and there is no reason they should" (p. 1224). The same can be said of faculty in other disciplines, since they would be responsible for research and publication in their subject area as well as produce research and publications in areas of the scholarship of teaching.

Nevertheless, the trek to making distinctions among scholarship and teaching activities is a fortunate path. With scathing indictments directed at faculty work from the general public, parents, state legislators, congresspersons, business representatives, regulators, governing boards, and certainly students, something needed to be done to improve the outlook toward teaching, however it is approached. This, in part, was what prompted Boyer's (1990) charge of scholarship "to the renewal of the academy" and "to the renewal of society itself" (p. 81).

Illuminating the scholarship of teaching as research-based enterprises is also an unfortunate path. With the focal point on developing scholarly activity, the approach has been to establish empirical processes, design assessment methods, develop models, and appraise them as scholarship. Once completed the pressure is to report findings in peer reviewed publications and relate the information in a public forum to colleagues who evaluate the presentations. Thus, scholars have intentionally, or unintentionally, redefined teaching as the discovery domain. Teaching has, essentially, become another research product.

Maybe the time has come to reconsider what scholarship means in the context of Boyer's book. Even though tremendous strides have been made to advance issues surrounding teaching (e.g., Kreber, 2005; Middendorf and Pace, 2004; Richlin, 2001; Shulman, 1999; Trigwell et al., 2000), it appears after over a decade, much of the indictments surrounding the professoriate and the academy are the same (Finkelstein, 2001; Newman et al., 2004; Poskanzer, 2002).

Reiterating the purpose of this paper it is to reconsider the larger context of the scholarship and the role of the scholarship of teaching. To examine the issues, the following section analyzes *Scholarship Reconsidered* from two analytical approaches. First, lexical statistics is a method used to understand texts by word and phrase counts as well as frequencies. This method is applied to the section on the *Scholarship of Teaching* and then compared to other sections of the book to determine how much emphasis was devoted to the subject matter. Second, rhetorical analysis was applied to each chapter of the book. The purpose of the approach is to reveal an author's intent. Combined, they provide insights into the development of an

author's purpose for writing and support his or her purpose. These two approaches are explained in more detail below.

V. Analysis and Conclusions.

Lexical statistics is as basic as word frequency counts or occurrence of strings of words (Lindsay and Gordon, 1999). The field of lexical statistics is concerned with "the quantitative analysis of words in texts…with word frequency distributions. Lexical statisticians count words in texts, calculate ratios between these words and compare counts and ratios of different texts" (Lexical Statistics, Introduction section, para. 3). A primary question governing the process deals with the following: Is there a functional interaction of words on the size of a text? Functional word interaction does not necessarily provide the needed understanding of a text. Therefore, additional assessment may be warranted. In this case, it is through rhetorical analysis that brings further light to lexical statistic results.

Rhetorical analysis "is the discovery of the author's intent and of how that is transmitted through a text to an audience" (Kennedy, 1984, p. 12). It involves the analysis of a message governed by a series of questions: (1) What is the situation?; (2) Who is communicating?; (3) What is his or her intention?; (4) Who is the audience?; (5) What is the content of the message?; (6) What structure does the message have?; (7) How does form and content interact?; (8) Does the message fulfill the author's intent?; (9) What does the message reveal of the culture in which it was intended? (Burton, 1998-2004, *Silva rhetoricæ*, Basic Questions for Rhetorical Analysis section). The following sections examine the text, *Scholarship Reconsidered*, according to lexical statistics and rhetorical analysis to assist in understanding two major thoughts. First, how does the scholarship of teaching fit within the context of the book? Second, what is the overall intent of the text?

A. Lexical Statistics.

Scholarship Reconsidered (Boyer, 1990) contains approximately 21,000 words excluding 42 pages of data tables. Of those 42 pages, 6 are related to teaching and of those 6, 2 are tied to the importance of research. There are an additional three-and-a-half pages of technical notes also not included in the 21,000 words for analysis. They pertain to the method of research on which the book was based and a description of the Carnegie Classification system. The chapter containing the four scholarship domains comprises 3,090 words, which is 14.7% of the seven chapter text. When converted to a ratio, the words in the chapter represent 1:6.8, so for every word devoted to scholarship domains, there are approximately seven words dedicated to other areas. It is concluded that the chapter is a minor part of the text. When the four domains are examined with specific attention to the scholarship of teaching, they serve even a lesser role in the book. Table 1 provides a summary of lexical statistics of the entire text, the chapter on scholarship, and the four scholarship domains. (Results have been rounded when reported.)

Of the 21,000 words in the text, approximately 470 are devoted to the scholarship of teaching. This represents approximately 2% of the words in the text (470/21,000). By placing the data in a ratio for approximately every 1 word he wrote dedicated to the scholarship of teaching 44.6 were dedicated to other areas of the book (1:44.6). The other scholarship domains faired better. Discovery is 2.8% of the text with a ratio of 1:35.6. Integration is 3.4% of the book with a ratio of 1:29.6. Application is 2.9% with 1:35 ratio.

When compared to other aspects of the chapter, the scholarship of teaching is not revealed as a dominate concept. For example, it represents 15.2% of the chapter as compared to 19.1% for discovery, 22.9% for integration, and 19.4% for application, with the remainder of the chapter committed to an introduction and conclusion. The ratio of words of the scholarship of teaching to the chapter is 1:6.5. Other domains are discovery (1:5), integration (1:4), and application (1:5).

Table 1. Lexical Statistics of Scholarship Reconsidered and Scholarship Domains.

Scholarship Areas	Word Count	Percent of Entire Text	Percent of Chapter	Ratio of Words to Text	Ratio of Words to Chapter
Entire Text	21,000	--	--	--	--
Scholarship Chapter	3,090	14.7	--	1:6.8	--
Discovery	590	2.8	19.1	1:35.6	1:5
Integration	710	3.4	22.9	1:29.6	1:4
Application	600	2.9	19.4	1:35	1:5
Teaching	470	2.2	15.2	1.44.6	1:6.5

From the information above the scholarship of teaching served a minor role in the larger context than the other domains. Given this information, analyses were completed to see how all four domains compared among each other. The results indicated the scholarship of teaching again was the lesser of the domains.

When compared to discovery, teaching had 20% fewer words and a ratio of 1:1.3. The largest gap was with integration where teaching had 34% fewer words and a ratio of 1:1.5. Comparing it to application, it was similar to discovery with 22% fewer words and a 1.1.3 ratio. Teaching did not fair well among its other scholarship items.

The analysis revealed integration as the most important domain. It had 17% more words than discovery and 15% more than application. The word ratios were 1:1.2 and 1:1.8 respectively. Finally, when application was compared to discovery, it was relatively equal with 2% more words and a 1:1 ratio. Table 2 summarizes the results of the comparisons among the scholarship domains.

Table 2. Lexical Statistics among the Four Scholarship Domains.

Scholarship Areas	Word Count	Discovery		Integration		Application	
		Ratio	%	Ratio	%	Ratio	%
Discovery	590						
Integration	710	1:1.2	+17				
Application	600	1:1	+2	1:1.8	-15		
Teaching	470	1:1.3	-20	1:1.5	-34	1:1.3	-22

It can be concluded Boyer's attention centered not on the scholarship of teaching, but elsewhere. Within the text the scholarship of teaching has very low word counts as does all the domains. However, it is even the lowest among the other domains. Surprisingly, discovery is not at the top of the list. It is third of the four with more attention given to integration and application. With this, one might look again at Shulman's (1999) view that excellent teaching is

not synonymous with the scholarship of teaching whereas Boyer indicates it is. Within the scholarship of teaching section, Boyer actually relates what he meant by the scholarship of teaching: "When defined as *scholarship*, however, teaching both educates and entices future scholars" (1990, p. 23). It educates and entices. This statement is made within the context of student learning, dynamic delivery, and depth of knowledge of one's subject matter with the idea being that our future scholars are our current students.

Yet the scholarship of teaching had been expanded to mean other things based on 2% (470/21,000) Boyer's words. Additionally, these words have been redefined into scholarly activity to help illuminate how the scholarship of teaching might apply to faculty. Viewed another way, it is highly unlikely and doubtful researchers would report 2% of a result as a significant finding in their other research activities. However, since teaching is such an essential role of the academy and for society, 2% may warrant the activity it has generated.

If the analysis relied strictly on lexical statistics, it would appear subsequent scholarly development would have focused on integration, first, followed by application, discovery, and finally teaching. However, research is not this linear and lexical statistics does not provide a complete picture of the text.

B. Rhetorical Analysis.

"We live in an intensely individualistic culture that creates barriers to solving social problems." One could think the previous quote came from Boyer's text *Scholarship Reconsidered*. It did not. It was from Atkinson (2001, p. 1225). Boyer actually set the stage this way: "We proceed with the conviction that if the nation's higher learning institutions are to meet today's urgent academic and social mandates, their missions must be carefully redefined and the meaning of scholarship creatively reconsidered" (p. 13).

Boyer proceeded to provide the characteristics of higher learning in the context of social mandates as a call for scholarship reconsidered. The scholarship of teaching should be, must be, examined in this broader context.

Chapter one gives a brief history of higher education's development as it relates and responds to contemporary life of the time. For example, one might consider the academy's early social responsiveness by placing education in the hands of "common people" with the Morrill Act of 1862 and the Hatch Act of 1887. Both were an agricultural and mechanical focal revolution in which learning was brought to the farmer. Later, with the Great Depression and world war, "Higher learning and government had, through scientific collaboration, changed the course of history—and the impact on the academy would be both consequential and enduring" (p. 10). Essentially, the importance of *research* came to the forefront as *the* mechanism for scholarly productivity and value. This led Boyer into chapter two where he introduced readers to the concept of a readiness to rethink scholarship and what it means to be a scholar for a renewal of the academy and society.

Chapter two, then, naturally developed the greater context of the professoriate and the academy. The professoriate, as he contended, is not the activity conducive to and participation in research, which is what the country's higher learning institutions were evolving into as well as deriving their value from. Boyer attempted to prompt faculty back into civic duty at all levels of their work, not just research. The place to begin was on campus: "Moreover, faculty, themselves, appear to be increasingly dissatisfied with conflicting priorities on the campus" (p. 16). He wondered if it was possible to define the professoriate to reflect the full range of academic and

civic mandates. He, then, offered the four scholarship domains. Subsequently, scholars cast them, particularly teaching, into the mold of research as expressed earlier in the paper. One could conclude that it is not possible "*to define the work of faculty in ways that reflect more realistically the full range of academic and civic duty*" (p. 16) if research is to remain the primary value standard of the professoriate. Clearly, Boyer's interest was for the larger well being of the academy and society. A theme he expanded in the remainder of the chapters.

In chapter three, it is the full talent of faculty that need to be tapped, not just the research component. In it he conceded that research is the hallmark of institutions. "For teaching to be considered equal to research, it must be vigorously assessed, using criteria that we recognize within the academy, not just a single institution" (p. 37). This is important for two reasons. First, it is recognized that research reigns as the premier activity for scholarly pursuits, not that it should be, but that it is. Second, it is the *teaching* that is important, not the research about teaching. Boyer attempted to ensure the act of teaching itself would settle on even ground with research. For two-and-a-half pages, he provided examples of how to improve the act of teaching so it becomes elevated with research. This was only one aspect of his approach to tapping the full talent of faculty. The chapter continued to explain additional areas and other approaches to the scholarship of being a faculty member. The teaching component was highlighted above to demonstrate Boyer's perspective of the scholarship of teaching as the act itself and not the activity of research about teaching as others asserted.

The next chapter's title almost explains it all: "The Creative Contract." Yet, he wrote the academy defines success in single-dimensional terms of research and publications. "The irony is that most professors do not think of themselves simply as researchers" (p. 43). Another ironic twist is that the agreed upon role of a faculty member is defined in terms of teaching, research, and service. However, when Boyer reconsidered the professoriate, teaching was the only term retained. Research and service were dispersed among discovery, application, and integration. The creativity contract, then, challenges the notion of a single-dimensional approach to the professoriate of research and publication. The chapter sets forth the concept of a three- to five-year arrangement of professional goals of which faculty reflect more realistically the full range of academic and civic duty. The hope was that a single dimension of research and publication would become the exception, not the norm.

Boyer followed in chapter six to steer the academy into a new generation of scholars. "They must think creatively, communicate effectively, and have the capacity and the inclination to place ideas in the *larger context*" (1990, p. 65) [italics added]. Although he pushed for a greater responsibility to the academy and society by faculty, he did not lose sight of the need for specialized work and original research. However, the scholarly breadth of its application and integration should be emphasized. "[F]uture scholars," he conveyed, "should be asked to think about the usefulness of knowledge, to reflect on the social consequences of their work, and in doing so, gain understanding of how their own study relates to the world beyond" (p. 69). It is this "world beyond" to which Boyer brings his scholarship reconsidered to a close.

In the final chapter, he strongly affirmed the importance of research. Nevertheless, he warned the academy to guard against *narrowly defining itself*—as has been done according to Atkinson (2001)—in terms of research production for the vitality of faculty, the success of postsecondary institutions, and well being of the world beyond the campus. "[S]cholarship," he wrote in a final sentence, "is required, one dedicated not only to the renewal of the academy but, ultimately, to the renewal of society itself" (p. 81).

Scholarship Reconsidered is a text not to highlight the scholarship of teaching. The scholarship of teaching is a minor, albeit important, aspect of the book because in its context it stresses the importance of the act of teaching to be reconsidered on par with research and how it applies to faculty meeting the changing needs of the academy and society. The success of the writing and the triumph of its subsequent development hinges on the academy's ability to accept Boyer's (1990) challenges in the greater context in which they were presented. That is to adapt to his conceptions of the professoriate, and refocus the work of faculty in a creative way. When accomplished, Boyer contended the academy would be revitalized and it would once again be more responsive to civic concerns.

The inference, then, is that these have not been accomplished; that Boyer has been overanalyzed at a level with disproportionate attentions converging on the scholarship of teaching. In the broader context, the scholarship of teaching, scholarship in general, and scholarship reconsidered mean much more.

*C. Answering the Questions of Rhetorical Analysi*s.

When examining *Scholarship Reconsidered* according to lexical statistics and rhetorical analysis, the results indicate Boyer (1990) was concerned with better education of students, a revitalized academy, and a renewed commitment to civic duty. His own words can answer many of the questions demanded of rhetorical analysis.

1. What is the situation? "Especially significant is the fact that students themselves increasingly have raised concerns about the priority assigned to teaching on campus." And, "What's really being called into question is the reward system and the key issue is this: what activities of the professoriate are most highly prized?" (p. xi). This gave rise for Boyer to comment on the situation of the time:

> In the current climate, students all too often are the losers. Today, undergraduates are aggressively recruited. In glossy brochures, they're assured that teaching is important, that a spirit of community pervades the campus, and that general education is the core of the undergraduate experience. But the reality is that, on far too many campuses, teaching is not well rewarded, and faculty who spend too much time counseling and advising students may diminish their prospects for tenure and promotion. (pp. xi-xii).

Scholarship Reconsidered is an attempt to correct misgivings toward the professoriate. For over 15 years and the development of thousands of texts and programs on the scholarship of teaching, it appears not much progress has been made. "It is time to elevate the status of teaching— certainly at least to the level of research" (Newman et al., 2004, p. 56)

2. Who is communicating? The obvious answer is that Ernest Boyer was writing. What may not be so obvious is he was communicating on behalf "faculty from across the nation at all types of institutions" (p. 127). There were 5,450 of 10,000 faculty who responded to a 1989 National Survey of Faculty. The study was conducted for The Carnegie Foundation for the Advancement of Teaching by a research group from Virginia. The text represented a national concern of faculty.

3. What was the intention? Boyer wrote:

> For American higher education to remain vital we urgently need a more creative view of the work of the professoriate. In response to this challenge, we propose in this report four general views of scholarship—discovery, integration, application, and teaching. In

suggesting these activities we underscore the point that our intention is to spark discussion, not restrict it. (pp. xii-xiii)

It certainly has sparked discussion, more so in the area of the scholarship of teaching than others. In doing so, it has restricted the discussion as well. Because research still tends to be the mechanism by which faculty are rewarded, the scholarship of teaching has been cast into another measure of research activity. Furthermore the scholarships of integration and application, which lexically were predominant domains, are virtually non-existent in the literature.

4. Who is the audience? The audience is broad. Since Boyer expected a renewal of faculty as it applies to society, the audience becomes those people directly involved with and connected to higher education. He wrote faculty have serious concerns; higher education leaders are being called upon to respond to diverse student populations; and society is expecting greater responsiveness from its public education institutions.

5. What is the content of the message? The content was discussed in detail above by reviewing each chapter. Ultimately, it can be summarized according to Boyer:

American higher education has never been static. For more than 350 years, it has shaped it programs in response to the changing social context. And as we look at today's world, with its disturbingly complicated problems, higher learning, we conclude must, once again, adapt. (p. 81)

The meaning of the ability of higher learning was clear. He urged the professoriate to a renewal of the academy and society by a more creative and comprehensive work by faculty. He saw this taking place only as activities other than research were rewarded at the same level as research.

6. What structure does the message have? "It is *this* issue—what it means to be a scholar—that is the central theme of our report" (p. 2). "This report…," he concluded, "is toward a *shared* vision of intellectual and social possibilities…" (p. 80). A decade after the publication of those words, the quality of higher education was under question. Levine (2001) wrote that it was doing a miserable job answering basic questions raised by the government and it has not learned to function as a mature industry. Finkelstein (2001) was more direct by stating it is under indictment. More recently, it was reported as being criticized for having poor performance measures and lacking attention to societal needs (Newman et al., 2004).

7. How does form and content interact? Data from the report match the content. As Boyer stated, "Thus, the most important obligation now confronting the nation's colleges and universities is to break out of the tired old teaching versus research debate and define, in more creative ways, what it means to be a scholar" (p. xii). Unfortunately as Chait (2002) relayed, faculty, particularly new faculty, are overwhelmed with responsibilities. Furthermore, they feel they are under siege as criticized for being lazy. He continued that public entities from regents to the general populace question priorities and production of faculty. Whereas Boyer exhorted the academy to break away from the old mold of teaching versus research debate to help alleviate those concerns, it is still a major source of anxiety among faculty (Chait).

8. Does the message fulfill the author's intent? Accordingly, Boyer addressed this aspect well:

There is growing evidence that professors want, and need, better ways for the full range of their aspirations and commitments to be acknowledged. Faculty are expressing serious reservations about the enterprise to which they have committed their professional lives. This deeply rooted professional concern reflects, we believe recognition that teaching is crucial, that integrative studies are increasingly consequential, and that in addition to research, the work of the academy must relate to the world beyond the campus. (p. 75)

However, from concern to correction are gaps. Almost 15 years after the words above were written, the problem is much the same as institutions need to do a better job of preparing students with a proper view of the profession and their role in it (Nyquist, Woodford, and Rogers, 2004).

9. What does the message reveal of the culture in which it was intended? This can be addressed with a question Boyer posed:

> As we move toward a new century, profound changes stir the nation and the world. The contours of a new order—and the dimensions of new challenges—loom large on the horizon. It is a moment for boldness in higher education and many are now asking: How can the role of the scholar be defined in ways that not only affirm the past but also reflect the present and adequately anticipate the future?" (p. 75)

The culture has not seemed to have changed much as indicated extensively in the previous paragraphs. It should be understood that criticisms of the academy are not unusual and most likely will not go away. The intensity of them changes and fluctuates over time, but to think they will disappear is to take a naïve stance. Birnbaum and Shushok (2001) indicated that if we look at how much higher education has been in *crisis*, it would represent 140 years of dismay. The intensity of criticisms and crises ebb and flow among the problems in higher education. It does seem, though, that the intensity surrounding the teaching/research debate has not lessened after 15 of Boyer's admonitions.

Reviewing the major developments of the scholarship of teaching and analyzing *Scholarship Reconsidered* according to lexical statistics and rhetorical analysis techniques provide a better understanding of the text and of teaching by answering two major questions. First, how does the scholarship of teaching fit within the context of the book? And second, what is the overall intent of the text? The scholarship of teaching is a critically important concept in the book. Throughout the text, though, teaching is referred to more as the act of teaching instead of research about teaching. This, in turn, is integrated into the overall aim of the text: "[T]o sustain the vitality of higher education in *our* time, a vision of scholarship is required, one dedicated not only to the renewal of the academy but, ultimately, to the renewal of society itself" (Boyer, 1990, p. 81). Given this broader view of Scholarship Reconsidered, it has implications for the academy and it role in society.

VI. Implications.

Although the results demonstrate the scholarship of teaching plays a minor role in the larger context of the book, it sparked a renewed interest to improve teaching. Furthermore, it can be understood that the state of teaching has improved but still lags behind the prestige of research but teaching is gaining respect (Altbach, 2001). With a tremendous amount of pressure for teaching to be considered equal with research (Boyer, 1990) and the academy rewarding research more than other faculty activities, the present state of the scholarship of teaching will most likely continue on its current path—a long and laborious one with small, incremental gains. Therefore, the implications are a product of the analysis and the derisive assumptions of stakeholders about the current state of the professoriate being inefficient. The four implications below provide a perspective that the academy has created some of its own problems, and solved some too, as well as a view of Boyer possibly instigating unwarranted discussion.

First, much of the criticism of faculty originates within the academy itself. The professoriate, in a sense, has become its own enemy. In those instances where teaching is emphasized as a research activity, scholars have created a division in teaching. Initially,

investigations have drawn attention away from the act of teaching to recast teaching into a research mold. This has drawn criticisms from within the professoriate. Scholars not in the field of teaching and learning indicated they should not be responsible for research in their fields and research about the scholarship of teaching, too. Additionally, adopting a research perspective about teaching permeates graduate programs to where students are socialized into a belief that success is the ability to publish at a research institution versus to become an effective teacher (Newman, et al., 2004). Golde and Dore (2004) reiterated this perspective. Students obtaining the Ph.D. felt best prepared for research roles above all others as they entered faculty life. Since the Ph.D. is primarily a research degree, graduate education has its own set of problems. Its focus is on research as a requirement of the degree and the pressure to teach well serves as a criticism from stakeholders. A second implication addresses this more fully.

Second, although it is important to advance research about teaching to assist faculty in honing their craft, the major call of Boyer and others is for excellent teaching. "In a publish-or-perish world, teaching at universities is typically given last priority. Good teaching is not delivering a lecture that one's colleagues would admire if it were published as an article" (Newman et al., 2004, p. 56). Moreover, somewhere along the line, it appears to be forgotten that the majority of postsecondary institutions in the U.S. are not research universities to where teaching not research is not the driving force. However, research seems to dominate the discussions. Research requires, for the most part, focused and narrowed investigations with specialized results and should provide contributions in both excellence of teaching and discovery. Research, though, and not teaching is rewarded in concert with the ability to obtain funding, publish in refereed journals, and present findings at peer reviewed settings, such as conferences. There is nothing inherently wrong with this as it can drive enterprise, solve national and international problems, fuel economic development, and help provide an educated citizenry. Additionally, with so much of this work at stake for promotion and tenure—ultimately personal livelihood—there is much to risk at the individual level to move beyond the norm. With a research based approached to the scholarship of teaching a stronger connection should be made between research about teaching and excellence of teaching. In one aspect, the third implication relates this perspective.

A third implication is that the academy is doing what it does very well. Scholars explore facets of a concept to bring better understanding to a phenomenon. This is what has been done with the scholarship of teaching. Scholars understand the difficulty of assessing teaching—excellent teaching—as they study it thoroughly to bring it to greater awareness so that not only is student learning maximized, but so is collegiate understanding. A greater awareness of the scholarship of teaching has been brought to light because of the four domains of scholarship and the academy's response to define teaching in empirical ways. Boyer provided the impetus to pursue the scholarship of teaching with both rigor and vigor. Institutes sprung forth. Programs developed. Faculty are trained, all in the name of better scholarship. And, teaching skills are enhanced because of the activity. But, is it too narrowed? Atkinson (2001) wrote it was. As a sociologist, she challenged the current thinking and legitimacy of why she should have to attend to the issues in her discipline *and* be required to research and publish in the area of teaching and learning to meet the demands many scholars render as the scholarship of teaching. Maybe the academy explored the issue of the scholarship of teaching too well and now the larger picture is obscure. Possibly Boyer is at fault here.

Fourth, was it reasonable for Boyer to reconsider scholarship as he did? For 350 years according to Boyer's own admission, the academy and the professoriate faced criticisms from

external stakeholders and internal personnel. Boyer's entire chapters one and two illustrate how colleges and universities responded to the needs of society and concerns of faculty. Neither has ever been entirely satisfied with their plight nor has society been non-critical of the academy. Given the nature of the times in which he wrote, it probably was reasonable to reconsider scholarship. It may not have been as reasonable to introduce a new way of converting teaching, research, and service into discovery, application, integration, and teaching. Since, it appears what Boyer was attempting to accomplish was a better combination of teaching, research, and service to bring about two fundamental results: deploy the full range of faculty talent in all aspects; and meet the needs of civic duty. Both would generate a renewed academy and society in his estimation. This probably could have been accomplished with less subsequent confusion surrounding teaching by presenting a fresh view of a strategy to overlap teaching, research, and service better versus redirecting them to discovery, integration, application, and teaching. However, how was Boyer to know his perspective would result in a predominantly research perspective of the scholarship of teaching? Nevertheless, the work is progressing strongly in the arena of the research of teaching and this is valuable for recommendations.

Recommendations

One of the two recommendations falls into a similar concept criticized above. More work needs to be done to discover how to unify teaching, research, and service—or if one chooses—discovery, application, integration, and teaching for institutional and civic duty as well as promotion and tenure. Currently, most of the work has been to establish the scholarship of teaching as a scholarly activity with an impetus toward publications and presentations in peer reviewed venues. Scholars, if they choose, should begin with a fundamental mission of higher learning and work backwards. That is to say, start with civic duty and ask, "How does the work I'm doing foster the advancement of society with my teaching, research, and service?" Defining civic duty and using it as a measuring rod against teaching, research, and service may serve both the academy and society better.

The second recommendation serves the current perspective of developing models and methods toward defining and advancing the scholarship of teaching. However, it should be recognized for what it is: discovery (research) about teaching. Research should be considered within its own context as it would within other disciplines and fields. People investigate teaching in their field as others research about biology, or sociology, or literature in their field. Although *Scholarship Reconsidered* and the scholarship of teaching did not explicitly promote a research perspective to teaching, the subsequent scholarship production has served two areas well: (1) ideas for better teaching; and (2) more attention for excellence for the act of teaching. Faculty should continue to research and publish models and methods of teaching. The benefit is that it generates attention to the excellence of the act of teaching as well as contributes to a body of theoretical knowledge. However, scholars, whose scholarship of teaching is research based or information is discovery derived, should take the next step and design models and methods to develop and evaluate the excellence of the act of teaching. These then can be utilized as valuable indicators for promotion and tenure as research.

Conclusion

The greatest concern in *Scholarship Reconsidered* was to propose a way to refashion the professoriate to meet the challenges a "new century" would bring. That the professoriate would adapt itself to meeting the profound changes he anticipated, would be to respond consistently as the academy had done for 350 years previously from colonial times to the 1990s. To extract one concept as scholars have often done—the scholarship of teaching—from Boyer's (1990) text and

cast it in a predominantly research role (Atkinson, 2001; Salvatori, 2002; Wagenaar, 2000), is to have misunderstood Boyer. To continue to focus on research, as he argued, would be inappropriate.

But if we are to take one concept—the scholarship of teaching—we must look at it in the context of which Boyer (1990) presented it. When he quoted Aristotle that the highest form of understanding comes from teaching, he set the stage for what was to be considered the scholarship of teaching. Atkinson (2001) understood this but few have followed her lead and chose to center the attention on research aspects surrounding teaching, not develop the act of teaching itself toward excellence. She, however, took a different stance and wrote, "Boyer's definition of the scholarship of teaching stresses the *practice* of teaching [italics added]. The scholarship of teaching is the process of transmitting perspectives, skills, and knowledge to others while remaining a vital learner oneself" (p. 1221). If this is done, it must serve the greater community as Boyer intended.

Moreover, "Is it possible to define the work of faculty in ways that reflect more realistically the full range of academic and civic mandates?" (Boyer, 1990, p. 16). It has been 15 years since Boyer (1990) wrote *Scholarship Reconsidered* and a few years into a new century. The answer is still unclear, but the search toward lucidity is progressing well.

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Constructivist or expository instructional approaches: Does instruction have an effect on the accuracy of Judgment of Learning (JOL)?

Ellen A. Sigler and Julie Saam [1]

Abstract: This study extrapolated from Liberman's (2004) calibration model and Kimball and Metcalfe's (2003) conceptualization in order to evaluate students' judgment of learning (JOL) of material presented in either an expository or a constructivist format. The purpose of this study was to determine if students have differing degrees of JOL based on the format of the instruction, and if JOL is related at all to the level of knowledge obtained. According to the results of this study, there was no significant difference between the test scores for the students in the traditionally taught lesson (expository approach) and the classes which utilized the team taught discovery approach. Additionally, there was no significant difference between the two groups concerning their judgment of learning.

Key Words: Judgment of Learning, Constructivism, Metacognition.

I. Introduction.

The quest to investigate constructivist teaching and learning began as part of a discussion between two professors concerning products developed by students within their classes. Students within the 300 level teaching methods course were asked to produce lesson plans specifically designed to build upon material learned in a prerequisite program course. This material consisted of *conceptual learning* or teaching concepts (such as addition and subtraction). Previously conceptual learning had been incorporated into a 200 level Educational Psychology course and it was expected that students would be able to apply their understanding by constructing conceptual learning lessons in educational methods courses that occur later in the program. But this was not occurring. It was identified that elementary education students enrolled in a teacher education program were unable to successfully develop *conceptual* lessons and consistently produced primarily factual and skill level lessons. Realizing the disconnect within the program, an attempt was made to help bridge the gap by abandoning the lecture or expository teaching approach for the conceptual learning lesson and implementing a discovery or constructivist team-teaching approach (Sigler and Saam, 2006). This previous research demonstrated the constructivist-based lesson was successful in helping students understand how to apply conceptual learning within their lesson plans and curriculum units.

The pursuit to understand the full potential and limitations of constructivist teaching and learning continues in this current line of research. Using this same constructivist-based team-taught lesson and comparing it to the traditional expository lesson, this study investigates how well students understand the given material taught under these two formats. More importantly, we also evaluated how the teaching strategies affect students' ability to monitor their own learning process.

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II. Background.

The constructivist learning approach emphasizes the role of the learner as an active participant in the learning process (Woolfolk, 2005). This is more than simply allowing students to observe or participate in the activity, but forces them to become self-directed learners (Snowman and Biehler, 2000) and discover aspects of research, concepts or ideas on their own (Cruickshank, Bainer, and Metcalf, 1999). In a constructivist-driven classroom, the teacher provides opportunities for students to investigate and debate. On the other hand, the expository approach to learning refers to the transmission of information from expert to novice (Ormrod, 2005). In expository instruction "the teacher is the source and the owner of knowledge" (Martin, 2003, p. 207). Instructors using expository methods dominate the presentation of lessons and use strategies that include lectures, demonstrations, and videos (de Jong, van Jooligen, Swaak, Veermans, Limbach, King, and Gureghian, 1998).

To illustrate this idea, an expository lesson on *commas* may include a Power Point presentation with a slide to include the use of commas, the rules of commas, and the common mistakes using commas. Students would take notes and study these notes for a criterion-referenced test or be expected to use the notes in an applicable writing exercise. A constructivist lesson on *commas* may include students working in groups discussing a paragraph provided by the teacher with no commas, and determining on their own the difficulty interpreting its meaning. Through these investigations, students begin to reveal for themselves the need and usefulness of commas.

Constructivism is not a new concept in education. Its premise stems from the works of Dewey, Piaget, Vygotsky, and Bruner (Driscoll, 1994; Snowman and Biehler, 2000). The value of *constructing* ones' knowledge has become more evident as instructional strategies move away from rote memorization and toward actively engaging students in the learning process (Ormrod, 1999). Much of the current research dedicated to the development of teaching techniques and learning strategies suggest employment of constructivist or discovery learning approaches to promote meaningful learning and student success (Chambliss and Calfee, 1989; deCapriariis, Barman, and Magee, 2001; Jungst, Licklider, and Wiersema, 2003).

However, research also indicates that although students gain meaningful learning when presented material in a constructivist format, they may encounter difficulty with this method, specifically in regulating their own learning process (Charney, Reder and Kusbit, 1990; de Jong, et al. 1998; Veermans, de Jong, and Joolingen, 2000; Winter, Lemons, Bookman, and Hoese, 2001). That is, the students are required to plan and monitor their activities at a more sophisticated level than required for the more traditional expository approach. In essence, students may need better metacognitive skills in order to gain the desired outcomes from a lesson designed with the constructivist approach.

Flavell (1979) described metacognition as the concept of knowing about knowing. Metacognition is a term that refers to not only one's knowledge, but also one's ability to monitor, control and regulate the learning process (Akama and Yamauchi, 2004; Swanson, Hoskyn, and Lee, 1999; Tobias, Everson, and Laitusis, 1999). It is clear that learning about the basic mechanisms of an individuals' metacognitive behavior will lead to the creation of methods to help improve the learning process (Tobias and Everson, 1997). Furthermore, if students are gathering meaningful information through discovery learning, yet are still encountering problems, it seems important to evaluate the execution of this monitoring process.

Recent studies (Liberman, 2004; Kimball and Metcalfe, 2003; Garavalia and Gredler, 2002; Tobias, et al. 1999, Tobias and Everson, 1997) have attempted to evaluate the process of knowledge monitoring by using a variety of methods that require individuals to estimate their "feeling-of-knowing" (Hart, 1965). Kimball and Metcalfe (2003) use *judgments of learning* or JOL's to estimate an individual's ability to judge the extent to which they have learned particular information. In this instance, individuals were asked to make a JOL, after memorizing a list of target words. Their JOL was an indication of how many words they would remember after a period of time. Liberman (2004) uses the notion of *calibration*, and as with the previous study, participants were asked to make some judgment of the success in the learning endeavor by "indicating their confidence of being correct for each answer" (p.729) after taking a multiple-choice test. Tobias and Everson (1997) used a *knowledge monitoring assessment* or KMA to determine how accurately participants monitor the learning process by recording the discrepancy between their actual knowledge and their knowledge estimate. Although in each one of these studies the ability of the participant to evaluate their own learning was in question, the reasons for obtaining this information varied greatly.

This study extrapolated from Liberman's (2004) calibration model and Kimball and Metcalfe's (2003) conceptualization in order to evaluate students' judgment of learning (JOL) of material presented in either an expository or a constructivist format. The purpose of this study was to determine if students have differing degrees of JOL based on the format of the instruction, and if JOL is related at all to the level of knowledge obtained.

III. Methods.

A. Participants.

All participants in this study were students enrolled in a general educational psychology course, at a small mid-western university across four semesters (2 year time frame). One section of this class was offered each semester. There were 31 students in the fall 04 group, 35 students in the spring 06 group, 36 students in the fall 05 group and 34 students in the spring 06 group. These students were either freshman or sophomores and were taking this class to fulfill the requirement as a component of a teacher education program. Students across all sections were enrolled in the same curriculum and covered the same topics throughout each semester.

B. Intervention.

The educational psychology course utilized in this study was a 200 level class that covered a variety of topics at an introductory level. One topic covered in this course was Knowledge Construction, which described the means by which children develop concepts about the world around them. The material presented in the class was designed for pre-service teachers and required the students to have knowledge, comprehension and application of terms and ideas brought fourth in the curriculum.

For the control group, students were given a lesson in a lecture format (expository approach). They were given terms explaining concepts which included *feature lists, exemplars, prototypes and schemas*. These terms are part of the curriculum for the unit under review. As part of the lecture, students were given definitions and examples of terms. They were given the

opportunity to ask questions and discussion was permitted but not part of the format of the lesson.

The intervention consisted of a team taught lesson, utilizing the educational psychology and methods professors and implementing the discovery approach to learning (constructivist approach). For these classes, students were placed in groups and given various household items, such as a hairbrush, a spoon and a ball. Each group was to imagine how they would describe the purpose, function and characteristics of their item to a person who had lived many centuries ago. After a few minutes of group discussion, each group presented their ideas to the class. Afterward, the instructors demonstrated how those ideas constructed by the group could be characterized as *feature lists, exemplars, prototypes and schemas*; allowing for the students to discover how their ideas naturally fell within the categories as defined by the text.

Next, as part of the intervention, students were also shown the demonstration discussed in Sigler and Saam (2006). This was a "mock" elementary school lesson, which demonstrated a skills-approach arithmetic lesson and utilized a symbolic numeration system foreign to the candidates. In order to do this a basic, base-ten numeration system was developed that consisted of unfamiliar symbols instead of the well-known Arabic system. This system used the Wingding font (Microsoft, 2000) and simply replaced each number in the base-ten system with a symbol.

After the presentation, the students were then "debriefed". It was explained that their frustration with the Wingding system is similar to the frustration school children have when teachers teach only the skill of addition and not the concept of addition. This was then connected to the main point of the lesson, which was the discussion of the forms of conceptual learning.

C. Procedure.

This study took place over four semesters. For two semesters the students enrolled in the 200 level course received the traditional course format (control) and for the other two semesters students received the intervention.

During each semester, following the lesson, the students were given a 25-item multiple-choice exam that covered material from the lesson presented. These test items were taken from the test bank that accompanied the text (Ormrod, 2003). Students were asked to answer each multiple-choice question as usual by circling the letter of the chosen response. Following each multiple-choice question, the students were asked to make a JOL based on their confidence of responding to that question correctly. Each student responded to each multiple-choice question by circling *yes* when in their judgment they responded correctly or *no* when in their judgment they may have not responded correctly.

IV. Results.

For each student a test score and a JOL score was calculated. The test and JOL scores were derived from scoring the individual items dichotomously (either right or wrong) and then totally the scores for each student. For the JOL scores, regardless of whether or not a student answered a question correctly, the student received a JOL point based on the correctness of that judgment, not the specific answer. That is, if students answered the question correctly, and indicated that in judgment the answer was indeed correct, then they would receive a positive score. By the same token, if they answered the question incorrectly, and identified that they judged it to be incorrect, that would also receive a positive score. A score of zero was received

for incorrect judgments, even if the actual test item was correct. Table 1 demonstrates the means for the test scores and JOL scores for both groups, separated also by semester.

Table 1.Means scores for classes.

Semester	Classification	Mean Test Score	Mean JOL Score
Fall 04	Control	16.00	17.55
Spring 05	Intervention	17.26	17.34
Fall 05	Intervention	15.42	15.89
Spring 06	Control	15.91	16.79

Although there does seem to be a slightly higher mean score overall for the students within the control group, the ANOVA demonstrated no significant difference between the score of students who received the intervention, and those who did not (Table 2).

Table 2. ANOVA of both test scores and judgment scores for all groups.

		Sum of Squares	df	Mean Square	F	Sig.
Test score	Between Groups	4.648	1	4.648	0.366	0.546
	Within Groups	1700.411	134	12.690		
	Total	1705.059	135			
JOL Score	Between Groups	10.198	1	10.198	1.134	0.289
	Within Groups	1205.419	134	8.996		
	Total	1215.618	135			

However, there does appear to be a significant correlation between the test scores and the judgment of learning scores for both groups (Table 3).

Table 3. Correlations between test scores and JOL Scores.

		Test Score	JOL Score
Test Score	Pearson Correlation	1	0.610(**)
	Sig. (2-tailed)		0.000
	N	136	136
JOL Score	Pearson Correlation	0.610(**)	1
	Sig. (2-tailed)	0.000	
	N	136	136

** Correlation is significant at the 0.01 level (2-tailed).

Table 4. Means and Standard Deviations for combined groups.

	N	Minimum	Maximum	Mean	Std. Deviation
Comp	136	3.00	14.00	8.4485	2.55841
Application	136	4.00	11.00	7.6985	1.56971
Comp JOL	136	4.00	13.00	8.8897	2.22335
Application JOL	136	4.00	11.00	7.9779	1.52251

Table 5. Intervention ANOVA for comprehension and application questions.

		Sum of Squares	df	Mean Square	F	Sig.
z –scores comprehension	Between Groups	0.299	1	0.299	0.298	0.586
	Within Groups	134.701	134	1.005		
	Total	135.000	135			
z-scores application	Between Groups	0.232	1	0.232	0.231	0.632
	Within Groups	134.768	134	1.006		
	Total	135.000	135			
z-scores comprehension JOL	Between Groups	2.425	1	2.425	2.451	0.120
	Within Groups	132.575	134	0.989		
	Total	135.000	135			
z-scores application JOL	Between Groups	0.031	1	0.031	0.031	0.861
	Within Groups	134.968	134	1.007		
	Total	135.000	135			

Table 6. Class ANOVA for comprehension and application questions.

		Sum of Squares	df	Mean Square	F	Sig.
z –scores comprehension	Between Groups	6.255	3	2.085	2.138	0.098
	Within Groups	128.745	132	0.975		
	Total	135.000	135			
z-scores application	Between Groups	1.313	3	0.438	0.432	0.730
	Within Groups	133.688	132	1.013		
	Total	135.000	135			
z-scores comprehension JOL	Between Groups	7.778	3	2.593	2.690	0.049
	Within Groups	127.223	132	0.964		
	Total	135.000	135			
z-scores application JOL	Between Groups	1.739	3	0.580	0.574	0.633
	Within Groups	133.260	132	1.010		
	Total	135.000	135			

After some continued analysis, it was proposed that the questions on the 25-item test were indeed broken down into two areas, as identified by the test bank. Some of the questions were

knowledge and comprehension questions, inferring lowing level processes, and others were application questions, requiring higher level processes. Therefore, the tests were further broken down into subparts, looking at the relationships between these thinking processes and the intervention. Table 4 shows means and standard deviations for the combined groups looking at the comprehension and application questions. Since there were differing numbers of questions in both of these areas, z-scores were derived to standardize the scores on the individual subparts. This was done using the intervention as the factor. The ANOVA for this assessment can be seen in Table 5. There were no significant differences found.

An ANOVA was also run to determine if there were significant differences looking at the factor of class and not just intervention. There were also no significant differences found (Table 6).

V. Discussion.

The purpose of this study was to determine if students have differing degrees of JOL based on the format of the instruction, and if that JOL is related at all to the level of knowledge obtained. According to the results of this study, there was no significant difference between the test scores for the students in the traditionally taught lesson (expository approach) and the classes which utilized the team taught discovery approach. Additionally, there was no significant difference between the two groups concerning their judgment of learning either. Even when scores were evaluated on a class by class basis, there was still no statistically significant difference.

However, test scores were significantly correlated to the JOL scores. This indicates that those students who demonstrated greater ability on the multiple choice exam also demonstrated greater metacognitive skills in terms of there judgment of learning, despite the intervention.

Ormrod (2006) indicated that expository approach may be the best method for teaching knowledge and comprehension material and discovery or constructivist approach as being a better method for application. With that in mind, utilizing the test bank information which classified questions as knowledge and comprehension or application, further analysis was accomplished, but still showed no significance in terms of the intervention.

It does appear that the method by which this information was taught did not effect the test scores or the students' ability to judge their level of accuracy. This may be due to several things. First it may have more to do with the type of information presented, as opposed to the instructional method.

The course material, by its very nature, in an introductory class requires lower level thinking skills, as it is mostly vocabulary and basic theoretical constructs. The lack of significance may be attributed to the fact that the material itself, regardless of the intervention and the way it was assessed (through a multiple choice test) did not lend itself to a natural differentiation in the test and JOL results between the control and the intervention classes.

Another possible cause of the lack of significance may be attributed to the reliability of the test. The Cronbach alpha shows fairly low reliability for the test scores and even lower reliability for the JOL scores. The Cronbach Alpha was 0.63 for the multiple choice test. The Cronbach alpha for the JOL assessment was only 0.468. Since the item inter-corrections are low, this casts doubt as to whether we are actually measuring a homogeneous construct. It was hoped that utilizing a developed test bank would eliminate this problem, but it does not appear to be the case. This, in it of itself, may be the reason why the results were not significant.

It might also be important to note that the test itself was an extra credit assignment and not part of the course grade. Students received credit for participating in the study, regardless of the scores on the test. Therefore, the possibility exists that the students lacked serious preparation concerning the material.

If indeed the results of are study do accurately portray the realistic outcomes and there is really no difference with the instructional methodology in terms of learning and JOL, it is still important to note, albeit anecdotally, that the students in the discovery intervention were more engaged, active and participatory in the learning process. Additionally, the time it took to construct such a lesson was minimal, therefore not prohibitive in terms of instructor time and commitment.

VI. Conclusion.

Based on the results of this study there does not appear to be a significant difference in the mode of instruction in terms of test performance and JOL for this particular topic. However, there are still many unanswered questions concerning the constructivist approach in terms of the college classroom. The limitations of this study may have prevented an accurate assessment of the differences between the two methods of instruction. First, the reliability of the assessment instrument should be improved, to create a better indicator of student learning. In addition, creating a course assessment that will also serve as a research assessment, one that is a genuine task assessment, may also improve and help clarify results. Lastly, it seems important to match the assessment to the instruction. For example, expository approach traditionally uses assessment techniques such as multiple-choice and true false items, while constructive approach normally uses project based, alternative and embedded assessment strategies. With these changes, the differences between the instructional technique and the students' metacognitive abilities will be more closely linked.

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Student Perspectives on Teaching Techniques and Outstanding Teachers

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Abstract: The increased use of instructional technology in the past decade has brought about many changes in college teaching, including changes in the lecture format. We surveyed students in six science courses to obtain their opinions regarding technology use, as well as non-technological instructional techniques, and the characteristics of outstanding teachers. This article reports on and analyzes the responses of 158 students, and recommends strategies instructors can use to increase their teaching effectiveness by engaging students in lecture and other aspects of their courses.

Keywords: student survey, instructional techniques, teaching effectiveness, teacher characteristics, instructional technology.

I. Introduction.

Despite recent pedagogical research questioning the effectiveness of the lecture format in higher education (Handelsman et al., 2004, Udovic, Morris, Dickman, Postlethwait, and Wetherwax, 2002), that format is still very important in college teaching. Although students are separated into small groups for laboratory portions of science courses, they are usually grouped into much larger lecture sections (up to several hundred students in larger universities). The financial realities of cost effectiveness suggest that relatively large classes will remain a component of college courses in the years to come (Brown and Gamber, 2002). Therefore, one of the major challenges for educators is to increase the effectiveness of this teaching format by incorporating techniques that facilitate the development of critical thinking skills and active learning among students (Ebert-May, Brewer, and Allred, 1997, Cronin Jones, 2003, Litke, 1995).

Many studies have focused on the pedagogical value of various techniques from the educators' perspective (Barr and Tagg, 1995, Lord, 1994, Zoller, 2000), and some have reported on students' opinions (Feldman, 1988, Feldman, 1976). We recently published the results of a fall 1998 survey of college students' preferences of lecture techniques and the characteristics that they feel exemplify outstanding high school and college teachers (Chen, Lawler, and Venso, 2003). Since our initial survey, our university (like many across the country) has seen many changes in teaching, particularly the increased use of instructional technology in and out of the classroom. These changes include increased use of e-mail, the Internet, slide presentation technology, such as PowerPoint, and course management systems, such as Web CT (Green, 2003, Green, 2004). We thought it important to solicit students' opinions of these uses. In addition, we wanted to explore lecture and instructor characteristics identified by students in

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open-ended questions on our first survey. Consequently, we undertook a second survey to ascertain student opinions of new technology-based teaching techniques and teacher characteristics and to determine whether changes in instructional technology have influenced students' judgments of the following:

- Non-technology based teaching techniques
- Lecture format
- Important characteristics of outstanding high school teachers
- Important characteristics of outstanding university teachers

These opinions allowed us to make comparisons with our earlier study and between different groups of students identified in student profiles.

Learning is more likely to take place when students feel comfortable and relaxed, and enjoy the learning experience (Berk, 1996, Mantei, 2000). Therefore, taking students' preferences into consideration and using them to guide our teaching when appropriate can enhance the effectiveness of our endeavors.

II. Method.

A. Survey Design.

Our survey questionnaire (Appendix) consisted of three sections: 1) student profile, 2) objective questions regarding teaching format and use of technology in and out of the classroom, and 3) a two-part section in which students ranked a) techniques teachers can use to make lectures interesting and b) important characteristics of outstanding high school and college instructors from those identified on our previous survey.

Section 1: Student Profile. The six questions (#1-6) in this section allowed us to make comparisons between the responses of groups of students based on gender, class status, school of major and overall grade point average (GPA).

Section 2: Teaching Format and Technology Use. The second section (questions #7-17) was designed to obtain students' opinions regarding lecture format, out-of-classroom experiences, and the use of technology in and out of the classroom. A number of the questions (#7, 11, 12, 16 and 17) in this section were identical to questions in our previous survey. This repetition was included in order to determine whether changes in instructional techniques (particularly technology use) have influenced students' opinions of non-technology based techniques.

Section 3: Preferred Lecture Methods and Outstanding Teacher Characteristics. Our previous survey (Chen, Lawler, and Venso, 2003) included a section with open-ended questions. Based on the responses from that study, we prepared and included on the current survey lists of:

- "things a professor can do to make lecture interesting as well as informative" (#18-32 on the present survey)
- "most important characteristics of an outstanding high school teacher" (#33-50)
- "most important characteristics of an outstanding college professor" (# 51-68)

Student participants were instructed to select from each of these lists the five items they thought were most important and rank them according to importance on a computerized answer sheet where "a" was most important; "b," the second most important; through "e," the fifth-most important.

B. Survey Administration.

The survey was given at approximately mid-semester in spring 2003 in an anonymous and volunteer fashion in the six courses we were teaching. We gathered data from students during class to ensure opinions that were free of other students' influence. Students taking two or more courses from us were instructed to participate only once. Other than that, essentially all students present when the survey was administered participated. Although the six courses were all science courses (in biology, environmental health science, and geography and geosciences), they included general education as well as science major courses. Student participants included majors in the other three schools in our university in addition to majors in the school of science and technology.

C. Data Analysis.

Analyses of the three sections of the survey included 1) summary analysis of student characteristics for Section 1: Student Profile; 2) Chi-square (χ^2) to determine significant differences of opinions between student profile groups, and correlation analysis (*r*) to determine significant similarities between the present and previous surveys for Section 2: Teaching Format and Technology Use; and 3) weighted ranking of student responses in Section 3: Preferred Lecture Methods and Outstanding Teacher Characteristics.

Section 1: Student Profile. We totaled student characteristics by gender, enrollment status, GPA, class status, and school of their majors. This allowed us to separate and analyze the responses to the remaining sections according to these profile characteristics.

Section 2: Teaching Format and Technology Use. In processing and analyzing the survey data, we summarized the overall pattern of student opinions. Subgroup comparisons were analyzed by the Chi-Square test; a *p* value of 0.05 or less was considered significant. In addition, we used a correlation analysis to compare the current responses to five questions with those to identical questions in our previous survey.

Section 3: Preferred Lecture Methods and Outstanding Teacher Characteristics. Students were asked to select and rank from lists of characteristics shown in # 18-32 the five items they thought were most important in making a lecture interesting as well as informative. Students also chose the five most important characteristics of an outstanding high school teacher (#33-50) and the five most important characteristics of an outstanding college professor (#51-68). We analyzed the responses in this section in two ways. First, we calculated the frequency (F) that each choice was selected, regardless of the ranking of importance by individual students. Secondly, we made a weighted ranking (WR) of responses for each question. For this ranking, each time a student chose a particular item as the most important ("a"), it was multiplied by 5; choices of second most important were multiplied by 4, third by 3, fourth by 2 and fifth by 1. These values were then totaled for ranking.

III. Results and Discussion.

A. Section 1: Student Profile (Table 1).

Of the 177 students who participated in the survey, the responses of 158 students were analyzed for this paper. Nineteen of the students did not properly follow instructions for all parts

of the survey and, therefore, their survey responses were not used. Ninety-four percent (94%) of the 158 students were enrolled full-time (question 4) and 86% had enrolled in college within two years of high school graduation (question 3). The majority of the respondents were female (67%, question 5). Fifty-one percent (51%) of the students had majors within the School of Science and Technology (question 2). Our population was composed of 9% freshmen, 43% sophomores, 24% juniors and 22 % seniors (question 1). In our analysis, we compared responses of upper and lower classmen (52% and 46%, respectively) and of science majors and non-science (liberal arts, business and education) majors (51% and 46%, respectively).

Table 1. Responses to Student Participant Profile (#1-6) and to Objective Questions of Preference for Teaching Techniques (#7-17).

Question Number	Percentage of surveyed students in each answer category					
	(a)	(b)	(c)	(d)	(e)	No Answer
1	8.9	43.0	24.1	21.5	n/a	2.5
2	50.6	25.9	4.4	11.4	4.4	3.2
3	86.1	12.0	n/a	n/a	n/a	1.9
4	93.7	5.7	n/a	n/a	n/a	0.6
5	32.3	67.1	n/a	n/a	n/a	0.6
6	24.7	55.1	17.1	0.6	1.3	1.3
7	3.2	50.0	5.1	40.5	n/a	1.3
8	46.2	37.3	12.0	2.5	0.6	1.3
9	10.1	52.5	31.6	5.1	n/a	0.6
10	25.3	11.4	62.0	n/a	n/a	1.3
11	27.8	37.3	5.7	28.5	n/a	0.6
12	27.2	7.6	11.4	52.5	n/a	1.3
13	49.4	21.5	17.7	7.6	3.2	0.6
14	14.6	53.2	31.0	0.0	n/a	1.3
15	46.8	37.3	13.9	n/a	n/a	1.9
16	36.7	6.3	15.8	12.7	27.2	1.3
17	85.4	10.8	0.6	1.3	n/a	1.9

B. Section 2: Student Responses Regarding Teaching Format and Technology Use.

Overall Responses (Table 1). *Most students preferred a structured lecture format with a free exchange of questions.* In response to question 8, almost half (46%) the students selected 90% or more lecture and 10% or less student group work as their ideal proportion of activities in the classroom. Another 37% preferred 75% lecture and 25% student group work. Regarding preferred format of student work in the classroom (question 11), 37% preferred "Work on solving/answering problems/questions given by the instructor" and 28% preferred "Structured group discussion with given topics." Few students (6%) preferred "Unstructured group discussion," and 29% preferred classes without group work. Although the majority of students preferred that most of class time be devoted to lecture, they also preferred a class with the opportunity to ask and answer questions throughout (question 12). The majority (53%) chose "Instructors should ask many questions and encourage students to do the same."

Most preferred use of visual aids in lectures. In response to question 7, the percentage of students that preferred "Lectures supported with visual aids" (50%) was slightly larger than the percentage with preferences for "Lectures with visual aids, questions/discussions and student

group work" (41%). Only 3% favored "95% of time for straight lecturing" and 5% "lectures with student discussions/group work." These results are interesting in light of the work of Cronin-Jones (2003) who states that relatively few of today's college students are good auditory learners and that they need additional stimulation to aid in their learning.

Homework was preferred course-related activity (question 16). The largest number chose "Homework" (37%), with 27% choosing "Combination of activities." Fewer preferred "Project report/term papers" (16%), "Team reports/projects" (13%) and, lastly, "Student presentations" (6%).

Students seemed to be comfortable with instructional technology and, in some cases, preferred it over traditional techniques. The majority of students surveyed (53%) indicated that computer presentation technology such as PowerPoint is more effective in most cases than more traditional aids (blackboard, overheads, slides), and a sizeable number (32%) suggested that this technology is "occasionally" more effective (question 9). Only 5% felt it is rarely or never more effective. These results are similar to those of other recent studies (Frey and Birnbaum, 2002, Lowry, 1999, Mantei, 2000). However, while some recent studies of PowerPoint use in the classroom show a direct correlation between increasing students' interest during class and their performance on subsequent evaluations (Lowry, 1999, Mantei, 2000), others find mixed results (Szabo and Hastings, 2000). Harris (2002) warns that observed changes in students' attitudes and even performance in response to multimedia presentations may simply be an example of the Hawthorne Effect, temporary responses to changes in the learning environment. Clark (1983) reviewed the literature on media and learning effectiveness and concludes that changes in the media used to deliver instruction rarely alter the final outcomes. Technology should be considered a tool to assist, but not replace, traditional teaching techniques.

In addition, 62% of our respondents thought that presentation technology was especially important for large classes (question 10). This is valuable information in light of Litke's work (1995) stressing the need for teachers to be particularly cognizant of students' opinions regarding teaching effectiveness in large classes.

Student preferences for the use of PowerPoint in lectures may be related to prior experience or the fact that it aids visual stimulation in learning. However, results from a study by Bartsch and Cobern (2003) indicate that not all visual stimulation is equally effective; PowerPoint presentations that include irrelevant images are less effective in conveying information than PowerPoint presentations with no images whatsoever.

Another reason for students' preferences for use of PowerPoint in lecture may be the fact that this technology allows for easy distribution of notes via computer (Mantei, 2000) or in a printable handout (Frey and Birnbaum, 2002). In our survey, the majority of students preferred computer transmission of notes prior to (49%) or after (22%) lecture as compared to notes available by other methods (question 13). In additional to technology in the classroom, students in our survey were very comfortable with technology as a means of communication with professors outside of class. Although none of our participants indicated a preference for communicating with professors exclusively via e-mail, 31% preferred it over in-person conferences, and 53% would use it occasionally to supplement in-person conferences (question 14). Only 15% preferred in-person conferences exclusively. In addition, the majority thought that posting of class announcements via e-mail or on the web is essential (47%) or helpful but not necessary (37%, question 15). In light of today's information overload, it is crucial that instructors consider students' preferences and use methods such as these to effectively transmit their messages.

Students considered themselves as most responsible in achieving a high GPA (question 17). Eighty-five percent (85%) of students surveyed considered themselves to have the most responsible role in achieving a high GPA. Only small percentages of students felt their professors or their parents were most responsible.

Variation in Responses between Student Profile Groups. Overall, there were relatively few significant differences among the student profile groups, and there were no significant differences between the responses of upper and lower classmen to any question. Males and females differed significantly in their responses regarding preferred lecture format (question 7), with proportionately more men preferring "Lectures with visual aids, discussions and student group work" and more women preferring "lectures supported by visual aids" ($p \leq 0.05$). They also differed significantly regarding the relationship between class size and format (question 10), with proportionately more males responding that class size does not affect format and more females responding that computer presentation technology is especially important in larger sized classes. ($p \leq 0.025$).

Science majors and students with other majors differed significantly in their responses to two of the questions regarding lecture format (question 7). Proportionately more non-science majors preferred "Lectures with visual aids, discussions and student group work," while more science majors preferred "Lectures supported by visual aids" ($p \leq 0.05$). And, although the top choice for the proportion of class time spent in lecture (question 8) was the same for both science and non-science majors (90% or more), more non-science than science majors selected "25 % lecture and 75% student group work" ($p \leq 0.025$). In addition, there was a significant difference ($p \leq 0.001$) between science and non-science majors regarding the transmission of lecture notes (question 13); a larger percentage of science majors preferred notes available in a course booklet and a higher percentage of non-majors preferred notes available on reserve in the library. This may be related to what students are accustomed to in their specific courses. The fact that a large number of science majors were enrolled in a course that employed a course booklet may have influenced this difference.

Students in the three GPA categories differed in their responses to two questions relating to interactions within the classroom. With regard to student group work in the classroom (question 11), the top response for students with a middle GPA was "Work on solving/answering problems/questions posed by the instructor," whereas the top response for the high and low GPA groups was a preference for no group work ($p \leq 0.05$). Although the top answer for all GPA groups regarding the appropriate number of questions asked (question 12) was "Instructor should ask many questions and encourage students to do the same," proportionately more of the high GPA and fewer of the low GPA groups chose that response. In addition, more of the low GPA and fewer of the high GPA groups preferred that only the instructor ask many questions ($p \leq 0.05$).

Comparison with Responses in Previous Study. Although the specific questions related to instructional technology in this survey differed from those in our previous survey (because our uses of technology have changed dramatically in the intervening five years), responses to the two surveys suggest that students are now more comfortable with technology use, particularly its use outside the classroom. On the other hand, student opinions regarding lecture format, number of questions asked during lecture, student group work in class, related activities and responsibility for achieving a high GPA were unchanged from the results of our initial survey (Chen, Lawler and Venso, 2003). The responses to all five identical questions had correlation coefficients of 0.9

or higher indicating that the increased use of instructional technology and students' preference for this technology has not changed their attitudes regarding basic lecture techniques.

C. Section 3: Student Preferences regarding Lecture Methods and Outstanding Teacher Characteristics.

Overall Responses. *Students indicated that lectures are most interesting when instructors show enthusiasm for the subject, have good presentation skills and explain complex concepts clearly (Table 2).* These three clearly stood out from the 15 listed characteristics, both in term of frequency of selection (F) and perception of importance (WR) by the respondents overall. These characteristics were also listed as important by students in the studies of Feldman (1976), and Smith, Medendrop, Ranck, Morrison, and Kopfman (1994). Although selected much less frequently, the other two choices in the top five (by both F and WR) were provides comfortable atmosphere and "Adds personal stories/experiences/research."

Student opinions were also very clear with regard to the things they consider less important in lecture. The four lowest ranking choices (by both F and WR) were "Rarely strays from lecture topics," "Includes time for student group work," "Moves about classroom" and lastly "Includes student presentations." Although our previous survey (Chen, Lawler and Venso, 2003) indicated that students prefer a teacher that moves about the front of the classroom (as compared to one that stays in one location or moves about the room amongst the students), this survey indicated that it is not as important as many other options in making a lecture interesting. So low ranking of characteristics by students in this survey does not necessarily mean that students considered those characteristics unimportant, just less preferred than other choices presented.

Table 2. Frequency and Weighted Ranking of the Five Most Important Things a Professor Can Do to Make Lectures Interesting as Well as Informative (# 18-32).

F	FxW	WR	Lecture Characteristics
109	414	1	Shows enthusiasm for subject
106	401	2	Has good presentation skills
103	300	3	Explains complex concepts clearly
73	217	4	Provides comfortable/relaxed atmosphere
81	185	5	Adds personal stories/experiences/research
59	172	6	Uses visual aids
57	156	7	Illustrates concepts with analogies/examples
53	137	8	Makes lectures relevant to students' interests and experiences
39	121	9	Encourages student participation through open ended questions
41	100	10	Uses innovative methods
25	75	11	Varies format/pace/amount of lecture versus other activities
17	45	12	Rarely strays from lecture topic
13	30	13	Includes time for student group work
12	25	14	Moves about classroom
8	12	15	Includes student presentations

F = frequency, number of times characteristic was selected regardless of individual student ranking
F x W = frequency times weighting
WR = weighted rank, according to F x W

Students considered being "Approachable" and "Concerned whether students understand the material" to be the two most important characteristics of outstanding teachers (Table 3). These were the top two responses among the 18 characteristics of high school teachers and college professors based on both F and WR. Other characteristics valued highly by the respondents were: knowledgeable, organized, gets to know students as individuals, intelligent, encouraging and supportive, and enthusiastic. Among the characteristics that were ranked low for both high school and college teachers were challenging and "Uses methods that require us to use critical thinking skills."

These results suggest that although students appreciate a teacher's professional qualities, the ways in which a teacher interacts with them directly are paramount in their educational experience. Although these results are similar to the results of our previous survey (Chen, Lawler and Venso, 2003) and those of Smith, Medendrop, Ranck, Morrison, and Kopfman, (1994), the format of this survey allowed for clearer ranking than those previous studies. Similarly, in Feldman's research review (1976), friendliness, helpfulness, and encouragement were among the top preferences of students at that time.

Table 3. Frequency and Weighted Ranking of the 5 Most Important Characteristics of Outstanding High School Teachers (#33-50) and College Teachers (# 51-68)

High School Teacher (#33-50)				College Teacher (#51-68)			
F	FxW	WR	Characteristic	F	FxW	WR	Characteristic
67	222	1	Approachable	81	280	1	Concerned if students understand material
69	210	2	Concerned if students understand material	76	252	2	Approachable
61	200	3	Gets to know as individuals	66	232	3	Knowledgeable
55	185	4	Knowledgeable	59	166	4	Organized
53	162	5/6t	Encouraging and supportive	48	160	5	Intelligent
53	162	5/6t	Organized	54	157	6	Enthusiastic
52	158	7/8t	Relates to students	48	133	7	Encouraging and supportive
49	158	7/8t	Enthusiastic	40	129	8	Fair
38	129	9	Intelligent	37	114	9	Gets to know as individuals
41	121	10	Humorous	41	113	10	Relates to students
39	107	11	Fair	46	110	11	Available outside classroom
31	91	12	Challenging	36	101	12	Humorous
33	90	13	Requires critical thinking	34	87	13	Requires critical thinking
29	72	14	Maintains discipline	27	73	14	Challenging
29	64	15	Shows respect for students	28	70	15	Shows respect for students
10	36	16	Empathetic	11	47	16	Empathetic
18	33	17	Provides and requests feedback	14	34	17	Provides and requests feedback
12	24	18	Available outside classroom	6	8	18	Maintains discipline

F = frequency, number of times characteristic was selected regardless of individual student ranking
FxW = frequency times weighting
WR = weighted rank, according to FxW
t = tie in ranking

Although the responses for characteristics of outstanding high school teacher and outstanding college professor were surprisingly similar, there were some interesting differences. A number of nurturing characteristics (i.e., getting to know students as individuals, being encouraging and supportive, and relating to students), as well as maintaining discipline ranked as more important characteristics for high school teachers. Although this may reflect the typically smaller classes and increased contact between high school teachers and their students, it may also suggest that students recognize the importance of becoming more independent and self-motivated as college students. On the other hand, professional characteristics (i.e., knowledgeable, organized, and being available outside the classroom), as well as intelligent and fair ranked higher as important characteristics for college professors. It may be that the increase in importance for these characteristics in college teachers correlates with a perceived increase in the complexity of college level courses.

Variation in Responses between Student Profile Groups. There was much similarity in the top five responses of the various student profile groups regarding the things a teacher can do to make lecture interesting to students. Enthusiasm for the subject and good presentation skills were the top two choices for all subgroups (WR). "Explains complex concepts clearly" was the third ranked choice for all subgroups, with the exception of males who ranked it fourth. Students with a high GPA selected "Adds personal stories/experiences/ research" as frequently as "Explains complex concepts clearly" (based on F value), but less highly (based on WR value). The characteristics "Includes student presentations" and "Includes time for student work" were among the five lowest ranked responses in all subgroups, with student presentations always the lowest characteristic by WR.

Regarding characteristics of outstanding teachers, "Approachable" and "Concerned whether students understand the material" ranked in the top five selections of all profile groups by both F and WR. In contrast to the results of Smith, Medendrop, Ranck, Morrison, and Kopfman, (1994) both genders in our study found approachable to be important. "Knowledgeable" was also ranked in the top five by all subgroups for college professors, but its ranking for high school teachers was more variable. By weighted ranking, a high school teacher's knowledge was ranked more highly by females than males, by upper as compared to lower classmen and by students with mid GPAs as compared to high or low GPAs.

Interesting differences among the profile groups included responses to "Humorous" which was ranked higher by males than females, higher by non-science majors than science majors, and higher by low GPA than higher GPA students (F and WR). Whereas this characteristic ranked in the top five responses of males and non-science majors for both high school and college teachers, it was ranked in the bottom half of responses of females and science majors for high school teachers (F and WR) and in the bottom five choices for college teachers. Smith, Medendrop, Ranck, Morrison, and Kopfman, (1994) also found humorous to be mentioned more frequently as an important teacher characteristic by male students. While this difference is very interesting, there are so many aspects to humor use and appreciation it is difficult to find a simple explanation for it. In their review of the literature, Robinson and Smith (2001) found much variation in studies of gender and humor appreciation; some studies found women less appreciative of humor than men, others found the reverse and still others found differences in the type of humor appreciated by the two sexes. In addition to different categories of humor, including jokes, stories and funny comments (Gorham and Christophel, 1990), humor serves a number of social functions, such as tension relief, hierarchy building and cohesion building (Robinson and Smith, 2001). Our use of the term "humorous" in the survey made none

of these distinctions and may have been interpreted differently by different individuals. In addition, student responses may have been influenced by specific instances of humor use in their experiences of which we had no control.

In another interesting difference between profile groups, female students and students with a mid GPA ranked being "Available outside the classroom" more highly than did males and students with a low GPA, who ranked this characteristic in the bottom five.

Comparison with Responses in Previous Study. We changed the format of this section from the open-ended questions of our initial survey to the ranking of given characteristics in order to better quantify student responses. However, this change makes direct comparison of the two surveys more difficult. Although we used the student responses to the first survey to formulate the lists in this section, we could not include the full range of those responses. A few similarities and differences do, however, stand out. In both surveys, having good presentation skills, getting to know students as individuals, and showing concern for students were commonly chosen as characteristics of outstanding teachers. In both studies, knowledgeable ranked higher than intelligent. Some differences between responses in the two studies were seen. Being available outside the classroom and making lectures relevant scored higher on the first survey. Being fair was mentioned more frequently than being organized or knowledgeable on the first survey, but ranked lower than those characteristics on this survey. "Empathetic" also ranked lower in this survey than we expected from the responses on the first survey. It may be that many students are unfamiliar with that word, as other interpersonal characteristics generally ranked quite high. Similarly the low ranking of "Requires critical thinking" may be due, at least in part, to students' failure to recognize activities that require that skill. The overall similarity between the results of this and our previous study are encouraging, as they indicate that teachers do not need to totally revamp their teaching styles as they increase technology use in class to remain effective communicators.

IV. Conclusion.

In addition to providing insight into students' preferences for various lecture techniques, this study also opens up a number of questions and avenues for future study. One important issue is whether student preferences actually correlate with their learning and performance in a course. The studies by Berk (1996) and Mantei (2000) suggest that this should be the case, but more work in this area would be very worthwhile. It would be difficult with an anonymous survey such as this to answer that question, but studies focusing on one or a few of the top ranked attributes and student performance would shed light on the question. Gorham and Christophel (1990) demonstrated that learning outcomes were positively influenced by teacher use of humor, but both the degree of humor exhibited and the positive learning outcomes reported were the perceptions of the students involved in the study. The question remains, do students' perceptions of their learning outcomes really correlate with their actual learning? Studies on this topic would be most enlightening. Another question relates to how applicable the results of this study are to lectures in general. Although our subjects were diverse with regard to gender, class status and major, the survey was administered in science courses only. Students were directed to respond to the survey with their opinions for lecture courses overall, but they may have been influenced by the specific course and setting.

College teaching-and-learning is by all means a complex process, and there are many factors in play. As educators, we take many sources of information into consideration when

developing our teaching strategies. Student preferences can give us valuable insight into ways to reach them, but we need to consider those preferences in light of pedagogical research, our own experience in and out of the classroom, and the particular needs of specific courses. For instance, student presentations and student group work have been demonstrated to enhance student learning in a variety of educational settings (Lord, 1994, Shaw, 1999). The fact that our respondents rarely preferred theses activities does not mean that we should decrease our use of them, but we need to be creative in the ways they we incorporate them into our courses. For instance, making presentations shorter, more focused on a specific topic, or less formal may decrease the anxiety some students have about this activity.

Similarly, we should not let student preferences for increased use of presentation technology such as PowerPoint allow us to overlook basic techniques we know to be effective. Rather we should use technology to complement our teaching as appropriate. Fortunately, the results of our survey suggested that student opinions regarding basic lecture techniques and characteristics of outstanding teachers did not change with increased use of and preference for such technology.

Teachers also need to be cognizant about the needs of different groups of students. Although various profile groups were in agreement regarding many teaching and teacher preferences in our survey, there were a few important differences which should be taken into account by instructors. For instance, female students preferred more passive situations in class, but they also considered it important for college professors to be available outside the classroom. Interactions outside the classroom provide the opportunity for teachers to help female students become more confident about the course and increase their participation in the classroom. Similarly, science majors had a higher preference for passive situations in lecture as compared to students with other majors. By including a variety of techniques in courses with a mixture of majors, a science professor may not only increase the interest level of non-majors, but, by pairing majors and non-majors in groups, help the science majors to become more comfortable with group discussions and activities.

It is interesting to note that many of the characteristics our students felt were important are among those cited by Lowman (1995) as associated with effective college teaching and often used as the basis for nominations for teaching awards. Furthermore, it is encouraging that the top three student choices for making lectures interesting as well as informative were: showing enthusiasm for the subject, having good communication skills and explaining complex concepts clearly. All of these important characteristics can be developed and improved by all teachers, regardless of personality, discipline and class format.

Appendix 1. A Survey of Students' Opinions Regarding College Teaching.

For Questions 1-6, select the choice that describes your current status and fill in on scantron.

1. Your Classification:
   (a)   Freshman   (b)   Sophomore
   (c)   Junior   (d)   Senior

2. Your major is within which school:
   (a)   Henson School of Science and Technology
   (b)   Fulton School of Liberal Arts
   (c)   Seidel School of Education and Professional Studies

     (d)   Perdue School of Business
     (e)   Undeclared major

3. Did you enroll in college within two years of high school graduation?
     (a)   Yes   (b)   No

4. You are:
     (a)   Full-time   (b)   Part-time

5. You are:
     (a)   Male   (b)   Female

6. Your current GPA is:
     (a) $3.5 – 4.0$ (b) $2.5 – 3.49$
     (c) $2.0 – 2.49$ (d)   less than 2.0
     (e)   I am a first semester freshman

For Questions 7-17, select your TOP PREFERENCE (select ONE only) and fill in on scantron.

7. Preferred lecture format:
     (a)   95% of time for straight lecturing
     (b)   Lectures supported with visual aids (PowerPoint, slides, VCR tapes, etc.)
     (c)   Lectures with student discussions/group work
     (d)   Lectures with visual aids, questions/discussions, and student group work

8. The ideal proportion of lecture (including use of various visual aids) and student group work in the classroom is:
     (a)   90% or more lecture and 10% or less student group work
     (b)   75% lecture and 25% student group work
     (c)   50% lecture and 50% student group work
     (d)   25% lecture and 75% student group work
     (e)   10% or less lecture and 90% or more student group work

9. A lecture using computer presentation technology (such as PowerPoint) is more effective than a lecture supplemented by traditional aids such as blackboard, overheads and slides.
     (a)   True for all cases.
     (b)   True for most cases.
     (c)   Occasionally true.
     (d)   Rarely or never true.

10. Class size and format:
     (a)   Class size does not affect format. (The same format works equally well for large and small classes)
     (b)   In large classes, "traditional" lecture techniques (using blackboard, overhead projector, slides) are especially important.
     (c)   In large classes, computer presentation technology (such as PowerPoint) is especially important.

11. Preferred format of student group work in classroom:
     (a)   Structured group discussion with given topics
     (b)   Work on solving/answering problems/questions given by instructor

     (c)   Unstructured group discussion (no detailed instructions from the instructor)
     (d)   I prefer classes without group work

12. Number of questions:
     (a)   Instructor should ask a few questions of students.
     (b)   Instructor should ask many questions of students.
     (c)   Instructor should not ask questions, but encourage students to do so.
     (d)   Instructor should ask many questions and encourage students to do the `
     same.

13. Preferred supplemental transmission of information/lecture notes:
     (a)   Notes available via computer (web page, web CT or n-drive) PRIOR to class
     (b)   Notes available via computer (web page, web CT or n-drive) AFTER class
     (c)   Notes available in course booklet (purchased at U bookstore)
     (d)   Notes on reserve at library
     (e)   None of the above are necessary

14. Preferred communication WITH instructor outside of classroom:
     (a)   In person (during office hours or by appointment) exclusively.
     (b)   Prefer in person, but will use e-mail or web CT occasionally for convenience.
     (c)   Prefer via e-mail or web CT, but will use in-person conferences when necessary or convenient.
     (d)   Via e-mail or web CT exclusively.

15. Communications FROM instructor outside of classroom:
     (a)   Posting class announcements and deadlines on the web or via e-mail is essential.
     (b)   Posting class announcements and deadlines on the web or via e-mail is helpful, but not necessary.
     (c)   It doesn't matter to me if instructors post class announcements and deadlines on the web or via e-mail.

16. Preferred related activities:
     (a)   Homework   (b)   Student presentations
     (c)   Project report/ term paper   (d)   Team reports/projects
     (e)   Combination of the above

17. For you to achieve a high GPA in your college learning, who plays the most responsible role?
     (a)   Myself   (b)   Professors
     (c)   Parents   (d)   Other

18-32. From the list below, choose the FIVE most important things a professor can do to make lectures interesting as well as informative. Rank these five in order of importance, by filling the "a" bubble on the appropriate line of the scantron for the most important, "b" for the second most important, then "c", "d" and "e" in descending order. Leave all other rows in this group blank on the scantron.

18.   Has good presentation skills- has clear and expressive voice, speaks at good pace, makes eye contact
19.   Shows enthusiasm for subject
20.   Encourages student participation through open ended questions
21.   Varies format/pace/amount of lecture as compared to other activities
22.   Uses visual aids
23.   Rarely strays from lecture topic

24.   Uses innovative methods
25.   Adds personal stories/experiences/research
26.   Includes student presentations
27.   Illustrates concepts by giving analogies or describing specific examples
28.   Provides comfortable/relaxed atmosphere that encourages students to ask questions/join in discussions
29.   Makes lectures relevant to students' interests and experiences
30.   Includes time for student group work in most/all classrooms sessions
31.   Explains complex concepts clearly
32.   Moves about classroom

33-50. From the list below, choose the FIVE most important characteristics of an outstanding HIGH SCHOOL TEACHER. Rank these five in order of importance, by filling the "a" bubble on the appropriate line of the scantron for the most important, "b" for the second most important, then "c", "d" and "e" in descending order. Leave all other rows in this group blank on the scantron.

33.   Empathetic
34.   Approachable
35.   Enthusiastic
36.   Gets to know students as individuals
37.   Humorous
38.   Relates to students
39.   Intelligent
40.   Knowledgeable
41.   Encouraging and supportive
42.   Challenging
43.   Available outside the classroom
44.   Fair
45.   Provides and requests feedback
46.   Organized
47.   Concerned whether students understand the material
48.   Shows respect for students
49.   Maintains discipline in the classroom
50.   Uses methods that require us to use critical thinking skills

51-68. From the list below, choose the FIVE most important characteristics of an outstanding COLLEGE PROFESSOR. Rank these five in order of importance, by filling the "a" bubble on the appropriate line of the scantron for the most important, "b" for the second most important, then "c", "d" and "e" in descending order. Leave all other rows in this group blank on the scantron.

51.   Empathetic
52.   Approachable
53.   Enthusiastic
54.   Gets to know students as individuals
55.   Humorous
56.   Relates to students
57.   Intelligent
58.   Knowledgeable
59.   Encouraging and supportive
60.   Challenging
61.   Available outside the classroom
62.   Fair
63.   Provides and requests feedback

64.   Organized
65.   Concerned whether students understand the material
66.   Shows respect for students
67.   Maintains discipline in the classroom
68.   Uses methods that require us to use critical thinking skills

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Assessment of Student Learning about Native American Cultures in a Team Coordinated Interdisciplinary Freshmen Course

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Abstract: The purpose of this project was to examine whether students in three sections of a team coordinated interdisciplinary course received the same educational experience. An essay covering three aspects of Native American history was evaluated for content and critical thinking. Significant differences were seen between classes in describing cultural differences that lead to conflict between Native Americans and Euro American settlers. Additionally, regardless of instructor approach, many students tended to maintain common stereotypical views of Native American cultures.

I.   Introduction.

In 1993, Portland State University revised its undergraduate requirements to reflect a more integrated and holistic approach to general education. Central to this new University Studies Program (UNST) is a yearlong interdisciplinary course or theme that students complete in their freshmen year. Themes are team-developed by three to five professors from diverse disciplines who together create common process and content-based learning objectives. Though the content varies between themes, each theme teaches to the four overarching goals of the UNST program: written and oral communication, the variety of human experience, ethics and social responsibility, and inquiry and critical thinking. Students that complete a full year of this freshmen course receive credit for having taken a science, social science and English course.

Faculty models for theme development and delivery range across a continuum (Davis, 1995) from a traditional approach to a more open format. The traditional model of team teaching is "a type of instructional organization, involving teaching personnel and the students assigned to them, in which two or more teachers are given responsibility, working together, for all or a significant part of the instruction of the same group of students" (Shaplin and Olds, 1964). In these courses, team members develop a common syllabus and use the same course activities and assignments. Each team member presents a portion of the curriculum in each class. Among the benefits of this format are that students experience different perspectives because all faculty are involved in curriculum development and presentation.

The authors of this paper are instructors in the Columbia River Basin (CRB) theme. Our theme development model is best described as a "collaborative model using team coordination" (McDaniel and Colarulli, 1997, p.21) because, though we teach to common content learning objectives, team members do not share a common syllabus or present in each other's courses more than one or two days per term. In order to provide cohesion between CRB classes, we meet bi-monthly to exchange ideas and share readings and classroom activities. As a result, we often use similar activities, but with different classroom approaches. Table 1 provides background information for each CRB instructor and Table 2 compares pedagogic approaches to teaching about Native American (NA) cultures. As seen in Table 2, all three faculty employ classroom

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discussion, but use different methods to engage students. This is also true for the major assignments.

The benefit to this model is that the CRB theme attracts faculty who can be discouraged by the restrictions of the traditional model (Shaplin and Olds, 1964), because it can "maintain more faculty autonomy, afford more individual pedagogical styles and require less interaction with faculty colleagues" (McDaniel and Colarulli, 1997). McDaniel and Colarulli also point out that this model can lead "to less curricular integration for students" (p. 21). However, in all UNST themes instructors are assigned the same cohort of students for a full year. Therefore students benefit by having a consistent faculty presence throughout the year who can draw connections between the many topics covered. Nevertheless, because we do each use somewhat different teaching strategies, a question that periodically arises is whether students' learning experiences are consistent between our classes.

We were particularly curious about how the students construct meaning in light of Perry's (1970) model of cognitive development. Though Perry provides a more expansive continuum of his cognitive model, his work is often classified into the three broad categories of dualism, multiplicity and relativism (Battaglini and Schenkat, 1987). While dualists see the world in terms of either/ors, right or wrong, good or bad, multiplists acknowledge the existence of multiple perspectives, but are reluctant or unable to give weight to one over the other. Students categorized as relativists "can internalize multiple points of view, reflect on them, and construct them into one's own theory about oneself and one's experience" (Haynes, 2002). Certainly in our approach we did not want to see student writing reflecting superficial knowledge and the illusion of learning.

Curiosity prompted us to design a post assessment that examined student understanding of Native American history in the Columbia River Basin across the theme. We chose Native American (NA) history for a number of reasons. First, NAs in the CRB continue to struggle for treaty, gaming and education rights, so understanding the foundation of these issues is imperative. Second, we each use NA history and culture to address the UNST goal of encouraging students to "appreciate the diversity of the human experience." Third on an anecdotal basis, we also have seen a tendency for entering students to see pre-contact NA cultures as somewhat homogenous. This societal stereotype of a common NA culture is one that has persisted over time (Hischfelder, 1982). The paper explores the results of our assessment.

Table 1. Background Information for CRB Faculty.

Instructor	Years on CRB Team	Discipline	Gender
1	3	Ethnic Studies	Male
2	7	Literature and Rhetoric	Male
3	8	Environmental Science	Female

II. Methods.

A. Assessment Instrument.

The assessment was administered at the start of the Spring 2004 term, because by this time much of the NA curriculum had been completed in all three classes. The CRB learning objectives directed towards NAs are:

1. Describe Native American lifestyle and history prior to contact with Europeans in the region;
2. Analyze the complex interactions between Native Americans and non-Native peoples in the region after contact (circa 1775).

Table 2. Instructor's Pedagogic Approaches.

Activities	Instructor 1	Instructor 2	Instructor 3
Readings	Richard White's <u>The Organic Machine</u>; Robert Clark's <u>River of the West</u>; plus readings from texts about other cultures	Robert Clark's <u>River of the West</u>	Robert Clark's <u>River of the West</u>; Course Reader: including readings by Vine Delorea and Alexi Sherman
Major Assignments	Group Project: Investigation of student selected NA cultural unit pre-contact; 10-15 minute presentation to class in a multimedia format. Individual: Two-page reflective essay on student experience with the group project	Group Project: Investigation of student selected NA cultural unit pre-contact; 20 minute presentation to class	Group Project: Investigation of student selected NA cultural unit pre-contact; 20 minute presentation to class and annotated bibliography of sources Individual: 10 page term paper on current NA issue
Classroom Activities	Student-led discussion on the readings where students pose key questions. Smaller groups discuss the readings then share insights and critical analyses among the larger group. Instructor contextualizes and summarizes the discussion.	Class discussion of readings	15-20 minute presentation by instructor and/or TA of content material followed by small group and then class discussion of readings
Outside Activities	Students encouraged to attend NA cultural activities or special events on campus for extra credit.	Students were encouraged to attend NA cultural activities or special events on campus.	Students encouraged to attend NA cultural activities or special events on campus. Visited campus NA cultural center.

Students were asked to respond to the following open-ended questions:

Q1: Describe the cultural and environmental lifestyles of a Native American Tribe or Nation living in the Columbia River Basin prior to contact. You do not have to name a specific tribe, but you might want to indicate if it is a river, coastal or plains culture.

Q2: How did the differences between Native American and Euro-American (EA) cultures lead to conflict after contact? (Select two differences to discuss)

Q3: What outcomes do we see as a result of these conflicts?

Students were also asked to indicate, "What activity was most pertinent to your learning about Native American cultures in this class?" and "Are there other activities or information that

would be helpful to your learning in this area? Please explain." In addition, we collected demographic information on age, major, gender and ethnic background. The assessment was given in a computer lab so that, if students chose to type their answers, computers would be available. The goal was for each student to have 50 minutes with which to answer the questions.

B. Scoring Assessment Questions

Two scoring rubrics were created for each question, one that examined content understanding (CON) and the other critical thinking (CT). We used Perry's categories of cognitive development, in part, to guide the scoring for Critical Thinking. Content rubrics scored students ability to provide two specific pertinent examples. Each rubric was based on a 5-point scale and we had six rubric categories: Q1_CON, Q1_CT, Q2_CON, Q2_CT, Q3_CON, Q3_CT. An example rubric for Question 2 is seen in Figure 1.

Figure 1. Content and critical thinking scoring rubrics for Question Two.

Q2_CON: Content

1	2	3	4	5
Provides no clear differences between groups and/or does not provide appropriate background information	Vague or inappropriate or inaccurate to more specific ➜			Selects two or more appropriate differences for discussion; provides appropriate background information

Q2_CT: Critical Thinking

1	2	3	4	5
Provides no explanation of differences between groups	Vague or contains generalities ➜ Dualistic ➜ Multiplistic➜Relativistic			Uses specific criteria to explain differences without generalities

We chose not to categorize 2 as dualistic or 3 as multiplistic, because students might show both in an answer. The 1-5 point scale acted as a guide. Figure 2 shows examples of student responses to Question Two and their scores to for Critical Thinking and Content.

Sometimes it was challenging to place a numerical value on an answer. The response that received a 4 in Table Two is not too different from the 5, but what we observed was that as the scores decrease, student answers progressed from acknowledging a difference in the value each group placed on natural resources as a reason for conflict to ascribing characteristics of forcefulness and of being overbearing as the motivation for EA's actions.

C. Inter-rater Reliability.

To avoid bias in scoring, three people independently scored each student's paper. Scorers included Instructors Two and Three and an independent consultant. We calibrated the rubrics by scoring a subset of 10 papers, discussing the rubric's effectiveness and fine-tuning our scale.

When scoring the post assessments, if there was a difference between scorers of more than two points, we discussed the differences and came to an agreement that would bring the scores into alignment. After all three scorers independently scored the post assessments we averaged the three scores after determining there was no significant difference between scorers.

Figure 2. Student work Samples for Question.

Content and Critical Thinking = 5
The Native Americans of the CRB viewed the land as their home, their way of life, and something they could not live without. They saw it as a part of them. EAs, on the other hand, saw the land as a gold mine, so to speak. They saw the land for its natural resources and how those resources could bring wealth. This inherently lead to conflict with the Native and EAs. In order for the EAs to profit from the land, they needed to relinquish it from the Native Americans. But the Native Americans did not always want to sell. Then at times the land was taken by force from them. To my knowledge, most, if not all, wars between the Native and EAs were over land. Unfortunately, the EAs won most of the time and plundered the land once sacred to the Native Americans.

Content and Critical Thinking = 4
The Native Americans shared the land and they lived off the land that was provided. This included some sacred land, and land in which they would get their food. These aspects were really important to these people. The EAs thought the land belonged to them. They were allowed to claim this land because no one had claimed it prior. This was an obvious misconception and caused many battles over this territory. The land was used by the settlers and they scared away a lot of the food that some of the natives would hunt. This not only caused a shortage of food for the natives but didn't allow them to roam free any longer. They had lost all of their land to people they had trusted and even today only have a small section to claim as their own.

Content and Critical Thinking = 3
Because the differences of lifestyles that began to collide and force to interact caused an extreme amount of hostility and dislike for each other. The EAs lived a more Eurolistic civilized life, meaning that they staked a claim to the property and lived on it all seasons. They also settled the land by farming and cultivating the property. The EAs also sought out the land as a form of profit or revenue by mining, timber producing and etc. So when EAs moved westward and onto the frontier they took claims to the land that belonged to certain villages and tribes. In doing so, it drove the Native Americans to remote regions and it caused a great deal of negativity toward the EAs. Eventually the Euro movement caused enough frustration and negativity that it brought them to war against the EAs.

Content and Critical Thinking = 2
The white man came in to the CRB and just started to take over. They had no respect for the Natives and what they were doing. Whites saw this area as their land and nothing else. The Natives saw it as their land and used it to the best of their ability not to harm it. When the Natives saw how disrespectful the whites were being they got mad. But the whites being the overbearing people that they were didn't see that and just kept abusing the land the people that were there before them.

Content and Critical Thinking = 1
When the EAs came over they believed that they were the first to settle this "new" land, but in fact the Native Americans were first there. This caused major territory problems, and the EAs had a lot better access to weapons and technology which lead them trying to take over and forcing some Native Americans in to slavery.

D. Coding.

Together we created categories to code for common content and critical thinking themes. For example, a common theme in Question One that affected critical thinking scores was that pre-contact NAs had a simple peaceful existence. We also coded demographic information and student responses to questions about class activities.

E. Potential Biases and Confounding Factors.

Due to unforeseen circumstances, Instructor Three's class was allotted only 30 minutes to complete the assessment. The following class period, students were given an extra 20 minutes to make any additional comments. Seven students chose to write more. Also, to motivate students to take the assessment seriously, Instructors One and Three attached a point value to the assessment, 3% and 3.5% respectively of the students' overall course grade. All students who completed the assessment received full credit. Instructor Two assigned no point value to the assessment. Instructor One's background in ethnic studies could positively skew data for his class. Additionally, Instructor Three's teaching assistant was a third year Native American Studies Major.

III. Results.

A. Demographics.

Across the CRB theme, 31 women and 43 men (n=74) completed the assessment. The gender make-up of each class can be seen in Table 3. Ages ranged from 18 to 38. The average age was 20, with the majority (52) being traditional first year students aged 18 and 19. Sixty-one students self identified as Caucasian, nine as Asian and one each as Native American, Latino and Hispanic. No student identified him or herself as African American. There were nine "English as a Second Language" (ESL) students, including international students and first generation immigrants. ESL students were evenly distributed between classes.

Table 3. Gender by CRB Course.

Instructor	Females	Males	Total (n)
1	9	17	26
2	11	15	26
3	11	11	22
Total	31	43	74

B. Between class comparisons.

Our original goal for undertaking this project was to determine whether students had the same learning experience in each class. We did not perform a pretest, so we do not know what students knew about this topic before the class, however, we can examine what information they took away.

We began by comparing the six individual content and critical thinking scores between classes using a one-way. We also performed a Kruskal-Wallis test on the grouped content scores

for all three questions, the critical thinking scores for all three questions, and the grouped scores for all six rubric scores. We found a significant difference between the three classes on Q2_CT (p=0.042). Otherwise there was no significant difference between classes. We grouped the data from all three classes to look for trends and influencing factors across the CRB theme. We found that overall, students scored higher on Q2 (p=0.051) than on Q1 and Q3. There were no differences between the grouped content questions and grouped critical thinking scores. Age had no significant influence on students' scores, but gender did. Women tended to score higher than men on content Q1_CON (p=0.040), Q2_CON (p=0.035) and Q2_CT (p=0.054, Mann-Whitney).

C. Question One Content and Critical Thinking Analysis.

The most common content topic for all three classes related to natural resource usage. All classes showed an understanding of the interconnectedness between tribal survival and their appropriate management of available resources. Interestingly, there were differences though in how each class used this topic to contextualize various aspects of NA life. Instructor One's class often connected this topic to concepts of tribal mobility and the communal nature of land usage. Plateau tribes living in areas of scarcer or seasonal resources tended to be more "purposefully" nomadic, while those living closer to the lower Columbia River where resources were more stable tended to have stationary homes. Instructor Two's class connected natural resource usage to fishing technology and Instructor Three's class to tribal and family structure. Student answers to this question were also often shaped by their independent research projects. A common theme between classes was the sacred nature of both land and salmon to NAs. Forty-three of the 79 responses contained references to salmon, including salmon's connection to tribal survival, ritual, religion, story telling, myth and structure. Respect for the environment was mentioned in 55 of the 74 responses.

In terms of critical thinking, twenty-two of the 74 responses alluded to the cultures of pre-contact NAs as being simple. The majority of these often contained a single sentence, such as, "Before contact with outside cultures, Native Americans led simple and productive lives" (Student 46), followed by a detailed and correct description of a complex cultural process such as natural resource management. These responses showed pronounced dualistic thinking. A few responses, though, like the one below showed an obvious misunderstanding of NA cultures.

> Before the Euro Americans settled in North America the Native Americans had a wonderful life, living off the land and keeping in touch with nature and the wildlife. They were always good to the land, their culture and made sure to give thanks to the animal gods. Not to mention no real territorial problems have ever been recorded before the movement of the white man. They were all sentimental people who just had a great love for their tribes and their land. (Student 19)

The assumption of simplicity was the most common stereotype, but a few others were seen: NAs worshipped salmon or were primitive or uncivilized compared to EAs. For our paper, we chose the Jussim et al (1989) definition of stereotype that "stereotypes constitute people's beliefs about groups – beliefs that may be positive or negative, accurate or inaccurate" (p. 6).

D. Question Two Content and Critical Thinking Analysis.

Differences in how NAs and EAs viewed land ownership, natural resource management and religion were the three most common content topics in Question Two. There were little content differences between classes, except that Instructor Three's class was more likely to list multiple differences as compared to the other instructors. Most students scored well on the content portion of this question.

By contrast, though, there were significant differences for critical thinking between classes on Question Two. The stereotypical views of NAs as simplistic that arose in Question One, were less evident in Question Two. However, EAs did not fair so well. In our data analysis, derivatives of the words push (pushed, pushy, pushing), force (forced, forcefulness) and greed (greedy, greediness) were the most common attributes ascribed to EAs. Though students could list and describe the issues that lead to conflict, 41 students attributed EA's motivation, in part or whole, to greed and aggressiveness. Fifteen of Instructor Two's students scored less than a three on this question. This was due to short undeveloped responses or the presence of multiple generalizations.

E. Question Three Content and Critical Thinking Analysis.

Students in all three classes scored lower on Question Three than on the first two questions. Though students could provide outcomes such as loss of tribal lands and cultural lifestyles (the two most common answers between classes), they could not expand on the implications for the tribes today. Again, Instructor Three's class provided more outcomes than the other instructors, but all students' explanations were limited. Content differences between the classes were that, in addition to the outcomes listed above, Instructor One's students listed reduced numbers of NAs, Instructor Two's listed treaty issues and Instructor Three's listed resentment between NAs and EAs.

The primary critical thinking issue that arose from Question Three was a tendency by the students to see the problems of NAs as in the past: skirmishes with Calvary and settlers, signing treaties, going to reservations, death from communicable diseases, loss of tribal hunting and gathering grounds. These are problems that do have implications for today, but these implications were not reflected in the student's responses. Though students could list outcomes of cultural conflicts, their explanations did not show confidence in their understanding of these issues. For example, the two most common answers were "loss of culture" and "loss of land." These were indeed direct outcomes, but most students did expand on what this means to NAs in the context of their current lifestyle. There was, also, a tendency in many papers to see outcomes as past events.

F. Other Analyses.

Because salmon figured so prominently in the answer to Question One (pre-contact), we coded the answers to Question Three (post contact) for how the subject of salmon was incorporated into their answers. Only nine students mentioned salmon, most frequently in connection to resource management issues (5) and treaty conflicts (3).

There were no significant differences between classes, gender, age, or ESL status in terms of who would be more likely to have generalities about NA or EA in their papers.

G. Student Feedback.

A review of student comments on activities were most pertinent to their learning showed that Instructor One's and Two's students overwhelmingly chose projects, where they worked in groups to investigate a tribe and presented the information to the class. Instructor Three's students were almost evenly split (7/5) between writing assignments and class discussions as most pertinent. Interestingly, answers to the follow-up question about why the activity was pertinent were similar for students whether they chose group projects or writing. Students reasoning included: enjoying independent research, selecting their own topic of personal interest to research, "digging deeper" into aspects of NA cultures, discovering and learning a range of information, learning from each other while sharing the work and being actively involved in scholarship. The primary difference students gave for why group projects and writing were pertinent was that group projects allowed students to work collaboratively with their peers, while writing papers was an individual effort.

Across the classes, answers to what activities would improve their learning were similar. The most often suggested activities were guest speakers (19), followed by field trips (11), movies and documentaries (8), books and more readings (6), individual projects (3), mentor session (2), more time (2), discussion (2) and getting involved in NA activities (2).

IV.   Discussion.

As we scored and coded the responses, themes began to emerge. Over the years, we had seen a tendency for entering students to share a common EA stereotype of NA cultural homogeneity prior to contact (Hischfelder, 1982) and during the 2004 term, we sought to explicitly reduce this stereotype through independent research projects. Students were responsible for sharing their research findings about different cultural groups with the class, thereby exposing all students to the diversity of Columbia Basin cultures. Through their responses to Question One, we felt that the students made gains in this area. However, we were surprised to see other stereotypes emerge, most notably the tendency to see NA cultures as simple and peaceful. Unfortunately, we do not know whether these were preconceptions students brought with them to class or if they were value judgments formed as a result of their independent research. The stereotype of NA cultural simplicity is a common theme throughout EA history that Hundorf (2001) describes as the postmodern individual's desire to seek a less complicated existence. Perhaps, in the midst of finals and end of term papers, NA life did seem simpler to some students. Compared to the two responses referring to NA's as uncivilized, the stereotype of simplicity and peacefulness were not seen as negative attributes by the students.

We do know, though, that in the students' more formal research assignments, we did not see these particular generalizations. This may be due to differences in how the formal assignments and the assessment were conducted. The formal assignments gave students more time to revise and reflect on what they wanted to communicate. In the timed exercise, students may have fallen back on stereotypes to expedite the explanation of what happened between the two groups. This may also be an example of what Wegner (1994) suggests as a rebound effect. Macrae et al (1994) demonstrated that when asked to suppress stereotypes students could do so. However, when this restriction was removed, stereotypes emerge, even to a greater extent than those who were not asked in prior writings to suppress their stereotypes.

The image of the NAs changed in Question Two from simple and peaceful to the victims of EA greed and pushiness. In terms of content, students scored highest on this question. This was not surprising, as we each focus a lot of time on the period of contact and students may have had prior exposure to this information in high school. But, while their responses accurately reflected differences in land ownership and natural resource management, students tended to categorize EA's motivations rather negatively. There was little discussion of the EA cultural and historical events that lead up to western settlement. This indicates that we need to revise how we teach the Critical Thinking aspect of this content area.

The three classes also scored significantly different on Question Two Critical Thinking. Instructor Two, who had a lower score, replaced a term paper on post contact NA culture with a paper on Women of the West. Additionally, Instructor Three, who scored higher, had several class discussions related to EA motivations for expansion. Instructor Three's class had few generalizations about EAs. Instructor Two, also, did not attach any point value to the assessment and this may have influenced the outcome on this question. It is interesting to note that many students' families have lived in Oregon for generations. Most speak of this with pride and do not see their own great grand parents as greedy or pushy. This is perhaps another example of dualistic thinking.

By the time students reached Question Three, overt stereotypes began to disappear. NAs were on reservations, the rivers were polluted and the salmon were gone. Student answers to Question Three were short with much less detail than their answers to Questions One and Two. This was the last question and students may have been tired, but most finished before the allotted 50 minutes. The quality of student responses probably reflects a weakness in the curriculum of all three classes. Interestingly, though all three of us use treaty rights and salmon fishing to contextualize current issues, only 11 students' papers touched on these topics. As stated previously, we coded for salmon in the first and last question. Salmon was mentioned 43 times in response to Question One but only nine in Question Three. In general, we attempted to bring these issues into the present, but our students didn't make that jump with us. Implicit in many students answers was the feeling that the outcomes of the conflict between these two groups was in the past, another common misconception (Huhndorf, 2001).

We were interested in the degree to which the students' "internalized multiple points of view and arrived at knowledge as relative to and constructed within a context" (Hayes, 2002). We had hoped the students would avoid excessive generalizations and dualistic thinking, and yet across all CRB classes there were tendencies for students to make generalizations about both EAs and NAs. Students scored lower on the critical thinking aspects of all three questions. Even though each faculty attempted to dispel stereotypical perspectives of NAs and EAs, many students either maintained these attitudes or incorporated them into their new understandings in a dualistic manner, i.e. yes, NAs had elaborate cultural structures regarding fishing, but their lives were simple. One cannot attribute this to the student's age, because there was no corresponding decrease in stereotyping with increasing age. This may indicate a more pervasive societal perspective of NAs.

But, the body of research shows that breaking stereotypes can be challenging (Schneider, 2004). One instructor experienced this first hand. He commented,

> What disturbs me is that even after a year of taking my class, three students used
> stereotypes to characterized Native Americans as "simple" and "peaceful." Two
> of the students were on a group whose presentation on the Chinook included
> generalizations and errors that I had corrected in emails to them after their

presentation, however, one of the students tried to defend the error by pointing out that the information was on a "website" about the Chinook. This experience suggests that I need to confront errors and stereotypes directly.

So, how do we make progress in this area? As a team we need to better understand the preconceptions and stereotypes of NAs that students bring to class and then present evidence that contest and challenge their preconceptions and stereotypes. Constructivist research shows that when instructors do not uncover students' preconceived ideas about a subject and discuss them openly, that even the best curriculum many not dispel these notions from the students' minds (National Research Council, 2000). Students will simply place the new information in context of their prior beliefs. In our case, many students could explain the complexities of NA of life, but still saw their particular lifestyle as simple or idealistic.

We must show how such preconceptions and stereotypes lead to unfair and unequal treatment of NAs. Hewstone (1989) explores the role of disconfirming information in changing stereotypes, where a "new instance of stereotype-discrepant information modifies the existing stereotype" (p. 208). Based on an extensive literature review, he suggests that successfully using this technique be "(1) linked to typical outgroup exemplars; (2) presented to highly motivated perceivers; and (3) provided under conditions that do not induce intergroup anxiety" (p. 220). This technique has the potential for success, in that the students themselves suggested more visual, hands-on activities like speakers, movies and field trips, thus showing a willingness and interest to learn more. Additionally, in a student-centered classroom, students may feel more at ease about hearing "disconfirming information."

NA speakers and visits to reservations and other NA spaces are effective ways of changing how students see and understand NA. In short, we continue to educate our students about NAs in ways that respect their complexity, diversity and humanity. But, we must also extend these educational practices to EA history, as students held an equal number of negative perspectives about EAs. It is difficult to read early American history and not come away with some anger towards the injustices inflicted on NAs. The assessment indicates a need to incorporate into the curriculum, as early as possible, a means of soliciting and discussing these ideas. In a practical sense, we found that class discussion over the assigned readings did not go far enough in breaking down stereotypes. We need to provide a structured framework to help students to contextualize the readings. These included giving students questions prior to reading, assigning summary statements, and exploring more deeply the significant difference between NA and EA values toward land and life style.

Also, as a result of this project, another interesting trend appeared. In our study, gender appeared to be intervening factor on several content rubric scores. Clinchy (1989) uses the term "connected knowing" to describe an observed phenomenon related to women's ways of knowing. Women are more likely to listen and think about others perspectives and compare and contrast them to their own thoughts before voicing their own ideas. It could be that the student centered pedagogic approaches used in the CRB theme of class discussions and group work connect more with a woman's way of knowing. Feedback on what students enjoyed about the classes did indicate that class discussions and working with other students was pedagogically important to them.

We found that independent research played a key role in all courses, whether instructors assigned it as an individual or group project. When responding to the question of why the assignment was pertinent to their learning, terms like "in-depth" and "delve deeper" appeared repeatedly in students' answers. While other researchers (Ruwe and Leve, 2001) have found that

students disconnect in team-developed courses, we found that our students felt more connected to the course content and goals when offered the opportunity to explore a self-selected topic of interest about a particular NA group.

Our original goal in undertaking this project was to determine whether our students were receiving the same learning experience within our three CRB classes. Our collaborative model of using team coordination for course development and delivery differs from the traditional model of team teaching. We found that unlike one study's claim that team teaching rarely finds a middle ground (Bartlett, 2002), our experience revealed that our classes might be more alike than even we anticipated. We learned through this process that though students may learn different content, they still leave the course with similar understandings. Indeed, our classes may have found too much middle ground, based on the persistence of stereotyping in all three of our classes. We were, however, successful in dispelling the myth of a homogenous culture in the Columbia Basin prior to contact. Overall, the assessment was invaluable to the improvement of our course designs and we encourage all faculty in team taught or collaboratively developed courses to undertake similar assessments.

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The Effects of Institutional Classification and Gender on Faculty Inclusion of Syllabus Components

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Abstract: The purpose of this research was to explore the effects that gender and institutional classification have on the inclusion of syllabus components. Course syllabi (N = 350) written by men and women from seven types of institutions, based on Carnegie classification, were sampled and evaluated for the presence of 26 syllabus components. The gender data clearly indicated that there were no gender effects by individual syllabus component and only one gender effect by syllabus component category; that is, females included more policy information than males. In addition, while there were institutional classification effects, there were no clear patterns of effect.

Key Words: Syllabus, Higher Education, Professor Information, Course Information, Grading Information, Policy Information, Institutional Classification, Gender.

I. Introduction.

Little doubt surrounds the importance of the syllabus in higher education; however, defining what a syllabus is, what it should do, and how it should be used is less clear. Due to its multiplicity, the syllabus flip-flops between uniformity and inconsistency to serve its various purposes and audiences. While research is emerging on the components faculty members include in their syllabi, little research has focused on how institutional classification and gender may influence faculty member's inclusion of particular syllabus components.

A. Purposes of a Syllabus.

Typically, the syllabus serves three purposes: a contract, a permanent record, and a resource for student learning (Parkes and Harris, 2002). As a contract, the syllabus outlines the responsibilities of both students and teachers (Eberly, Newton, and Wiggins, 2001; Singham, 2005). By enrolling in the course, students are agreeing to the rules set forth in the syllabus. The contractual nature of the syllabus allows students to decide if they want to remain in the course, plan their time, and review their progress based on the guidelines set forth in the syllabus (Parkes and Harris, 2002). Consequently, the syllabus "contract" explains how the teacher will behave, mainly in regard to policies (e.g., grading, attendance, late work). Communicating policies in the syllabus will help faculty members resolve grievances, further enhancing its contractual appeal. Student informal complaints concerning policies that are clearly stated in the syllabus can be easily settled, while formal grievances or legal appeals can also be affected by policy inclusion in

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the syllabus since syllabi can be used as evidence in these cases (Eberly et al., 2001; Parkes and Harris, 2002).

Likewise, the syllabus's second role – that of permanent record – protects the instructor should issues surrounding accountability and evaluation arise (Hanabek 2005). As a permanent record, however, the syllabus affects faculty, universities, and students. At the faculty level, the syllabus documents the instructor's policies and assessment methods. During promotion and tenure reviews, syllabi may be examined as evidence of the instructor's teaching quality (Parkes, Fix, and Harris, 2003). For the purposes of accreditation, this permanent record becomes important as it allows reviewers to examine a course's setup and function within the college or university's curriculum (Slattery and Carlson, 2005). For students, the syllabus notes the material covered in the course as well as the level at which it was covered. This information can affect transfer credits for students who are transferring from their current institution to another, or trying to substitute a course for one they have not taken (Parkes and Harris, 2002; Parkes et al., 2003; Eberly et al., 2001).

Supplementing its contractual and record serving purposes, the syllabus creates a resource for student learning. An effective syllabus may aid students in becoming self-regulated learners (Parkes and Harris, 2002), can model the professor's "enthusiasm for the course content and convey a positive invitation to the student to explore learning in the discipline" (Habanek, 2005, p. 63). As a resource for learning, the syllabus should be student-centered (Parkes and Harris, 2002; Habanek, 2005), focusing on enhancing student learning, preparing students for the class, and providing context for the subject matter (Parkes and Harris, 2002). However, in addition to being a resource for students, the syllabus is essentially a teaching and organizational tool (Becker and Calhoon, 1999; Smith and Razzouk, 1993; Eberly et al., 2001). In this regard, the syllabus can be used for course and teacher evaluations (Madson, Melchert, and Whipp, 2004), which serves both the resource and permanent record roles.

In addition to its roles as a contract, permanent record, and resource for student learning, the syllabus also functions as a communication device between the teacher and students (Garavalia, Hummel, Wiley, and Huitt, 1999); that is, as an "initial communication tool" that serves administrative, course development, and interpersonal purposes (Eberly et al., 2001, p. 56). The administrative purposes of the syllabus may include documentation in cases of grievance, documentation for accreditation, and course content for transfer requests (Habanek, 2005; Stingham, 2005); while the course development purposes may include curriculum evaluation and development, faculty initiation and professional development, and course structure and design (Parkes and Harris, 2002); and the interpersonal purposes may include the establishment of the affective tone of the course, demonstration of the professor's communication style, and explanation of the professor's expectations (Habanek, 2005; Thompson, 2007).

A syllabus that is a contract, permanent record and resource for student learning, while also serving administrative, course development, and interpersonal purposes would be considered a comprehensive syllabus (Eberly et al., 2001). The rationale for a comprehensive syllabus is that "syllabi need to be as accurate and specific as possible in order to reduce ambiguity and the idiosyncratic interpretation of course requirements and expectations" (Madson et al., 2004, p. 551). The danger in producing such a detailed document, however, lies in the students' ability to recall and comprehend syllabi information. Smith and Razzouk (1993) found that undergraduate students had difficulty recalling information from their syllabi. They recommend distributing a concise syllabus for the first class and then giving more specific

information at later points in the semester. Smith and Razzouk also note the importance of regularly reviewing the syllabus with students to increase comprehension and retention.

B. *Syllabus Design Research.*

The creation of syllabi is ubiquitous in higher education, yet most professors are not trained to create them (Albers, 2003, Cardozo, 2006) and most publications and manuscripts regarding syllabus design are prescriptive (see Gifford, 2003; Grunert, 1997; Slattery and Carlson, 2005). According to Cardozo (2006), "syllabus construction itself remains a significantly undertheorized professional activity….Although we collectively specialize in a mind-boggling variety of…subjects, we lack sufficient theories of the syllabus" (p. 412). There is, however, a meaningful thread of research constructed over the past two decades that has examined the constitution of syllabi. Specifically, syllabus design research has generally addressed three themes, (a) what components do faculty include within their syllabi, (b) how do faculty and students perceive the syllabus, and (c) how do syllabi function within specific content areas.

Syllabus components. The research that has focused on syllabus components (see Doolittle and Siudzinski, in press; Eberly et al., 2001; Meuschke, Gribbons, and Dixon, 2002; Parkes et al., 2003) has generally found that while syllabi contain large amounts of information, they also lack key information. Specifically, the syllabus design research has found that the majority of syllabi contain significant instructor information (e.g., instructor name, office location, phone number, and email address), course information (e.g., course name and number, course objectives, required texts, and course topics and calendar), and grading information (e.g., grading policy and grading scale). However, one area of contention is policy information. Parkes, Fix, and Harris (2003) and Doolittle and Siudzinski (in press) examined syllabi from four-year colleges and universities and found that less than half of the syllabi contained an attendance policy and only approximately 20 percent contained late work, make-up work, and academic honesty policies. Meuschke et al. (2002), however, examined syllabi from community colleges and found that 85 percent of the syllabi contained an attendance policy and over 70 percent contained late work, make-up work, and academic honesty policies. Are there differences in syllabus component inclusion based on the type of classification of the educational institution (e.g., four-year colleges versus community colleges)?

Syllabus perceptions. The syllabus perceptions research has focused on the significance that the syllabus has for students. Garavalia et al. (1999) asked students to rate the importance of various syllabus components. The most important syllabus components, according to these students, included assignment information (e.g., assignment names, descriptions, and due dates), grading information (e.g., grading policy and scale), attendance information (e.g., attendance policy, allowable absences, and excessive absence policy), and instructor contact information (e.g., instructor office hours and office phone). Similarly, Becker and Calhoon (1999) asked students to indicate to which syllabus components they most paid attention. These students paid most attention to assignment information (e.g., exam, quiz, and assignment types, number, and due dates), grading information (e.g., grading policy), attendance information (e.g., participant requirements), and required work information (e.g., required readings and work). While Garavalia et al. (1999) and Becker and Calhoon (1999) focused on what students' value, Smith and Razzouk (1993) examined what students remembered from the syllabus. Smith and Razzouk found that 80 percent of students remembered course information (e.g., course name, number, credits, and textbook), assignment information (e.g., number of exams and term project), and

instructor information (e.g., instructor name). These three studies all support the idea that the syllabus information that is most valuable to students is assignment, grading, and attendance information.

   Syllabus functionality. The research focusing on syllabus components and syllabus perceptions tends to view syllabi without distinction. The syllabus functionality research, however, views syllabi within specific contexts (e.g., content areas) or for specific purposes (e.g., technology use). For example, in order to facilitate librarians' ability to meet course demands, Rambler (1982), Bean and Klekowski (1993), and Dewald (2003) examined a wide array of syllabi to determine the amount and type of library use these courses would require. They concluded from their syllabi studies that (a) library resources are underused; (b) libraries resources most used are texts; and (c) library resources are most used for the completion of research papers, reports, and projects. In addition, Hrucaj (2006) and Madson et al. (2004) conducted syllabus content analyses for specific purposes, to determine how these courses utilized assessment techniques and computer technology, respectively. Hrucaj (2006), examining syllabi from library skills courses, concluded that the courses used projects and exams as the main source of student evaluation; while Madson et al. (2004) concluded that syllabi from a teacher education program did not often reference the use of technology skills within the course.

   This previous research into syllabus design – syllabus inclusion, syllabus perception, and syllabus function – has demonstrated significant and interesting variability within the construction and use of syllabi. Within this research, however, the effects of institutional type and gender have not been examined (see Doolittle and Siudzinski, in press; Meuschke et al, 2002; Parkes, Fix, and Harris, 2003; Thompson, 2007). That is, does an institution's Carnegie Classification affect faculty member's inclusion of various syllabus components?; and, do males and females differ in their inclusion of various components?

II. Method.

A. Sampling.

   Course syllabi (N = 350) were sampled via the Internet using a non-probability – purposive and quota – sampling process. The syllabi were chosen purposively such that 50 syllabi were selected for each of seven Carnegie classifications for undergraduate higher education institutions (see Table 1). These seven institutional classifications were selected to obtain a varied sample of syllabi from undergraduate institutions; specifically, syllabi from community college courses (Assoc), syllabi from institutions that focus on arts and sciences (A&S-F), syllabi from institutions that focus on professional fields (Prof-F), and syllabi from institutions that focus on a balance between arts and sciences and the professions (Bal). The final three institutional foci – A&S, Prof-F, and Bal – where further subdivided into institutions that offer no graduate degrees (No Graduate Coexistence; NGC) and institutions that offer extensive graduate degrees (High Graduate Coexistence; HGC). In addition to selecting the syllabi purposively, the syllabi were also non-purposively distributed across gender such that males wrote 237 of the syllabi and females wrote 113 of the syllabi.

   The syllabi were obtained using the Google™ search engine where searches involved using the Advanced Search feature. The advanced search took the form of searching for the word *syllabus* while restricting the search to the specific URL domain (e.g., www.aacc.edu) of a specific institution within a specific institutional classification. The institution names and

Table 1. *Carnegie Classifications of Higher Education Institutions.*

Assoc: Associate	According to the degree data, these institutions awarded associate's degrees but no bachelor's degrees.

AandS-F/NGC
    Arts and sciences focus,
        no graduate coexistence
	According to the degree data, at least 80 percent of bachelor's degree majors were in the arts and sciences, and no graduate degrees were awarded in fields corresponding to undergraduate majors.

AandS-F/HGC
    Arts and sciences focus,
        high graduate coexistence
	At least 80 percent of bachelor's degree majors were in the arts and sciences, and graduate degrees were observed in at least half of the fields corresponding to undergraduate majors.

Bal/NGC:
    Balanced arts and sciences/professions,
        no graduate coexistence
	According to the degree data, bachelor's degree majors were relatively balanced between arts and sciences and professional fields (41–59 percent in each), and no graduate degrees were awarded in fields corresponding to undergraduate majors.

Bal/HGC:
    Balanced arts and sciences/professions,
        high graduate coexistence
	Bachelor's degree majors were relatively balanced between arts and sciences and professional fields (41–59 percent in each), and graduate degrees were observed in at least half of the fields corresponding to undergraduate majors.

Prof-F/NGC:
    Professions focus,
        no graduate coexistence.
	According to the degree data, at least 80 percent of bachelor's degree majors were in professional fields (such as business, education, engineering, health, and social work), and no graduate degrees were awarded in fields corresponding to undergraduate majors.

Prof-F/HGC:
    Professions focus,
        high graduate coexistence.
	At least 80 percent of bachelor's degree majors were in professional fields, and graduate degrees were observed in at least half of the fields corresponding to undergraduate majors.

Note. The institutional classifications listed above, represent only a sub-set of the entire list of Carnegie Classifications of Higher Education Institutions.
Source: http://www.carnegiefoundation.org/classifications/

classifications were obtained from lists of institutions available on the Carnegie Foundation web page (http://www.carnegiefoundation.org/classifications/) that matched one of the seven specific institutional classifications aforementioned. This type of search and subsequent selection of syllabi was not random as Google utilizes a non-random algorithm to search and display results (Google, 2006). In addition, only syllabi for face-to-face classes were included. Syllabi for online courses were not included.

It should be noted that this purposive online sampling results in limitations to the generalizability of the study itself. Specifically, since the present study addresses only 7 of the 17 Carnegie Classifications, it is unclear how syllabi from institutions within the non-sampled classifications may differ from the current sample. That said the classifications were selected carefully to include well-defined classifications. In particular, the domain of institutions is divided into five general types based on the percentage of degrees awarded to Arts and Science (A&S) majors or Professions (Prof) majors: A&S focused (A&S-F); mostly A&S, but some Prof (A&S+Prof); balanced A&S and Prof (Bal); mostly Prof, but some A&S (Prof+A&S); and Prof focused (Prof-F). We selected the A&S-F, Bal, and Prof-F classifications to represent the middle and ends of the domain of institutions continuum. In addition, each of these five domain classifications is also divided into three degree classifications, based on the presence of graduate degrees coexisting with undergraduate degrees in the same major: no graduate coexistence

(NGC), some graduate coexistence (SGC), and high graduate coexistence (HGC). We selected NGC and HGC to represent the ends of the graduate coexistence continuum. Finally, the current sample involved only syllabi from face-to-face classes that were available online. We did not sample syllabi from online courses, nor did we sample syllabi not available online, including face-to-face syllabi not posted online and online syllabi protected with a content management system (e.g., WebCT, Blackboard). However, Maurino (2005) examined both print and online-based syllabi from both face-to-face and online classes and concluded, "The fact that the syllabi were presented on paper or online does not appear to affect the inclusion of major content areas of the syllabi." (p. 232). Thus, the current study should only be generalized to the syllabi available online from the classifications addressed.

C. Procedure.

Each syllabus selected was evaluated based on the 26 syllabus components reported by Doolittle and Siudzinski (in press; see Table 2). These syllabus components were divided into four broad categories: Professor Information, Course Information, Grading Information, and Policy Information. After selection, each syllabus was evaluated for the presence or absence of the 26 syllabus components using an online utility and no effort was made to evaluate the efficacy or quality of the syllabus components. The online utility prevented any syllabus from being evaluated more than once.

IV. Results.

The following results begin the process of evaluating the three research questions; specifically, (a) What syllabus components are included by faculty members within their syllabi?; (b) What differences, if any, exist in the inclusion of syllabus components across gender?; and, (c) What differences, if any, exist in the inclusion of syllabus components across different institutional classifications?

A. Syllabus Components Included on Higher Education Syllabi.

The frequency distribution of syllabus components included in the sampled syllabi is displayed in Table 2. The most frequently included syllabus components were Course Name (95.7%), Course Number (93.4%), Course Texts (89.1%), Professor Name (86.5%), and Grading Policy (80.8%). The least frequently included syllabus components were comprised almost entirely of policies, specifically, Honor Code Policy (34.8%), Late Work Policy (25.1%), Disability Policy (23.7%), Missed Work Policy (20.0%), Supplemental Readings (17.7%), and Student Support Services (4.5%).

Cochran's Q was used to further analyze the frequency data to locate any differences between category frequencies, followed by an analysis of standardized residuals as a post-hoc test to locate specific frequency variations. Since the analyses of standardized residuals does not constitute independent analyses (Siegel and Castellan, 1988), inflation of Type I error was controlled through the use of the Sidák-Bonferroni correction (Hayes, 1994; Keppel and Wickens, 2004), resulting in significance being measured at $\alpha = 0.002$ ($z = \pm 3.10$). The Cochran

Table 2. *Components Included on Higher Education Syllabi* **(N = 350)**[a]

Category	Frequency	Standardized Residual	Rank
Professor Information			
Professor Name	303	6.63[+]	4
Office Location	231	2.87	9
Office Hours	210	1.79	12
Office Phone Number	240	3.34[+]	8
Professor Email Address	248	3.75[+]	7
Course Information			
Course Name	335	8.28[+]	1
Course Number	327	7.81[+]	2
Course Description	222	2.41	10
Course Location	141	1.74	20
Course Time	173	0.10	16
Course Goals/Objectives	214	2.00	11
Course Require Texts	312	7.04[+]	3
Course Supplemental Readings	62	5.80[-]	25
Course Topics	260	4.36[+]	6
Course Calendar	209	1.74	13
Course Due Dates	156	0.97	18
Grading Information			
Grading Policy	283	5.55[+]	5
Grading Scale	162	0.66	17
Assignment Names	204	1.48	14
Assignment Descriptions	145	1.53	19
Policy Information			
Attendance Policy	194	0.97	15
Late Work Policy	88	4.47[-]	22
Missed Work Policy	70	5.40[-]	24
Honor Code Policy	122	2.72	21
Disability Policy	83	4.72[-]	23
Student Support Services	16	8.02[-]	26

[a] Cochran Q $(25,350) = 2791.16$, $p < 0.000$
[+] $p < .001$, observed frequency significantly greater than expected frequency
[-] $p < .001$, observed frequency significantly less than expected frequency

Q was statistically significant and the analysis of residuals revealed three clusters of categories. The high frequency cluster included the professor's name, office phone, and email address, as well as the course name, number, required texts, and topics, and, finally, grading policy. The low frequency cluster included course supplemental readings, late work policy, missed work policy, disabilities policy, and student support services (see Table 2). These results are in agreement with previous research (see Doolittle and Siudzinski, in press)

B. Syllabus Components and Gender.

While the course component frequencies provide an overview of the included syllabus components, two more detailed analyses were performed. The first analysis examined the inclusion of course components across gender by grouping the course components into categories, specifically, Professor Information, Course Information, Grading Information, Policy Information, and All Information, which includes all course components regardless of category.

The second analysis examined the inclusion of course components, by gender, without any groups, examining each course component individually.

Examining component categories by gender. A score was computed for each syllabus examined, for each of the four syllabus component categories (i.e., professor information, course information, grading information, policy information), based on the number of included syllabus components with each category. These data were analyzed using a 2 (Gender) x 7 (Classification) x 5 (Syllabus Component Category) MANOVA, with syllabus component inclusion as the dependent variable (see Table 3). All follow-up comparisons were analyzed using the Tukey HSD post hoc with family-wise $\alpha = 0.05$. Only the Gender x Syllabus Component Category aspect of this analysis is discussed here; the Classification x Syllabus Component Category aspect of this analysis is addressed in the next section.

The MANOVA revealed only one significant main effect for gender, Policy Information, $F(1,336) = 5.78$, $MSE = 11.39$, $p < 0.017$, and four non-significant main effects for Professor Information, Course Information, Grading Information, and Total Information. Post hoc analyses demonstrated that the main effect for Policy Information was the result of syllabi written by females ($M = 1.87$, $SD = 1.42$) containing more Policy Information than syllabi written by males ($M = 1.53$, $SD = 1.53$).

Examining individual components by gender. While the MANOVA provides a broad overview of categorized syllabus component inclusion and gender, a series of chi-square analyses were performed to determine the relationship between individual syllabus component inclusion and gender (see Table 3). One chi-square analysis was performed per syllabus component, yielding a total of 26 analyses. In order to establish a familywise $\alpha = 0.05$, the Sidák-Bonferroni correction was used, yielding a per comparison $\alpha = 0.002$. In addition, to gain a better sense of each gender's contribution to each significant chi-square analysis, an analysis of standardized residuals was performed for each significant chi-square analysis, with significance measured at $\alpha = 0.025$ ($z = \pm 2.24$), again, using the Sidák-Bonferroni correction to control for Type I error.

Table 3. *Means (and Standard Deviations) for Syllabus Component Categories by Gender.*

Syllabus Component Categories	Gender		
	Male (n = 237)	Female (n = 113)	Total (n = 350)
Professor Information[a]	3.52 (1.77)	3.51 (1.84)	3.52 (1.79)
Course Information[b]	6.92 (1.86)	6.82 (1.91)	6.89 (1.87)
Grading Information[c]	2.20 (1.22)	2.41 (1.15)	2.27 (1.20)
Policy Information[d]	1.53 (1.53)	1.87 (1.42)	1.64* (1.50)
All Information[e]	14.17 (4.35)	14.61 (3.97)	14.31 (4.23)

[a] Max value is 5; [b] Max value is 11; [c] Max value is 4; [d] Max value is 6
[e] Max value is 26
* $p < 0.05$

The chi-square series revealed that none of the syllabus components included significant variability across gender (see Table 4). Since no chi-square analyses were statistically significant, no standardized residual analyses were conducted. These results, a lack of gender

differences based on an examination of the six individual syllabus policies, indicate that the significant policy category finding mentioned previously is an artifact of summing the total number of policy statements included by males and females. It is important to interpret these findings carefully, that is, that while there was a statistically significant difference between the total number of policy statements included on syllabi by males and females, this difference was not the result of differences in any one particular policy statement.

Table 4. *Observed Frequencies (and Expected Frequencies) of Syllabus Components by Gender.*

Syllabus Component	Gender Male (n = 237)	Female (n = 113)	χ^2
Professor Information			
Professor Name	208 (205)	95 (98)	0.89
Office Location	157 (156)	74 (75)	0.02
Office Hours	140 (142)	70 (68)	0.26
Office Phone Number	162 (162)	78 (78)	0.01
Professor Email Address	168 (168)	80 (80)	0.00
Course Information			
Course Name	225 (227)	110 (108)	1.08
Course Number	222 (221)	105 (106)	0.07
Course Description	140 (150)	82 (72)	6.00
Course Location	105 (96)	36 (46)	4.92
Course Time	121 (117)	52 (56)	0.77
Course Goals/Objectives	137 (145)	77 (69)	3.44
Course Required Tests	208 (211)	104 (100)	1.44
Course Supplemental Readings	44 (42)	18 (20)	0.36
Course Topics	185 (176)	75 (84)	5.47
Course Calendar	150 (142)	59 (68)	3.90
Course Due Dates	103 (106)	53 (50)	0.36
Grading Information			
Grading Policy	190 (192)	93 (91)	0.22
Grading Scale	106 (110)	56 (52)	0.71
Assignment Names	131 (138)	73 (66)	2.73
Assignment Descriptions	95 (98)	50 (47)	0.54
Policy Information			
Attendance Policy	121 (131)	73 (63)	5.68
Late Work Policy	56 (60)	32 (28)	0.89
Missed Work Policy	46 (47)	24 (23)	0.16
Honor Code Policy	74 (83)	48 (39)	4.26
Disability Policy	55 (56)	28 (27)	0.10
Student Support Services	10 (11)	6 (5)	0.20

Note. For all χ^2 calculations, N = 350 and *df* = 1.
[+] p < .025, observed frequency significantly greater than expected frequency
[−] p < .025, observed frequency significantly less than expected frequency
[*] p < .002

C. Syllabus Components and Classification.

Examining component categories by classification. As mentioned previously, a 2 (Gender) x 7 (Classification) x 5 (Syllabus Component Category) MANOVA, with syllabus component inclusion as the dependent variable, was performed with all follow-up comparisons analyzed using the Tukey HSD post hoc with family-wise $\alpha = 0.05$. Only the Classification x

Syllabus Component Category aspect of this analysis is discussed here (see Table 5). The MANOVA revealed five significant main effects, Professor Information, $F(6,350) = 3.60$, MSE = 10.96, $p = 0.002$; Course Information, $F(6,350) = 2.52$, MSE = 8.41, $p = 0.021$; Grade Information, $F(6,350) = 7.66$, MSE = 9.66, $p = 0.000$; Policy Information, $F(6,350) = 8.03$, MSE = 15.81, $p = 0.000$; and All Information, $F(6,350) = 3.50$, MSE = 57.90, $p = 0.002$. Complete post hoc analyses of the main effects are delineated in Table 5. The results of these post hoc analyses demonstrate that syllabi from Bal-NGC, Bal-HGC and Prof-NGC institutions included more Professor Information than Assoc, A&S-HGC and Prof-HGC institutions; that syllabi from A&S-HGC and Prof-NGC institutions included more Course Information than Assoc, Bal-NGC and Prof-HGC institutions; that syllabi from Prof-NGC and Prof-HGC included more Grading Information than all of the remaining classifications; that syllabi from Assoc, Bal-NGC and Bal-HGC institutions included more Policy Information than all of the remaining classifications; and, that syllabi from Bal-HGC and Prof-NGC institutions included more Total Information than Assoc, A&S-NGC, A&S-HGC and Prof-HGC institutions.

Table 5. *Means (and Standard Deviations) for Syllabus Component Categories by Institutional Classification.*

Syllabus Component Categories	Assoc	AandS NGC	AandS HGC	Bal NGC	Bal HGC	Prof NGC	Prof HGC	Total
Professor Information[a]	3.21[f,g]	3.66[g,h]	2.68[f]	3.98[h]	4.00[h]	3.98[h]	3.14[f,g]	3.52*
	(2.03)	(1.78)	(1.97)	(1.73)	(1.53)	(1.51)	(1.58)	(1.79)
Course Information[b]	6.70[f]	6.94[f,g]	7.13[g]	6.19[f]	6.98[f,g]	7.60[g]	6.69[f]	6.89*
	(1.92)	(1.86)	(1.82)	(1.85)	(1.71)	(2.04)	(1.57)	(1.87)
Grading Information[c]	1.89[f,g]	2.26[g]	1.73[f]	2.19[f,g]	2.29[g]	3.01[h]	2.82[h]	2.27*
	(1.09)	(1.15)	(1.30)	(1.22)	(0.92)	(1.01)	(1.13)	(1.20)
Policy Information[d]	2.20[g]	1.44[f]	0.91[f]	2.39[g]	2.46[g]	1.44[f]	1.14[f]	1.64*
	(1.50)	(1.37)	(1.17)	(1.64)	(1.77)	(1.21)	(1.14)	(1.50)
All Information[e]	13.99[f,g]	14.30[g]	12.48[f]	14.68[g,h]	15.74[h]	16.04[h]	13.81[f,g]	14.31*
	(4.54)	(4.42)	(4.47)	(4.29)	(4.26)	(3.43)	(3.09)	(4.23)

Note: Cell means within the same row that have the same superscript are statistically similar, means with dissimilar superscripts are statistically different ($p < 0.05$).
[a] Max value is 5; [b] Max value is 11; [c] Max value is 4; [d] Max value is 6; [e] Max value is 26.
* $p < 0.05$.

Examining individual components by classification. While the MANOVA provides a broad overview of syllabus component category inclusion, a series of chi-square analyses were performed to determine the relationship between individual syllabus component inclusion and institutional classification (see Table 6). One chi-square analysis was performed per syllabus component followed by an analysis of standardized residuals for those chi-squares that were significant. The Sidák-Bonferroni correction was used with both the chi-square and standardized residual analyses, resulting in alpha levels of 0.002 and 0.02 ($z = \pm2.33$), respectively.

The chi-square series revealed that 14 of the 26 syllabus components included significant variability in the inclusion of syllabus components across institutional classification. The

Table 6. *Observed Frequencies of Syllabus Components by Institutional Classification.*

Syllabus Components	E(f)[b]	Assoc	AandS NGC	AandS HGC	Bal NGC	Bal HGC	Prof NGC	Pro HGC	χ^2
Professor Information									
Professor Name	43.3	38	43	41	45	46	46	44	8.84
Office Location	33.0	34	36	25–	36	42+	38	20–	31.90*
Office Hours	30.0	23	35	21–	35	38	36	22	28.66*
Office Phone Number	34.2	32	35	22–	37	39	40	35	20.36*
Professor Email Address	35.4	33	30	27	37	39	40	42	17.98
Course Information									
Course Name	47.9	48	47	49	47	45	50	49	8.21
Course Number	46.7	47	48	44	45	48	50	45	8.93
Course Description	31.7	42+	31	28	20–	28	35	38	27.71*
Course Location	20.1	16	16	26	17	29+	28+	8–	31.83*
Course Time	24.7	18	26	30	23	33	33	10–	34.51*
Course Goals/Objectives	30.6	48+	22–	9–	33	28	41+	33	81.63*
Course Require Texts	44.6	47	46	41	39	49	44	46	15.23
Supplemental Reading	8.9	2	6	13	8	10	7	16	17.68
Course Topics	37.1	37	38	43	28	38	36	40	13.49
Course Calendar	29.9	23	35	36	23	30	31	31	13.73
Course Due Dates	22.3	12–	32+	32+	17	14	28	21	34.44*
Grading Information									
Grading Policy	40.4	40	42	27–	42	46	44	42	29.94*
Grading Scale	23.1	31	12–	4–	28	28	33+	26	56.70*
Assignment Names	29.1	13–	34	36	11–	15–	49+	46+	126.58*
Assignment Descriptions	20.7	11	21	21	17	12	27	27	15.44
Policy Information									
Attendance Policy	27.7	36	27	15–	34	28	36	18–	35.08*
Late Work Policy	12.6	10	19	12	16	18	4	9	18.67
Missed Work Policy	10.0	12	3–	3–	22+	23+	1–	6	64.00*
Honor Code Policy	17.4	25	17	10	18	20	15	17	11.07
Disability Policy	11.9	23+	6	4–	15	19+	15	1–	45.20*
Student Support Services	2.3	5	1	0	3	5	1	1	11.65

Note. For all χ^2 calculations, N = 350 and *df* = 6. For all individual cells, n = 50.
[a] O(f) = Observed frequencies. [b] E(f) = Expected frequencies.
+ p < .01, observed frequency significantly greater than expected frequency
– p < .01, observed frequency significantly less than expected frequency
* p < .002

subsequent standardized residual analyses revealed 15 frequencies that were higher than expected and 20 frequencies that were lower than expected. While no overall pattern for the inclusion of syllabi across institutional classification is evident from Table 6, there are a few variations of interest. Specifically, A&S-HGC syllabi included less office information (i.e., office location, hours, and phone number) than expected; and, Assoc syllabi included more course goals/objectives information than expected, but less course due dates information than expected, while A&S-NGC and A&S-HGC both included the opposite, that is, less course

goals/objectives information than expected, but more course due dates information than expected.

V. Discussion.

The purpose of this research was to explore the potential effects that gender and institutional classification have on the inclusion of syllabus components. The gender-based results indicated that there was a significant difference in the number of policy statements included on syllabi between males and females when only the average number of overall policy statements was examined. That is, males included an average of 1.5 policy statements per syllabus, while females included an average of 1.8 policy statements per syllabus. Upon closer analysis, however, this average difference dissipated when the six policies (i.e., attendance, late work, missed work, honor code, disability, and student support) were examined individually. These findings must be interpreted with care. The first finding indicates that *on average*, females include more policy information than males, while the second finding indicates that there are no specific differences between males and female when looking at individual policies. Another interpretation may be to examine these results from a statistical perspective and a meaningful perspective; that is, while there is a statistical difference between the average number of policy statements included on syllabi constructed by males and females, there is no meaningful difference between males and females as there were no differences based on individual policies.

The institutional classification effects by syllabus component category (see Table 5) revealed that across all category information A&S-HGC syllabi included the least syllabus information while the Bal-NGC, Bal-HGC and Prof-NGC syllabi included the most syllabus information. In examining the specific syllabus component categories it is evident that A&S syllabi, both NGC and HGC, contained the least amount of policy information; that Prof syllabi, both NGC and HGC, contained the most amount of grading information; and that Bal syllabi, both NGC and HGC, contained the most amount of both professor and policy information. Unfortunately, these results allow for few, if any, systematic generalizations related to institutional classification. This lack of systematic generalization is exacerbated in the individual syllabus component data. Specifically, while there were several differences within the individual syllabus component data (see Table 6), there were no meaningful patterns of variability. Thus, while it may be concluded that syllabi vary by institutional classification, one must be careful in generalizing these variations.

In addition, while the gender data indicate little or no variation in syllabus component inclusion and the institutional classification data indicate significant, though unsystematic, variation, the overall inclusion of syllabus components demonstrates a familiar pattern (see Table 2). The syllabus components most and least often included in the current sample matches the most and least often included syllabus components indicated by Doolittle and Siudzinski (in press; see Table 7). In both samples, the most included syllabus components were course name and number, professor name, required texts, and grading policy, and the least included syllabus components were student support services, late and missing work policies, supplemental readings, and disability and honor code/academic honesty policies.

Limitations. The present study's generalizability and interpretability should be limited based on five concerns. First, the sample of syllabi was not randomly attained, but rather was selected from the web based on Google searches. This selection process may have introduced an unknown bias based on the Google search engine's search algorithm. Second, all of the syllabi

were available online. Are there differences between online and non-online syllabi? Initial results from Maurino (2005) provide evidence that there are no differences between online and non-online syllabi, but no comprehensive study has yet been completed. Third, the present study did not evaluate the content or quality of the individual syllabus components, only their presence or absence. While including specific syllabus components is important, the content of these components would have a direct bearing on their value and efficacy. Fourth, while the content of a syllabus is important, how the syllabus is used is likely most important. Is the syllabus used as a *knowledge repository*, explained on the first day of class and never addressed again, or is the syllabus a *knowledge guide*, introduced the first day and referred to repeatedly during the semester as a road map to understanding? And, fifth, the syllabi analysis began with a fixed set of syllabus components. While this set of components is based on and supported by prior research (see Becker and Calhoon, 1999; Doolittle and Siudzinski, in press; Eberly et al., 2001; Garavalia et al., 1999; Habanek, 2005; Meuschke et al., 2002; Parkes et al., 2003) what might have been missed?

Table 7. *The Most and Least Included Syllabus Components Compared to Doolittle and Siudzinski* **(in press).**

	Syllabus Components and Inclusion Percentage			
	Current Study		Doolittle and Siudzinski	
Most Frequently Included Syllabus Components	Course Name	95%	Course Name	97%
	Course Number	93%	Course Number	91%
	Required Texts	89%	Professor Name	91%
	Professor Name	87%	Required Texts	84%
	Grading Policy	81%	Grading Policy	76%
Least Frequently Included Syllabus Components	Honor Code Policy	35%	Supplemental Readings	34%
	Late Work Policy	25%	Honor Code Policy	34%
	Disability Policy	24%	Disability Policy	23%
	Missed Work Policy	20%	Missed Work Policy	20%
	Supplemental Readings	18%	Late Work Policy	19%
	Support Services	5%	Support Services	7%

VI. Implications.

The current study validated findings from previous studies (Doolittle and Siudzinski, in press; Eberly et al., 2001; Parkes et al., 2003) that syllabi tend to include more professor, course, and grading information, and little policy information. In addition, the lack of meaningful differences in gender and institutional classification join the lack of meaningful differences in discipline (see Doolittle and Siudzinski, in press) to provide more evidence that syllabi are more similar than different across a wide spectrum of educational groups. This lack of meaningful differences in gender, institutional classification, and discipline indicates that the lack of policy information in syllabi is systemic.

This lack of policy information was stark, only 55% of the syllabi evaluated included an attendance policy, 35% included an honor code policy, 24% included a disability policy, 22% included at late work/missing work policy, and 4% included a student support services statement (see Table 2). That being said, should syllabi include these policy statements?

Regarding the attendance policy, Garavalia et al. (1999) determined that attendance and attendance related policies were very important to students. In a survey of 242 students regarding the importance of various syllabus components, three of the top 10 most important syllabus

components included a statement of allowable absences (#5), a statement of attendance policy (#7), and a statement of penalties for exceeding allowable absences (#8). Similarly, regarding a late work/missing work policy, Becker and Calhoon (1999) surveyed 863 students regarding to which syllabus components they paid attention. The results indicated that students paid significant attention to "Makeup Policy" and "Late Assignment Policy." Thus, both attendance and late/missing work policies are important and/or worthy of attention to students and provide for a more student-centered syllabus (Eberly et al., 2001).

Further, the lack of inclusion of a disability policy in most syllabi is problematic given the increasing numbers of students with disabilities enrolling in higher education institutions (see Gordon, Lewandowski, Murphy, and Dempsey, 2002; Smith, 2001) and the legal requirement for higher education institutions and faculty members to accommodate students with documented disabilities (ADA, 1990; IDEA, 1990). The inclusion of a disability policy, however, goes beyond being in accord with legal statutes. According to Lerner (2003), "one of the greatest challenges faced by college students with learning disabilities is gaining and maintaining the acceptance and cooperation of the academic faculty" (p. 314). Faculty can demonstrate acceptance and encourage students with disabilities to self-identify by providing disability policy statements on syllabi, thus recognizing the rights of students with disabilities to receive needed and entitled accommodations.

This acceptance of student needs, however, should move beyond qualified students with disabilities to include all students. Student support services provide needed scaffolding for all students across a variety of needs and include reading and writing centers, tutoring and study centers, health and counseling centers, women's centers, and library assistance programs. Indeed, Cheng (2004) stresses the vital need for faculty and administrators to collaborate in the creation of a more supportive and holistic academic community for all students. Syllabi that incorporate intercampus learning opportunities promote more effective faculty-student interactions, student affairs programming, and academic advising by creating a whole learning experience for the student (Cheng, 2004; Tinto, 1998). Thus, as in the case of a disability policy, the inclusion of student services within a syllabus demonstrates the faculty member's acceptance of student needs and encouragement to seek out assistance.

Finally, concerns over cheating and academic dishonesty have led to several studies indicating that honor code policies help to alter, positively, student perceptions and behaviors related to cheating and academic integrity (Dufresne, 2004; McCabe, Trevino, and Butterfield, 1999; McCabe, Butterfield, and Trevino, 2003; cf. Roig and Marks, 2006). McCabe and Trevino (1997) further identified context variables (e.g., pressure to succeed, competition, peer culture) as more likely to lead to academic dishonesty than personal variables. The presence of an honor code statement on the syllabus reinforces that academic integrity is a valued component of the course context.

The current research has provided additional evidence that the components of course syllabi are similar across a wide range of domains and institutions, as well as across genders. This research has also provided additional evidence that policy information is severely lacking on most syllabi and that this policy information should be included.

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Toward a Stakeholder-Focused Curriculum: Examining Specific University Program Offerings against Competencies Provided by the U.S. Department of Labor

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Abstract: Providing students with an education that employers view as relevant and valuable is an ever-increasing challenge for universities. The purpose of this paper is to provide a framework that university professors can use to examine their own program offerings against competencies deemed important by the U.S. Department of Labor. This paper focuses on specific competencies for success in technical sales. Faculty and employers are surveyed, and results indicate a high level of congruence between their opinions. However, some important differences did emerge between the two groups. These results are presented and discussed, along with the implementation of results to redevelop program curriculum.

Keywords: curriculum development, employment competencies, university programs.

I. Introduction.

Ever changing demands and shifting opportunities characterize the 21st century workplace. Organizations are fast changing, as is the nature of work within them due to rapid globalization, innovation, and technology. As such, the value of attracting and retaining extremely talented employees is immeasurable. Organizations desire employees who are willing to learn and learn fast, those who can readily transfer their knowledge and skills into the workplace, and those who are willing to earn and re-earn their job every day through performance-based measures.

A specific program was chosen that prepares students for careers as technical sales representatives and to become future business leaders. The hybrid business/technology program is recognized for "pioneering new frontiers" within the University of Nebraska system, which has a tradition of technology-rich education.

The faculty in the program is attempting to meet increasingly common 21st century challenges of providing students with an education that is viewed by employers as relevant and valuable. This study begins an effort to establish a stakeholder-focused curriculum by utilizing data from the United States Department of Labor (http://www.dol.gov/, 2005). The participants include major employers of its graduates as well as faculty who teach in the program.

II. Literature Review.

In response to the demands of the 21st century workplace, universities are not only being held accountable for validating the content of their courses through advisory boards and

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accrediting bodies, but they must also graduate students who can meet the ever changing needs of business and industry. The University of Luton has responded to this challenge on a university-wide basis and with a curriculum that embraces a varied range of disciplines in an attempt to develop students' skills alongside their subject knowledge to improve graduate employability (Atlay and Harris, 2000).

Dougherty, Knock, Sandas, and Aiken (2002) recognized that information technology holds the promise of increased productivity. However, rapidly evolving tools require that professionals are able to incorporate them into their careers effectively, which signals the need for IT curriculum development initiatives that help students develop the skills needed for this challenge.

In an attempt to meet the challenges of globalization, many western universities are responding by internationalizing their curricula and introducing an element of multiculturalism. Jackson (2003) contends that it is required for the sustainability of the students' future careers, and the process must be a joint effort between students and faculty.

One way to meet 21st century challenges is to involve stakeholders, such as employers in the process of developing or redeveloping university program curricula. Hesketh (2000) contends that the future recruitment intentions of employers fall against the backdrop of their perceptions of graduate quality and that the skill requirements of employers are clearly changing.

Several different types of university programs have elicited the opinions of several stakeholder groups in order to help create program curricula. For example, the Division of Occupational Therapy at the University of Manitoba redeveloped its curriculum from a three-year undergraduate degree to a two-year professional Master of Occupational Therapy program through a stakeholder consultation process (Restall, 2003).

In an effort to redevelop a human resources management curriculum, Thacker (2000) describes a process by which any curriculum can be updated or revised. This approach includes convening a task force of important constituent groups, such as faculty and practitioners.

In similar efforts, Lang, Cruse, McVey, and McMasters (1999) provided an opportunity for stakeholders to help universities define educational goals and objectives for entry-level engineering employees. Likewise, Tiwari, Chan, and Law (2002) adopted an approach that solicited suggestions from nurses, doctors, and policy makers to help shape the nursing curriculum, instead of just allowing nursing faculty to decide.

Even in smaller units such as one class versus an entire program, universities are seeking the advice of stakeholders other than just faculty members. For example, Anderson, Envick, and Roth (2003) surveyed entrepreneurs and financial advisors to determine, among 30 finance topics, which are most important to include in entrepreneurial finance courses. The results proved helpful in prioritizing finance topics for entrepreneurship majors.

As far as the field of industrial distribution is concerned, involving the help of external stakeholders is not new either. Purdue University implemented a networking partnership between students, faculty, and employers. This partnership includes special project opportunities, workshops, networking placement, faculty presentations, and conference book programs (Newton and Schmidt, 2003).

This paper aims to mirror the efforts made by other universities and programs to prepare students for the challenges of the 21st century workplace, but more specifically to prepare students for careers in technical sales. This is accomplished by analyzing the Industrial Distribution Program curriculum at the University of Nebraska at Kearney through the eyes of both faculty and employers.

III. Methodology.

Ten faculty members who teach courses in a technical sales program participated in the survey, along with employers, who actively recruit, provide internships and send representatives to speak to classes at the university. The employers that participated include Applied Industrial Technologies, Molex Incorporated, Crescent Electric Supply, Eaton Electrical, Ferguson Enterprises, Hub City Industrial Supply, Shelter Distribution, SCP Pool Corporation, Shelter Distribution Incorporated, and Pape`. All surveys distributed to both faculty and employers were returned, and all 20 were usable.

The instrument used for the study listed 33 competencies cited by the U.S. Department of Labor as important for success in technical sales (citation). Faculty members chose this instrument because the National Association of Industrial Technology, which is the accrediting body of the program, also recognizes the competencies listed.

The 33 competencies fit into seven categories of knowledge for persons in technical sales careers. These categories include: (1) Sales and Marketing; (2) Mathematics; (3) Economics and Accounting; (4) English Language; (5) Engineering and Technology; (6) Education and Training; and (7) Customer and Personal Service.

Participants used a 7-point Likert scale to determine which of the 33 competencies a graduate of the Industrial Distribution Program needs to both gain employment and advance in their career. The scale used is as follows: 1 = needed to be among the top performers in the field; 2 = needed to be extremely successful; 3 = needed to be very successful; 4 = undecided/unsure; 5 = needed to be moderately successful; 6 = needed to be somewhat successful; 7 = not needed at all. The survey itself is available upon request from the authors.

IV. Results.

Table 1 reports the mean scores by rank of all 33 competencies to *gain employment* according to underline employers. The highest ranked competency is "determine customer wants and needs" with a mean of 3.0. The lowest ranked topic is "apply calculus concepts related to business" with a mean of 5.9.

Table 2 reports the mean scores by rank of all competencies to *gain employment* according to faculty. The highest ranked competency is "write professional business letters and memos" with a mean of 1.8. This ranked #6 with employers, with a mean score of 3.7. The lowest ranked competency is "apply calculus concepts related to business" with a mean score of 4.2. This coincides with the employers' lowest ranked competency.

TABLE 1. Gain Employment – Employer Responses.

Competency	Mean	Knowledge Category
Determine customer wants and needs	3.0	Customer & Personal Service
Promote products	3.1	Sales & Marketing
Sell solutions	3.3	Sales & Marketing
Promote value-added services	3.4	Sales & Marketing
Derive arithmetic solutions	3.4	Mathematics
Find solutions to customer wants and needs	3.4	Customer & Personal Service
Assess and provide services that satisfy customer needs	3.6	Customer & Personal Service
Make and close sales	3.7	Sales & Marketing
Describe financial advantages	3.7	Economics & Accounting
Write effective sales proposals	3.7	English Language
Demonstrate products	3.9	Sales & Marketing
Comprehend technical products and services	3.9	Engineering & Technology
Assess the effectiveness of customer service efforts	4.0	Customer & Personal Service
Write professional business letters and memos	4.1	English Language
Comprehend statistical data	4.3	Mathematics
Explain statistical data to customers and peers	4.3	Mathematics
Understand concepts of supply and demand	4.3	Economics & Accounting
Comprehend basic accounting cycle	4.3	Economics & Accounting
Demonstrate technical products and services	4.3	Engineering & Technology
Comprehend industrial systems and devices	4.3	Engineering & Technology
Demonstrate industrial systems and devices	4.3	Engineering & Technology
Write general and technical information packages	4.4	English Language
Conduct training for individuals and groups	4.6	Education & Training
Assess training outcomes	4.6	Education & Training
Prepare instructional materials	4.7	Education & Training
Develop and write training materials	5.0	English Language
Read and comprehend blueprints	5.0	Engineering & Technology
Read and understand business financial reports	5.1	Economics & Accounting
Design demonstration materials	5.1	Education & Training
Comprehend scientific equipment and devices	5.3	Engineering & Technology
Demonstrate scientific equipment and devices	5.3	Engineering & Technology
Apply algebraic solutions to problems	5.7	Mathematics
Apply calculus concepts related to business	5.9	Mathematics

TABLE 2. Gain Employment – Faculty Responses.

Competency	Mean	Knowledge Category
Write professional business letters and memos	1.8	English Language
Find solutions to customer wants and needs	2.2	Customer & Personal Service
Comprehend industrial systems and devices	2.2	Engineering & Technology
Make and close sales	2.3	Sales & Marketing
Comprehend technical products and services	2.3	Engineering & Technology
Sell solutions	2.4	Sales & Marketing
Assess and provide services that satisfy customer needs	2.5	Customer & Personal Service
Understand concepts of supply and demand	2.5	Economics & Accounting
Promote products	2.7	Sales & Marketing
Determine customer wants and needs	2.8	Customer & Personal Service
Comprehend basic accounting cycle	2.9	Economics & Accounting
Describe financial advantages	2.9	Economics & Accounting
Assess the effectiveness of customer service efforts	2.9	Customer & Personal Service
Demonstrate industrial systems and devices	2.9	Engineering & Technology
Demonstrate technical products and services	3.0	Engineering & Technology
Promote value-added services	3.0	Sales & Marketing
Comprehend statistical data	3.0	Mathematics
Write effective sales proposals	3.1	English Language
Read and comprehend blueprints	3.1	Engineering & Technology
Comprehend scientific equipment and devices	3.3	Engineering & Technology
Demonstrate products	3.4	Sales & Marketing
Read and understand business financial reports	3.4	Economics & Accounting
Assess training outcomes	3.5	Education & Training
Conduct training for individuals and groups	3.6	Education & Training
Prepare instructional materials	3.7	Education & Training
Explain statistical data to customers and peers	3.7	Mathematics
Write general and technical information packages	3.7	English Language
Design demonstration materials	3.8	Education & Training
Demonstrate scientific equipment and devices	3.8	Engineering & Technology
Derive arithmetic solutions	3.9	Mathematics
Develop and write training materials	4.0	English Language
Apply algebraic solutions to problems	4.0	Mathematics
Apply calculus concepts related to business	4.2	Mathematics

Table 3 reports the mean scores by rank of all 33 competencies for *career advancement* according to <u>employers</u>. The highest ranked competency is "determine customer wants and needs", which is the same one that ranked first to gain employment according to employers. The mean score, however, moved from a 3.0 (to gain employment) to a 1.4 (to advance in one's career). The lowest ranked topic also remained the same, "apply calculus concepts related to business" with a mean score of 5.4.

Table 4 reports the mean scores by rank of all competencies for *career advancement* according to <u>faculty</u>. The highest ranked competency is "assess and provide services that satisfy customer needs" with a mean score of 1.1. This ranked #3 with employers, with a mean score of 1.9. The lowest ranked competency is "apply calculus concepts related to business" with a mean score of 3.5. This coincides with the employers' lowest ranked competency.

TABLE 3. Career Advancement – Employer Responses.

Competency	Mean	Knowledge Category
Determine customer wants and needs	1.4	Customer & Personal Service
Sell solutions	1.6	Sales & Marketing
Derive arithmetic solutions	1.9	Mathematics
Assess and provide services that satisfy customer needs	1.9	Customer & Personal Service
Make and close sales	1.9	Sales & Marketing
Find solutions to customer wants and needs	2.0	Customer & Personal Service
Promote value-added services	2.0	Sales & Marketing
Describe financial advantages	2.0	Economics & Accounting
Promote products	2.1	Sales & Marketing
Write effective sales proposals	2.1	English Language
Demonstrate products	2.1	Sales & Marketing
Assess the effectiveness of customer service efforts	2.3	Customer & Personal Service
Understand concepts of supply and demand	2.3	Economics & Accounting
Conduct training for individuals and groups	2.3	Education & Training
Comprehend technical products and services	2.6	Engineering & Technology
Write professional business letters and memos	2.6	English Language
Comprehend statistical data	2.6	Mathematics
Demonstrate technical products and services	2.7	Engineering & Technology
Explain statistical data to customers and peers	2.9	Mathematics
Comprehend industrial systems and devices	2.9	Engineering & Technology
Read and comprehend blueprints	2.9	Engineering & Technology
Read and understand business financial reports	2.9	Economics & Accounting
Comprehend basic accounting cycle	3.0	Economics & Accounting
Demonstrate industrial systems and devices	3.0	Engineering & Technology
Assess training outcomes	3.1	Education & Training
Develop and write training materials	3.1	English Language
Write general and technical information packages	3.3	English Language
Prepare instructional materials	3.3	Education & Training
Comprehend scientific equipment and devices	3.6	Engineering & Technology
Demonstrate scientific equipment and devices	3.7	Engineering & Technology
Design demonstration materials	4.3	Education & Training
Apply algebraic solutions to problems	4.9	Mathematics
Apply calculus concepts related to business	5.4	Mathematics

As one can see by comparing Tables 1 and 2 along with comparing Tables 3 and 4, the opinions of employers and faculty are similar, however, faculty opinions were much stronger according to the 7-point scale. For example, for gaining employment the lowest mean score provided by faculty on all 33 competencies was a 4.2, while employers provided a mean score of 4.3 or higher (meaning less need) for 19 of these competencies. Likewise, the lowest mean score provided by faculty for career advancement was a 3.5. Employers scored five competencies higher than 3.5, with one being a 5.4.

TABLE 4. Career Advancement – Faculty Responses.

Competency	Mean	Knowledge Category
Assess and provide services that satisfy customer needs	1.1	Customer & Personal Service
Determine customer wants and needs	1.2	Customer & Personal Service
Find solutions to customer wants and needs	1.2	Customer & Personal Service
Describe financial advantages	1.2	Economics & Accounting
Make and close sales	1.2	Sales & Marketing
Assess the effectiveness of customer service efforts	1.2	Customer & Personal Service
Write effective sales proposals	1.3	English Language
Read and understand business financial reports	1.4	Economics & Accounting
Comprehend industrial systems and devices	1.5	Engineering & Technology
Comprehend technical products and services	1.5	Engineering & Technology
Comprehend basic accounting cycle	1.5	Economics & Accounting
Promote value-added services	1.5	Sales & Marketing
Write professional business letters and memos	1.6	English Language
Sell solutions	1.6	Sales & Marketing
Promote products	1.6	Sales & Marketing
Demonstrate industrial systems and devices	1.7	Engineering & Technology
Demonstrate products	1.7	Sales & Marketing
Comprehend statistical data	1.8	Mathematics
Explain statistical data to customers and peers	1.8	Mathematics
Understand concepts of supply and demand	1.9	Economics & Accounting
Demonstrate technical products and services	1.9	Engineering & Technology
Assess training outcomes	1.9	Education & Training
Conduct training for individuals and groups	2.1	Education & Training
Comprehend scientific equipment and devices	2.4	Engineering & Technology
Prepare instructional materials	2.4	Education & Training
Design demonstration materials	2.4	Education & Training
Demonstrate scientific equipment and devices	2.5	Engineering & Technology
Write general and technical information packages	2.6	English Language
Develop and write training materials	2.8	English Language
Read and comprehend blueprints	2.9	Engineering & Technology
Apply algebraic solutions to problems	3.1	Mathematics
Derive arithmetic solutions	3.3	Mathematics
Apply calculus concepts related to business	3.5	Mathematics

In order to address the differences between how faculty and employers scored the competencies in both gaining employment and career advancement, a paired t-test was used to determine if this difference is statistically significant. Results indicate there is a significant difference [$t = 12.607$, $p < 0.01$ (see Table 5)].

This difference, however, does not necessarily indicate there is disagreement between the groups of raters. In order to determine the level of agreement, a correlation matrix was computed to measure the linear relationship between opinions of employers compared to the opinions of faculty. The result was a correlation coefficient of .82, indicating strong agreement on which competencies are more important relative to other competencies. The significant difference found from the paired t-test is a result of faculty opinions being significantly stronger than employer opinions, although in the same direction. Figure 1 illustrates the correlation scatterplot matrix.

TABLE 5. Paired T-Test of Employer vs. Faculty Reponses.

Mean Employer	3.511
Mean Faculty	2.512
Mean Difference	0.998
95.00% CI	0.840-1.157
SD of Difference	0.643
t	12.607
df	65
p-value	0.00

FIGURE 1. Correlation Scatterplot Matrix of Employer and Faculty Responses.

With this level of agreement, it is essential to revisit the seven categories of knowledge and determine which ones appear to be more essential for curriculum development. The average mean scores of all competencies in each knowledge category were used from both employers and faculty to determine a combined mean score and rank. The rankings for both gaining employment and career advancement are the same (See Table 6).

TABLE 6. Overall Knowledge Category Rankings.

Rank	Knowledge Category	GE Mean	Needed to be. . .	CA Mean	Needed to be. . .
1	Customer & Personal Service	3.05	very successful	1.55	among top performers in the field
2	Sales and Marketing	3.12	very successful	1.71	among top performers in the field
3	Economics & Accounting	3.63	very successful	2.02	extremely successful
4	English Language	3.74	very successful	2.49	extremely successful
5	Engineering & Technology	3.77	very successful	2.55	extremely successful
6	Education & Training	4.20	undecided/unsure	2.73	extremely successful
7	Mathematics	4.22	undecided/unsure	3.10	very successful

V. Implementing results in Curriculum Redevelopment.

As mentioned in the literature review, universities are held accountable for graduating students who can meet the ever-changing needs of business and industry. Skill requirements are changing (Hesketh, 2000), and programs are being redeveloped through a stakeholder consultation process (Restall, 2003), such as practitioners (Thacker, 2000; Lang, et. al, 1999; Tiwari, et. al, 2002). We contend that is crucial to include the specific competencies deemed most important by employers in a program's curriculum. Employer rankings of these competencies for a career in technical sales (gaining employment and career advancement) were obtained. The authors elected to use the same method as Anderson, Envick, and Roth (2003) to re-prioritize specific topics covered program courses.

The 33 competencies were divided into the top-third, middle-third, and bottom-third rankings for both employers and faculty respondents. The 9 competencies included in two of the knowledge categories, Sales & Marketing and Customer & Personal Services, consistently ranked in the top-third according to employers. Only one of these competencies (assess the effectiveness of customer service efforts) barely slipped into the middle-third category.

Sales & Marketing consists of knowledge of principles and methods for showing, promoting, and selling products or services. This includes marketing strategy and tactics, product demonstration, sales techniques, and sales control systems (http://www.dol.gov/). In technical sales these competences include: (1) promote products; (2) sell solutions; (3) promote value-added services; (4) make and close sales calls; and (5) demonstrate products. Customer & Personal Services consists of knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction (http://www.dol.gov/). In technical sales these competencies include: (1) determine customer wants and needs; (2) find solutions to customer wants and needs; (3) assess and provide services that satisfy customer wants and needs; and (4) assess the effectiveness of customer service efforts.

The faculty member in charge of curriculum development of the program made changes in his courses to include more case studies, role playing exercises, readings, classroom discussions, and lecture material that more heavily favored specific competencies within the two categories of Sales & Marketing and Customer & Personal Services. This information was provided to other faculty members as well, for curricular considerations.

Like in any course or program, to make room for more material, other material must be reduced or eliminated. Careful consideration was given to those specific topics faculty had deemed very important (in the top-third category) but employers had not rated very high (middle and even bottom-third category rankings). Topic coverage that was reduced or eliminated includes: writing professional business letters and memos (slightly reduced); comprehending industrial systems and devices (reduced); understanding concepts of supply and demand (eliminated and left to other courses at the university); comprehending the basic accounting cycle (eliminated and left to other courses at the university); reading and understanding business financial reports (significantly reduced).

Overall, the topic coverage favored by employers tended to be more on the "sales" side (sales, marketing, customer service) and less on the "technical side" (math, engineering, technology) of technical sales. While faculty and employers in this study had similar views and statistical results did not point to any significant disagreements, it was a highly useful tool for redeveloping the program's offerings to reflect a more stakeholder-focused curriculum.

VI. Discussion and Conclusions.

Not surprisingly, both faculty and employers rated each and every competency as more important for career advancement than for gaining employment. The relative change in the ratings between gaining employment and career advancement among specific competencies is what proves instructive. For example, employers gave the competency of "conducting training for individuals and groups" a 4.6 for gaining employment, but a 2.3 for career advancement. Likewise, "reading and understanding financial reports" received a score of 5.1 for gaining employment, but jumped to a 2.9 for career advancement. This competency received the largest change among faculty responses as well, moving from a 3.4 for gaining employment to a 1.4 for career advancement.

Another noteworthy change, according to faculty, is the competency of "writing effective sales proposals". This competency scored a 3.1 for gaining employment and a 1.3 for career advancement. Other changes are important to consider as well by comparing Table 1 with Table 3 and comparing Table 2 with Table 4.

Despite the high level of agreement between faculty and employers, it is imperative to examine where differences did occur. The competency of "writing professional business letters and memos" ranked first for gaining employment according to faculty with a score of 1.8. Employers, however, rated this competency much further down the list with a score of 4.1.

"Determining customer wants and needs" ranked first for both gaining employment and career advancement, according to employers. Faculty, however, ranked this competency seventh for gaining employment, although it moved into the second ranked spot for career advancement. Similarly, "promoting value-added services" ranked fourth for both gaining employment and career advancement, according to employers. For gaining employment, faculty ranked this competency ninth. It did, however, rise to the fourth ranked position for career advancement.

These differences, among others, should be the focal point for future discussions between faculty and employers. Determining the reasoning and opinions behind the scores provided by the two groups would prove quite valuable in understanding the requirements of a technical sales career in both gaining employment and career advancement. This deepened understanding could then be translated into further curriculum development, with the end result being graduates who are well prepared to meet the 21st century challenges of a career in technical sales.

Even small changes to a program can provide students with the requisite knowledge and skills employers are seeking. While in this study there were not significant differences in the views of employers versus faculty members, the findings did provide for a richer understanding of what employers deem as important, and the curriculum changes reflect material more heavily favored toward the "sales" rather than the "technical" side of technical sales. This provides tremendous insight and allows faculty members to adjust and prioritize topic coverage in the classroom to better mirror employer demands.

The importance of this paper lies in the framework it provides to other professors who wish to examine their programs' offerings against competencies deemed important by the U.S. Department of Labor. As competition increases between universities, providing students with an education that employers view as relevant and valuable is of ever-increasing importance. Engaging in the process presented in this paper allows for the essential focal points to emerge from which curriculum can be developed or redeveloped. The ultimate goal is to provide students with the competitive advantage they need upon graduation.

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Connecting Assessment, Aesthetics and Meaning-Making in a General Education University Theatre Course

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Abstract: This paper discusses how the researcher examined learning and teaching over the course of a year, in the course titled: TH 460 Storytelling and Ethnographic Theatre. Discussion revolves around how the course was conceptualized, the procedures and protocols created, engagement and collaborations developed, learnings and outcomes experienced by students and faculty, and resulting works-in-progress and performances. The study finds that students benefited from collecting ethnographic data and creating their own particular performances—especially in response to stories and data from persons unlike themselves. This study suggests that iterative and responsive teaching that spans multiple modes of teaching and experience impacts students' learning— especially in an arts-based oriented teaching and learning environments.

Keywords: Ethnotheatre, Assessment, University-level Teaching, SoTL, Aesthetics, Arts and Learning

I. Scope and Context: Ought teaching and learning be studied in arts-based classrooms?

Assessing arts-based teaching and learning has often been considered restrictive to the creative process and/or inappropriate to developing the "affective domain." In fact, many teacher-artists protest against implementing systematic evaluation of their, or their students,' experiences claiming that assessment damages the intuition and creates barriers to doing, teaching, and learning creatively. After all, don't artists work best in subjective and non-quantifiable environments? Aren't statistical (assumed to be non-arts based) and qualitative (widely perceived as arts oriented) experiences and practices contradictory (Deasey, 2003; Fiske, 1999; Jeffery, 2005)?

This is not a new debate. It is, in fact, almost as old as public schooling itself (Dewey, 1902/1979; Hawkins, 1974) and despite opposition (Jensen, 2001) critical assessment in arts-in-education has led to a broader discussion about how instruction in the arts functions, and how learners relate their creative experiences to, other disciplines and fields (Catterall, 20022; Deasey, 2003; Rupert and Nelson, 2006; Sourfe, et al, 2004). Sourfe, et al (2004) and Rupert and Nelson (2006), for example, include an interest in "*new conversations about research on arts and education* (Rupert and Nelson, p. 27)." These authors note the wide variety of "*opportunities for joining colleagues from arts and education in studying the complex learning and expressive processes of the arts; their implications...and their potential role in our collective pursuit of educational and social goals* (Sourfe, et al, p. 4)."

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Fowler (1996) and Eisner (1993, 1998, 2002) encourage assessing the arts as a foundational perspective through which we may interpret and examine the creative and intuitive learning experience. However, these authors also agree that there is a paucity of data regarding 'best practices' and little research focusing on the impact of instructional methods in arts classrooms. Eisner addresses this lack by pointedly turning the arguments *against* systematic examinations of creative work into a manifesto *for* arts-based research in the area of teaching and education. Such endeavors need to be understood as key to creating "*the kind of schools we need,*" argues Eisner, because arts practices are innately flexible, foundational, and seminal to the human experience of meaning making: therefore, arts are key to viable educational systems.

Fowler (1996) goes further and defines the practice of researching and evaluating teaching and learning in the arts as deeply important for creating "strong classrooms" within "strong schools" and argues that arts teachers must begin to think holistically about their disciplines—to present the doing of art in the same comprehensive way that biology or geology teachers might think about 'doing science.' This includes the entire Scholarship of Teaching and Learning (SoTL) cycle: identifying goals, pursuing outcomes, connecting methods to methodology, evaluating results, and using data to reform practice and inform the field. Through assessment and research, arts educators can begin to mitigate interest in bolstering cognitive growth and achievement joined with the experiential learning arts production generates. When this happens, those of us engaged in the teaching profession become better equipped to foster creative classroom environments while at the same time are able to provide "*proof of the [arts'] educational impact* (Fowler, p 145)."

Paradoxically, as the debate heats up voices opposing formal assessment and evaluation within teaching and learning and the arts have also supported action research and related studies—investigations that examine arts-based teaching practices and their impact on learners. For example, new studies into the affect and efficacy of arts-based instruction have grown exponentially over the past ten years (Bresler, 2004; Fox and Geichmnan, 2001; Davis, 2006; Willis and Schubert, 2000). These find that creative thinking, the experience of imaginative exploration, creative "Flow" (Csikszentmihalyi, 1996), arts-disciplinary instruction, and aesthetic discourse, are key components for deep learning. Arts-rich settings are cited as being beneficial to creating a well-rounded and educated citizenry and for supporting life-long learning habits of mind (McCarthy, Brooks, Lowell, and Zakaras, 2001; McCarthy, Ondaatje, Zakaras, and Brooks, 2004).

A. Grounding the Study: A Theatre Arts Context.

Despite interest in the educative nature of arts engagement there remains a paucity of literature connecting theatre arts-based classrooms with SoTL especially if one focuses on university-level instruction. This lack of SoTL-based evaluation and literature limits academes' ability to define quality arts instruction.

A review of the literature pertaining to Storytelling, Creative, and Ethnographic performance, for example, shows a small number of SoTL related studies that examine the doing and making of ethnotheatre[2] in an educative environment (Ackroyd, 2006; Conrad, 2004;

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[2] *Ethnotheatre* is defined as the production/performance of an ethnographically based theatre work or composition. *Ethnodrama* is an emerging term and defines the written versions of ethnographically based theatre works or compositions. The data sources for these texts usually have been created using qualitative data points such as

Saldaña, 2005). Yet, without models of grounded assessment practices we do not know if our students are learning or if we are succeeding at teaching them.

In the field of Theatre this is a real problem since we tend to correlate audiences' and critics' praise as evidence of successful learning outcomes. Also, we frequently interpret accolades and popularity as substantiation of deep understanding. Yet, mere popularity does not denote knowledge acquisition. A cursory review of the recent publications that propose to define methods for teaching Acting, for example, show that although the methods and language used in Western actor training are somewhat standard (they are understood systemically and used across the discipline) instruction of the most common methods is—almost exclusively--personality driven and idiosyncratic.

This study was developed within the contentious, debated, and creative environment discussed above. It was planned in direct response to the concerns regarding supporting a wider discourse of best practice within the performing arts and with a desire to demonstrate arts teaching and learning, i.e. meaning-making, specifically in General Education theatre classes.

It was based on the assumption that teaching and learning are creative and constructed processes and that they are particular to each individual practitioner and at the same time interconnected. Further, teaching and learning ought to involve all components of the investigative paradigm (Bybee, 2002), that is, the learner, teacher, and the environment must interact in an ongoing experimental and educative way in order for deep understanding to occur; what Hawkins (1974) calls the interaction between "*I, Thou, and It*." Further, this study's methodology is situated on the 'boundaries' of qualitative and ethnographic investigation where transactional praxis is located.

B. Ethnographic Theatre.

In the field of storytelling there has been a decided epistemological shift in practice. Changes in older models of scholarship and folk practice have inevitably led away from the structuralist ideas that 'told stories' are either universally accepted or are anecdotes that illustrate idiosyncratic or dominant perspectives. There is a shift toward viewing storytelling and theatre as central and primary to thinking and meaning making (Bruner, 1990). "Narrative Inquiry" (Clandinin and Connelly, 2000), as it is now characterized, has become a legitimate scholarly discipline and as it grows it has taken on new functions in research study. Narrative Inquiry is beginning to resemble much that is familiar to the working artist in that it requires the practitioner to be a reflective and active inquirer, storyteller, author, and performer (Patton, 2001a).

One of the most controversial edges, or 'borders,' (Gubrium and Holstein, 1999) where theatre making and qualitative inquiry come into relation, can be observed in autobiographical and ethnographical theatre and "creative[3]" neo-storytelling (Saldanã, 2003 and 2005; Schueb,

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interviews, diaries, autobiographies, first-hand accounts, field notes, participant-observations, and personal stories, etc.

[3] The phrase "Creative" theatre was first used by Lecoq (2002) to describe his movement-based theatre-making. It now denotes a performance that is predicated on improvisation and role-playing around thematic or storied constructs. "Creative Storytelling" (Zipes, 1995) is used to describe the work of storyteller performers who use traditional folk literature as the basis for new performances, usually without a memorized script, free use of mime, acting techniques, and other dramatic structures. " Creative Story Theatre" (Sills, 2000) is another more formal iteration of this genre, and is used to describe ever-changing performative structures that are created by artists or co-

1998; Taylor, 2006; Zipes, 1995). Here, ethnographic narrative exploration directly influences and fuses with the world of theatre production, sociology, dramaturgy, and performance studies. The contact has brought about a revolutionary shift away from modernist theatre practice and toward what Puchner (2006) calls 'performance interventions', that is the combining of eclectic components of autobiographical material, older forms of ritual theatre, masking, mime, puppetry, as well as oral literatures, and folk histories, bringing them together and center stage.

The results have met with general popular success. The works of Smith (1992 and 1993), Ensler (2001 and 2005), and Kaufman (2001) for example, have become major icons and gained widespread standing and critical acclaim. All of these artists have one thing in common, they use storytelling as the foundation for their work and have collected narrative data by implementing qualitative inquiry projects and oral-history collection; ethnographic material garnered through processes like, or identical to, orthodox social science methodologies and methods, the backbone for play-crafting and production.

Where ethnotheatre practitioners diverge from social scientists is in the product of the research activity, here the entire paradigm shifts away from analysis toward empathic creative products. Artists more freely pick and choose which stories and rituals to make manifest and which to leave out. They lean toward the kinesthetic and away from the codified.

Because the essence of narrative discourse has always been ephemeral and personal it is important that any study using these techniques and frameworks seek better and stronger ways to link the disciplinary fields—using past models, present conditions, and future creations to engage in ethnostorytelling and ethnoperformance. It is within the realm of autobiographical, heuristic, and ethnographically-based art that the self and other can be observed most acutely—where we see work grounded in qualitative research and narrative inquiry as supportive of performative exploration, ones that are iterative, praxis driven, and transactional in their scope and situation.

C. Connecting to the SoTL Taxonomy.

The study attempts to address all four aspects of the SoTL Taxonomy (Hutchings, 2000), as follows:

A. The Scholarship of *What Is*: This study was designed to examine what happened in a specific university classroom during a yearlong investigation. This included observing and describing the approaches and interventions used to address specific outcomes as well as developing and reflecting on the processes that participants experienced in their teaching and/or learning.

B. The Scholarship of *What Works:* This study was designed with specific outcomes in mind. It was intended to be iterative in approach and to track the different versions of teaching materials and practices—examining their impact on students. It was hoped that the study would affect the approaches, ideas, and investigations of instructional design— especially as these influence deep understanding in the areas of story-performance, ethnodrama and ethnotheatre making (the topic/curricular focus of the course in question).

C. The Scholarship of *Visions of the Possible*: This study was iterative in nature and designed to examine the impact of pedagogical and methodological practices. The phases

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created within improvisation or informal systems and institutions such as gatherings, political rallies, and other similar events.

Journal of the Scholarship of Teaching and Learning, Vol. 7, No. 2, October 2007.

93

of this study were formed in direct response to evidence and subsequent findings. The intent is to clarify teaching and learning.

D. The Scholarship of *Formulating New Conceptual Frameworks*: The project led to creating a new conceptual framework for teaching theatre in a General Education (GE) environment and also augmented and changed the researchers' assumptions and attitudes. Shifts in perception and disposition were one of the most significant outcomes of the study as it resulted in critical changes in course curricula as well teaching method/implementation.

II. Design and Implementation: Doing Systemic Inquiry in TH 460: Storytelling and Ethnodrama (460).

A. *Framing the SoTL Question.*

This investigation was designed in order to understand assessment and student learning within the course *Theatre 460: Storytelling and Ethnotheatre Course* (460), a GE course offered by the theatre department at this researcher's university. The curriculum was designed to involve students in a range of performance-based narrative processes including folkloristics, performance art, storytelling, autobiography, oral history, and ethnodrama making. The overall goal was to expose students to the field and involve them in collecting and telling stories effectively and performatively.

This study was designed in keeping with standards for qualitative and narrative inquiry endorsed by Patton (2001b) and Bresler (2004) and utilized a combination of qualitative approaches with an emphasis on narrative inquiry methodology (Clandinin and Connelly, 2000) as a theoretical frame for looking at university students' perspectives and concerns regarding their own learning and abilities. Validity was established through a paradigm of authentic relativism, in that it depended on the design, research relationship, and reflections of participants in order to build an realistic, valid, and descriptive account (Maxwell, 2004). In this case, the processes of capturing a grounded and legitimate perspective were emphasized. Interpretive and theoretical validity were substantiated through 'collocation' analysis (Mello, 2002) and the inclusion of multiple participant perspectives—including divergent or negative strands (Strauss and Corbin, 1997). Findings were employed iteratively to refine questions, inform classroom practice, and create topical and responsive theories. Also, care was taken to capture a legitimate understanding of the study's context by presenting as complete a picture as possible of what participants, including the researcher, actually said, did, thought, and perceived. To ensure this, the research data was captured in multiple media sources including notes, logs, emails, scripts, surveys, and digitals recordings and video.

Finally, to ensure a valid account, triangulation of data was structured into the research design and plan. This included; a) using methodology that correspond to the design (narrative approaches); b) including on-going discussion and investigation of research questions; c) paying attention to disconfirming and divergent data; d) collecting data from multiple sources as a way of checking out researcher beliefs, assumptions, and biases; e) using video, written, and recorded data to capture the on-going instruction and learning; and f) using collocation and grounded methods of analysis, which align with the narrative and qualitative nature of the data points.

In July 2005 a research plan was submitted to the Internal Review Board, was approved, and awarded Exempt Status The study and its design were then reviewed and reworked through

participation in the university's Center for Instructional and Professional Development's (CIPD) SoTL Fellows program. After consulting with the CIPD director and staff, in August 2005, guiding questions for the study were completed: *Do the syllabus, course instruction methods, student outcomes, and assessment tools function holistically and successfully? If so, in what ways? What is the impact of the course on student learning and perception?*

B. Data Points: Gathering SoTL Evidence.

The study examined the efficacy of 460 for teaching and learning spanning two semesters over the 2005-2006 academic year. The first step was designing a scaffold-matrix intended to give a visual frame to the inquiry. Next was alignment of course goals and student objectives/outcomes with the scope and sequence of the curricula. Assessment tools were then designed that tied these various threads together.

In September 2005, 460 students were given pre, mid-term, and post surveys. In addition, 460 was documented through field-notes and teaching logs, which were kept on a weekly basis. Other artifacts used to augment these data were planning matrixes, syllabi, student writing, scripts, transcripts, video, and performance reports.

During the yearlong implementation of this study the following data were collected:

1. Detailed and running account of the planning and work sessions held in conjunction with UWM staff and colleagues, (7 sessions).
2. The development of planning matrices and syllabi.
3. Examination and documentation of course goals and outcomes and the alignment of these with method and practice(s).
4. Development and implementation of appropriate assessment tools.
5. Field logs and field notes kept that tracked activities, reflections, and processes during course instruction and implementation.
6. Interim reports and essays completed for CIPD.
7. Design and implementation of student questionnaire/surveys that addressed curricular issues, assessment questions, and larger research query (N=141).
8. Reflective papers written by selected students (N=4).
9. Midterm reports (N=34).
10. Final ethnodramas and transcripts (N=17).
11. Documentary video footage of classroom instruction and service-learning.
12. Iterative examination of nascent findings and use these to redesign course and practice, (in keeping with Grounded, Narrative, and Action Research methodologies), as discussed previously.

C. Research Site(s).

Previously, 460 had been tied to specific projects pertaining to the general field of storytelling and Devised/Creative Theatre (Lecoq, et al, 2002; Oddey, 1996; Sills, 2000). For example, in 2004, students had researched the *Amduat* (the ancient Egyptian Book of the Dead) and created a storytelling production as a creative response to this artifact. Other 460 topics included *Super Heroes, Cinderella—A World Tale,* and *A Cosmic Web.*

460 was redesigned as a laboratory for the SoTL investigation by focusing exclusively on creating oral histories, ethnotheatre pieces, and ethnodramas. A matrix for course planning and

assessment was developed as well as a detailed grading rubric intended to organize and describe the learning outcomes. Surveys were designed that addressed students' learning, perceptions, and response to grading rubric. Participants were asked to respond to three surveys during the sequence of the course: one at the beginning, which acted as baseline, the second midway through the course, as a reflective check-in, and the third at the final class meeting after performances had been evaluated.

Participants of this study were students who randomly enrolled in 460, either as an elective within the theatre department or for GE credit. 21 students attended the course in Fall 2006 and another 26 participated in Spring 2007. Of these 47 students, almost one-third were non-theatre majors. The rest were split between the BFA and Theatre Studies (BA) programs— with the majority of BFA students registering for 460 in fall 2005.

1) Milwaukee Stories (Fall 2005): The subject of 460 (Fall 2005) dealt with "on (not) getting by" in Milwaukee. The concepts grounding the course were issues raised in the book *Nickel and Dimed: On (Not) Getting by in America* (Eherenreich, 2002) as they specifically related to life in and around the City of Milwaukee. Therefore, 460 was subtitled *Milwaukee Stories,* and was also linked to the BFA Acting Program, which produced the play *Nickel and Dimed*[4] (Holden, 2003) on campus in December 2005.

When 460: *Milwaukee Stories* began it centered on the experiences of working at or below minimum wage in Milwaukee communities' as well as participants' perceptions of what it meant to "get by" or "not make it" in urban Wisconsin. Students enrolled in the course learned basic ethnographic and social research techniques and were also taught basic coding and analysis through collocation methods (Mello, 2002). Participants were asked to use the new grading rubric as a way of reflecting on their progress and learning. This tool proved useful in shaping a shared language of critique within the 460 classroom.

After collecting interview data, students were assigned to work in production groups and required to create theatrical presentations that incorporated major findings and included data-specific stories and themes. 460 participants were also asked to embed other theatrical formats such as physical and creative theatre, mime, song, and storytelling techniques in order to create what Saldaña (2005) calls "interesting theatre:" honing ethnographic material so that it works within the structure of a play; has a beginning, middle, and end, an arc of dramatic tension, contains universal psychological/humanly identifiable themes, and includes empathic information that audiences can recognize. Works-in-progress were presented as midterms, then honed and reworked for the final 'exam.' Many of these were chosen to be included in a public production sponsored by the Theatre Department, entitled *Milwaukee Stories (*directed by Ms. Sheri Williams Pannel).

2) Elder Tales (Spring 2006): In Spring 2006, 460 again focused on ethnographically contextualized theatre, this time concentrating on the title *Elder Tales*, this decision was influenced by the fact that the Theatre Department had direct connections the university Center for Age and Community.

Elder Tales students engaged in the same basic processes and protocols as their *Milwaukee Stories'* counterparts. However, this time the curriculum centered on beliefs and perceptions of death, dementia, aging, creativity, and person-centered care. A service-learning component was

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[4] Holden's play is an adaptation of *Nickel and Dimed: On (Not) Getting by in America* (Eherenreich, 2002).

formally added to the course and students spent over 30% of course time interacting with elders at an assisted living center in the area. Here they worked with clients, staff, and patients creating narratives and eventually producing ethnotheatre and ethnostorytelling events, which were open to residents, participants, and the general public. In addition, a documentary was made of the *Elder Tales* Project.[5]

III. Findings: Reflecting on SoTL Evidence.

As study activities were implemented data were examined iteratively. In keeping with qualitative and grounded methods, findings were used to update and restructure both the classroom teaching and course curricula. In general, at the end of the fall semester *Milwaukee Stories* data indicated the following regarding course redesign:

A. *Success of Pre-planning Matrix.*

The matrix developed at the outset of the project proved to be a valuable teaching and learning tool. It focused the course, helped give context to the work, and visually framed the relationship between the learner and the instructor—interaction that was key to success in this study. For example, during preplanning (in August 2005) many small activities that had been central to 460 in the past were set aside because they were judged to be unconnected to course goals. The calendar for the course was significantly restructured so that projects might be worked on incrementally, a course packet with handouts delineating performance guidelines and interviewing techniques was created, and finally, new texts were selected.

These changes proved effective. Data show that on surveys, 460 students consistently indicated that they had formed a cohesive understanding of what the course objectives were and how they were meeting course criteria (in previous years teacher evaluations had shown that the instructor rated lowest in clarity regarding grading and assessment). Also, a majority of students (over 70%) felt that they had learned a new skill (ethnotheatre and ethnostorytelling) and that they had succeeded because the course had been infused with both hands-on projects and research-based inquiry: "*I learned the most in this class through doing the research for the class and then putting the stuff into a rehearsal process*" (Junior, BFA Major)[6].

B. *Success of Assessment Tools.*

Students had opportunities to see others' work *as well as* reflect on their own processes through the use of the detailed rubric developed for this study. The rubric supported student learning by providing students with a useful tool for examining storytelling and ethnotheatre processes as well as created a common language for assessment. In class, the rubric was used to evaluate the ethnotheatre cannon (for example, *Fires in the Mirror* and *Vagina Monologues*) as well as evaluating student generated projects. Data indicate that the combination of inter and

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[5] The *Elder Tales* documentary, produced by Luther Manor and directed/filmed by Alex Torius, premiered in June 2006 at the Creativity and Aging Forum on campus.

[6] All data quoted here are indicative of the complete data set and are used as exemplars and/or models that support findings. Data are identified by student source. ***All data excerpts are indicative of the entire data set and are used here as exemplars only.***

intra-personal assessment was significant to all but two students. Most students commented that they learned a great deal over the course of the semester through assessing others.

> One of the things that really helped me was having a chance to watch other storytellers and then discussing that [rubric] and what worked and what didn't.
>
> (Sophomore, BFA Major)

C. Process vs. Product: Constructivism.

A large minority of surveys from *Milwaukee Stories'* data indicate that the mode of instruction sometimes created confusion and dissonance.

> There was confusion at the beginning what to do early on based on the teaching style. That was a bit frustrating. But then [the teacher] made it clear and some things were intended to be confusing so that we could do things our way and not any one way—for creativity—and now I think either really specific guidelines and rules or no guidelines and rules is the way to go.
>
> (Junior, Theatre Studies Major)

> For me, I had a difficult time understanding and adapting to the layout of the assignments. I am a bit over organized and the 'freedom' of the class required a bit of adjustment.
>
> (Junior, Theatre Education Major)

Two students, responding to final surveys, complained about having to do "*too much research.*" One commented, "*There was too much interviewing and transcribing and not enough actual storytelling or theatre.*"

> I think that in this class the process is the criteria. It is not just about doing an end product that needs to be taken into consideration, the development of what I did—and I am excellent! Is what counts.
>
> (Sophomore, Theatre Major)

While these comments may not be surprising, 460 students brought up a legitimate question: How to encourage constructivist and hands-on learning approaches while at the same time supporting students acculturated interest in, and comfort with, more traditionally oriented methods?

D. Course Redesign.

Reflection on findings discussed above brought the research study to its next iteration: How might the course be redesigned in order to assist students in framing and defining aesthetic and creative tasks? How might students be encouraged to produce and practice ethnotheatre

Journal of the Scholarship of Teaching and Learning, Vol. 7, No. 2, October 2007.

98

procedures without sacrificing a free-flow of ideas and intuitive open-ended approaches? These were factors that the study attempted to address in spring 2006 *Elder Tales.*

Subsequently, *Elder Tales* was designed in winter 2005 with nascent findings from *Milwaukee Stories* in mind. The redesign process focused core content more firmly on the philosophical and epistemological questions and perceptions of theatre making. It also attempted to clearly identify creative processes, infuse constructivist discourse into the every-day course work, and practice meaning-making through experiential procedures, learning and making use of a specific language of critique and evaluation designed to lead students to insights into the process of production; what Csikszentmihalyi and Robinson (1990) call "*the major dimensions of the aesthetic experience*," i.e. learning about creative processes through experimental production.

Data show that course redesign led to practical changes in 460, among these was a further refinement of course calendar and handouts along with a specific service-learning project required of all students. Also, course instruction was strengthened as it further focused on creating performances, using visual and kinesthetic processes to develop performance pieces, and working on material iteratively, incrementally, and over time. These changes, in turn, led to significant benefits such as deeper learning of course content, better skills acquisition, and a broader interest in the subject matter. Students reported learning more about themselves and came to respect the process of making ethnotheatre as well as valuing the end product.

E. Learning to Listen.

The refinement in instructional guidelines and the instructors' own learning curve in mentoring students in the collection and use of the stories of 'others' seemingly paid off in an increased feeling of success. In exit surveys, a majority of *Elder Tales* students reported that they learned about theatre and storytelling not simply through doing, practicing, and improvisation, but also by listening to the stories of others. Over 80% of students reported that they learned to *listen* to elders. Listening in turn, they observed, led to understanding, deeper and/or more complex knowing, and perceiving the value of others.

> I learned that the important parts are about life and knowledge and these are not just found in a book, but that talking and listening to people's stories is great knowledge in itself.
>> (Junior, Criminal Justice Major)

> I am really curious and I like learning. This course got me excited and that made me listen and then speak back. At first I was afraid to fail, but I gained confidence and used my imagination and creativity to make [the ethnodrama projects] meaningful.
>> (Sophomore, Psychology Major)

> I learned to listen; I was pleased with what I heard. I learned age is nothing. We are all people and some of the elders have wicked and almost pornographic senses of humor—despite their years.
>> (Junior, Film Major)

Journal of the Scholarship of Teaching and Learning, Vol. 7, No. 2, October 2007.

99

F. Learning about Life through Ethnographic Theatre and Storytelling.

In exit surveys, over 75% of students in both fall <u>and</u> spring showed evidence of developing a foundational knowledge of ethnotheatre procedures. For example, they clearly defined the concepts of ethnodrama and ethnotheatre: "*It's social change,*" "*making theatre from the struggles of people,*" and "*bringing about a cultural awareness and understanding…of this society.*" During *Elder Tales,* however, students seemed better able to inter and intrapersonally connect the fundamental concepts of ethnoperformance to specific experiences and functions. Spring semester students were more engaged and identified with material more significantly.

Students in both fall 2005 and spring 2006 reported learning best through developing performance pieces. However, a majority of *Elder Tales* students added that they also gained new and significant knowledge by interacting with the elders and through group interactions with peers. (By contrast only two *Milwaukee Stories* students mentioned their experience with informants as being important.)

> What my group and I learned, we came to the conclusion that every [person's] story is very unique and that it doesn't matter who the person is, where they came from, or if someone has dementia or not. We decided to make our final play a presentation…to celebrate…life and all the life stories [we heard]. We are all born into this world and we all have our own stories…I now see that I have a lot more to go in life. Taking this course has taught me some important lessons. Number one: it is OK to get old, and number two everybody has their own story, and number three everyone is unique in their own way.
>
> (Sophomore, Theatre Studies Major)

> My participation was patchy at the start. I soon learned and discovered a whole new self inside me. I grade my learning as an A. This was because I worked hard in my projects and with my group. I learned through this that even though we can be in the worst personal crisis, we all have value. We all need each other. Art is key and creativity is the way we communicate spiritual value. I am astonished. This is the class I thought I would fail for lack of clarity and interest. But it was the class that challenged me the most –to find myself as artist and a person. And then it acted as a sounding board for my artistic and spiritual endeavors. This class played an indispensable role in turning my life around. I needed this class in my life. I cannot say more. I cannot say enough to praise this course… Truly a life shaping experience.
>
> (Sophomore, Art Major)

G. Developmental Learning.

Did the arts-based curriculum and instruction provided in 460 significantly advance or affect student-learning outcomes? Did 460 encourage students to develop new learning and

Journal of the Scholarship of Teaching and Learning, Vol. 7, No. 2, October 2007.

100

knowledge? Was the class holistically connected and did it deliver the projected curriculum? Findings suggest that 460 participants benefited from the ongoing shifts in structure and procedures. Further, the design of the course had impact on students' development and learning.

> I think that the things I have learned are not definite like a 1+1=2 experience. It's more of a knowledge that I've gained and knowledge that I can take with me and use in many situations.
> (Freshman, Theatre Studies Major)

The combination of being compelled to listen to stories of others, reflect on the stories as data, share personal stories, and finally to produce (incrementally and over time) a performance piece that did not simply report information but presented reflective dimensions of the material, which led to significant and deep understanding, knowledge that students could potentially use in multiple situations and fields of study.

Faculty at Portland State University (2007) developed an all-purpose rubric for assessing student learning in five major areas/goals (critical thinking, communication, quantitative literacy, ethics and social responsibility, and diversity). The rubric has also been widely adapted both on and across campuses. For purposes of validity and triangulation, the Portland State University tool was adapted and used here to reflect on development of students and show outcomes.

Using the six levels of competency suggested by Portland State University (2007), 460 students were assigned a score, based on their responses to surveys, at the beginning and end of their experience (see Table below). Data show that most 460 students (over 93%) began the course at a Level 2—meaning that they demonstrated a basic ability to identify and discuss their own perspectives in the broader context of the course—but that they rarely discussed the perspectives of others.

Table 1. Rating Developmental Shifts in 460 Students' Attitudes.

% Of students (N-47)	Level 2	Level 3	Level 4	Level 5	Level 6
Beginning of course (September/January)	76%	16%	4%	4%	0
End of course (December/May)	4%	10%	34%	43%	10%

At the end of 460 most students had progressed and 10% of students' responses could be rated at level 6. It should be noted, however, that when these data are broken down by semester there is evidence to suggest that the spring 460 supported a greater jump in developmental scores.

> This class has made me think more about old age and getting older. I've learned that it is important for me and the older people I talk to; and to continue to share stories and think back on memories with each other. My parents are of an older generation and now I want to learn more and more from them as we all grow.
> (Junior, Theatre Studies Major)

Dispositions Rubric[7]

Score of 6 – Consistently does all or almost all of the following:
- creatively and comprehensively articulates social issues (classism, poverty, and/or aging) in performance related projects, and uses specific evidence gathered from others.
- demonstrates multiple sides of these issues
- questions what is being taught
- constructs independent meaning and interpretations
- presents well-developed ideas
- demonstrates a deep awareness that is manifested concretely in the final performance projects.
-

Score of 5 – Does most of the following:
- analyzes social issues (Classism, poverty, and/or aging) in performance related projects, and uses specific evidence gathered from others.
- makes thoughtful connections between this area of study (classism, poverty, and/or aging) and its effects on lives, ideas, and events
- discusses explicitly how a deepening understanding of (classism, poverty, and/or aging) has influenced personal opinions, decisions, and views on the role of self in society

Score of 4 – Does most of the following:
- thoughtfully analyzes, in a scholarly manner, a situation or situations in which (classism, poverty, and/or aging) have played an important role
- begins to investigate connections between areas of controversy and to extrapolate meaning from specific examples
- applies learning (classism, poverty, and/or aging) to issues that arise in everyday life
- contemplates the impact of personal experience in the context of (classism, poverty, and/or aging)

Score of 3 – Does most or many of the following:
- exhibits a working knowledge of (classism, poverty, and/or aging)
- applies understanding to some topic(s) but offers no independent analysis
- references issues (classism, poverty, and/or aging) as a subject of personal inquiry
- begins to question established views
- contemplates in some way the value and impact of individual choices and personal action on one's broader community

Score of 2 – Does most or many of the following:
- mentions some issue(s) involving (classism, poverty, and/or aging) and/or talks about them in a general fashion, but does not discuss these areas in a meaningful way
- contains some evidence of self-reflection in the area of (classism, poverty, and/or aging) but this reflection is superficial and reveals little or no questioning of established views

Score of 1 – Consistently does all or almost all of the following:
- displays little or no engagement with the subjects (classism, poverty, and/or aging)
- demonstrates little or no recognition of (classism, poverty, and/or aging) as subjects worthy of personal inquiry

IV. Conclusions: Analysis of the SoTL Evidence.

A. Watching and Performing: Combining Constructivist and Behaviorist methods.

The instructor was interested in creating constructivist and experiential modes of inquiry, believing that each individual learner constructs knowledge and that information is not necessarily gained through memorizing a series of facts or skills. This philosophy is based on the assumption that learning and knowing are dimensional experiences and can be gained best

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[7] Adapted from the Portland State University Studies Ethical Issues and Social Responsibility Rubric, Downloaded 1/18/07 from www.pdx.edu/advising/unst_goals.html

through educative hands-on processes—further the best way to learn is with others in socially constructed formats.

Data from this study indicate that students do not necessarily agree with, nor are they comfortable when presented with, Constructivism as an epistemological or pedagogical approach. Rather, many are situated to be more at ease with behavioral and social learning approaches, like those discussed by Bandura (1986)—the foremost proponent of "observational learning" and social modeling.

It is often assumed in theatre education that improvisation, game playing, and production/performance are key significant educative experiences. However, findings from this study suggest that, even within a course that focuses on the performing arts, students are more likely to be motivated by a combination of traditional and constructed approaches: modeling, listening, observing, role-playing, and experimentation. It is suggested that in future SoTL studies investigations explore the impact of mixed pedagogical methods—especially in university contexts.

> I learned by getting in there and doing it. I also learned that they way to do it is to work your way through and wrong or doing it right it's that we learn to ask questions and not be afraid of the wrong ones. It's that we get to see what others do too.
> (Sophomore, Theatre Education Major)

> I learned that I love to participate and that I really am willing to jump up and try and even if I look like a fool in front of the class I love learning this way…in this class I began to realize what other people are seeing and doing.
> (Senior, Spanish Major)

> I leaned most by doing group work, scenes, and practicing. I also learned a great deal from watching others. I liked watching the instructor and how she passes on what she knows, also looking at the performances and things like Fires in the Mirror.
> (Sophomore, Theatre Studies Major)

B. *Social Science vs. Arts-based Methodology.*

During the course of this study, social science interviewing and oral history collection was included as an essential part of the 460 curriculum. However, methods for teaching these skills significantly changed in response to this study's findings.

In August 2005, during preplanning and course development, most of the protocols and guidelines for teaching 460 students about social science method focused on standard ethnographic and oral history collection. 460 lessons were designed so that students might be introduced to open-ended interviewing and folkloristics. Guests from Sociology and Women's Studies presented lecture-demonstrations. Finally, an ethnographic simulation was created that required all students to practice collecting interviews in role.

All of these activities and materials resulted in raising 460 participants' comfort levels and abilities. However, once in the field, much of what had been practiced did not prove

practicable. This was especially true during *Elder Tales*. Participants quickly became frustrated with the open-ended question/interview technique. Instead, elders continually requested that the students "*tell stories to me*." By the fourth service-learning visit all but one *Elder Tales* group had thrown out the protocols developed in on campus sessions and were talking, sharing, listening, and recording together. As a result, the stories of elders and the stories of students became intertwined in the data. In this atmosphere, the one consistent format that stayed useful and strong was listening. Listening, more than any other experience was most appreciated by students.

This study suggests that different data collection models should be developed and used, especially in arts-based settings. It shows that the social science model is limited—especially when one wants to establish rapport, rapprochement, and encourage collaborative creative activity. In future this study suggests that when ethnographic theatre and storytelling courses are taught the protocols and guidelines be redesigned to include more collegial interface and that listening as a collaborative interface be focused on.

> I learned how to really listen to people and discover what it means to most of them. I've learned not to prejudge people. I've found that in a project like this it is conversation not interviewing that counts.
>
> (Senior, Theatre Studies Major)

> It took a little time but we discovered that w could let them go and talk and listen and not follow the rules. It worked better that way.
>
> (Sophomore, Anthropology Major)

C. Working and Learning.

Did the course meet its stated goals? Did participants end with a more mature idea of how to be makers of ethnotheatre?

Students in this study contextualized their learning role as being part of the work ethic or in working-class terms: "*I worked really hard so I should get an A*," was a very common comment written on surveys. Students also discussed the expectations placed on them in utilitarian terms: "*just let me know what to do, what does it take to do what you [teacher] want?*"

This idea, that assignments and class related activities were a "job," was expressed through the expectation that grades should be awarded in direct relationship to the difficulty experienced in accomplishing the course activities. In a majority of the students' minds, exploration of knowledge and ideas seemed to play a secondary role to "getting things done." In addition to this somewhat narrow view of the student role, (just tell me what to do and I'll get it done as quickly as I can), students looked to their instructor and/or audience for approval and recognition. Audience approbation was the most important indicator of successful learning. Immediate feedback was sought, evoking in the mind of the instructor an image of the classroom as a manufacturing plant, the professor as a foreman, and students as factory workers.

For many 460 students, the difficulty of a task did not necessarily mean that the task was a better learning experience or that it was in any way related to understanding. Getting the assignments done was seen as most important. This is what DiSessa (2000) refers to as the

"regime of competence;" a habit of mind that assumes learning is a series of skills built through repetition and practice leading to success and expertise.

However, students viewed the profession of performing, "being an artist," and acting quite differently. Artists "*were creative*" and "*did things outside the box*." It is ironic that the 460 participants perceived higher learning as a place where work had to be accomplished in the most efficient manner while at the same time attributed learning artistic processes to "*creative and original*."

Data show that student perceptions of the 'habit of competence' did not necessarily change; instead student perceptions of learning to become ethnodramatists, i.e. artists, became more inclusive. During *Elder Tales,* for example, students began to put the idea of *working hard* together with success in learning about themselves and others. Further, a significant minority of students felt that through concentration and commitment they had learned about theatre making, themselves, and others.

V. Limitations and Suggestions for Further Study.

Although deliberate care was given to the study's design and implementation, (see previous discussion), the findings and analyses suggested here are certainly case specific. This study is person-specific as it examines one researchers' perspective only. Also, it should be noted that most participants had positive experiences and that divergent and negative data were not common. This could have been the result of the fact that students, who were graded by the instructor, were attempting to flatter in their responses.

Further, the study is an investigation that took place within a single year with a very specific group of participants. As such, any replicability or universal claims would be difficult to make. It is supposed that with different instructor/researchers and other students the results might be dissimilar. However, it is impossible to rule out all biases in any study be it qualitative or quantitative, the research attempted to create multiple opportunities for the researcher to reflect on and face her assumptions and beliefs and to balance them against emergent theories. Further, the study is rooted in narrative and arts-based explorations and was implemented with theoretical and analytical validity in mind.

On reflection, the biggest surprise was the overwhelming enthusiastic response of the part of students' to *Elder Tales.* This may have been due to the subject of the course itself rather than any changes made on the part of the researcher. In shifting the focus of the course, from issues surrounding poverty (fall) to aging and dementia (spring), the participant experience altered.

Milwaukee Stories, although based in familiar geography was not always connected directly to students' own experience. Aging however was and is. Although there is no data to substantiate this reflection, the author/researcher suspects that some of the overall success of this study was due, in part, to the intra personal and inter relationship that investigating elders' lives engenders.

The course is now in 'flow' and has a foundation that is and remains useful to the author as she continues to teach ethnotheatre. Also, by attempting to clarify and organize the constructivist style of teaching it is felt that the study has led to insights regarding how to incorporate observational learning and other more traditional formats used in university teaching. Future studies will examine how behavioral and Socratic forms work in conjunction with constructivist arts-based pedagogy and methods.

Mello, R.

Future studies will also investigate the link between empathic learning and students' interest in "listening" and in designing more ethnographically specific courses, especially ones that focus on important social issues—but ones that are outside the 'norm' for university students. For example, in summer 2007 and again in fall 2008, 460 will concentrate on the experience of nurses in combat and triage situations. Students will be given opportunities to explore the history and stories of the first USA nurses in combat (those during the Civil War), first nurses in military uniform (i.e. rank) and combat (WWII), and nursing in other significant emergency care events (9/11, AIDS clinics, Hurricane Katrina, etc.).

In conclusion, and with limitations in mind, it is felt that this study demonstrates the power of inquiry—the impact that the scholarship of teaching and learning had on one particular course during a full academic year. The improvement and significant shift in student learning and perceptions that occurred in the second semester would never have been possible had it not been for this investigation.

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Journal of the Scholarship of Teaching and Learning, Vol. 7, No. 2, October 2007.

109

JoSoTL Mission

Founded in 2001, the Journal of Scholarship of Teaching and Learning (JoSoTL) is a forum for the dissemination of the Scholarship of Teaching and Learning in higher education for the community of teacher-scholars. The journal promotes SoTL investigations that are theory-based and supported by evidence. JoSoTL's objective is to publish articles that promote effective practices in teaching and learning and add to the knowledge base.

The themes of the Journal reflect the breadth of interest in the pedagogy forum. The themes of articles include:

1. Data-driven studies: formal research projects with appropriate statistical analysis, formal hypotheses and their testing, etc. These studies are either with a quantitative or qualitative emphasis and authors should indicate the appropriate domain. Acceptable articles establish a research rigor that leads to significant new understanding in pedagogy.

2. Reflective essays: integrative evaluations of other work, essays that challenge current practice and encourage experimentation, novel conclusions or perspectives derived from prior work

3. Reviews: Literature reviews illuminating new relationships and understanding, meta-analysis, analytical and integrated reviews, etc.

4. Case studies: These studies illustrate SOTL and its applications, usually generalizable to a wide and multidisciplinary audience.

5. Comments and communications: Primarily, these are comments based on previously published JoSOTL articles, but can also include book reviews, critiques and evaluations of other published results in new contexts or dimensions

Submissions

Please see the Mission Statement for a discussion of the editorial philosophy for **JoSoTL**. Authors are encouraged to submit work in one of the following categories:

- **Traditional Research Reports: data driven studies with either a quantitative or qualitative emphasis**
- **Reflective Essays on SoTL**
- **Reviews of current themes in SoTL research including meta-analysis**
- **Case studies illustrating SoTL and its applications**
- **Comments and Communications on previous Journal articles, or book or software reviews**

In your e-mail with your submission, please indicate which of the above categories most applies to your submission. Despite their differences, all of these types of submissions should include the author's expression of the implications their work has for the teaching-learning process. This reflective critique is central to our mission in furthering understanding of SoTL. Authors are encouraged to review the Guidelines for Reviewers in order to understand how their submissions will be evaluated. **Authors are strongly encouraged to study the** Reviewer's Rubric **that reviewers shall apply in evaluating their submitted work.**

Authors should submit their article to josotl@iupui.edu. Submissions must be prepared in an electronic format using Microsoft Word on either PC or Macintosh platforms. Submissions should be uncompressed files attached to an e-mail, not in the body of an e-mail text. If e-mail transmissions are not possible, **JoSoTL** will accept submission on either CD or a USB flash drive (which cannot be returned).

All submissions must be prepared following the guidelines below. While three is no formal page limit, authors should adhere to recent article lengths, typically 20 pages or less. Authors are expected to include proper referencing for their sources, especially URLs for web sites that might contain material of interest to our readership.

Every submission must include a cover page preceding the article with the following information:

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    - Name and affiliation
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This cover page should be followed by the article formatted according to the JoSoTL Style Sheet (available in either .doc or .pdf format).

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Authors will be required to sign a Copyright Agreement with the Trustees of Indiana University. Authors must be prepared to sign this agreement upon acceptance of their work and prior to publication in the Journal. For more information regarding copyright, please see the statement of copyright and terms of use.

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Editorial Board

Style Sheet for *The Journal of Scholarship of Teaching and Learning*

John Dewey[1]

*Abstract: This paper provides the style sheet for **The Journal of Scholarship of Teaching and Learning**. Manuscripts submitted for publication should adhere to these guidelines.*

Keywords: teaching, learning, scholarship, educational philosophy.

I. General Guidelines for the Manuscript.

The final manuscript should be prepared in 12-point, Times New Roman, and single spaced. Submissions should be double-spaced. All margins should be 1 inch. The text should be fully left- and right-justified. The title (in 16 point bold) and author's name (in 12 pt. bold) should be at the top of the first page. The author's name should be followed by a footnote reference that provides the author's institutional affiliation and address. The abstract should be indented 0.5" left and right from the margins, and should be in italics.

Paragraphs should have a 0.5" first line indent. Use only one space after the period of a sentence (word processors automatically adjust for the additional character spacing between sentences). The keywords should be formatted identically to the abstract with one line space space between the abstract and the keywords.

Pages should be unnumbered since they will be entered by the Journal editorial staff. We will also insert a header on the first page of the article, as above.

References should be incorporated in the text as authors name and date of publication (Coffin, 1993), with a reference section at the end of the manuscript (see below for the desired format for the references). Titles of articles should be included in the references in sentence case. Unless instructed otherwise in this Style Sheet, please use APA style formatting. Footnotes should incorporate material that is relevant, but not in the main text.

II. Section and Sub-Section Headings.

A. Major Sections.

Major section headings should be flush-left, bold-faced, and roman-numeral numbered. Major section headings should have one-line space before and after. The first paragraph(s) of the article do not require a major heading.

B. Sub-Sections.

Sub-section headings should also be flush-left, in italics, and alphabetically numbered. Sub-section headings should have a one-line space before and after. Sub-sub-sections should appear at the beginning of a paragraph (i.e., with an 0.5" indent, followed immediately by the text of the sub-sub-section), with the heading also in italics.

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III. Tables and Figures.

Tables and figures should be inserted in the text where the author believes they best fit. They may be moved around a little to better correspond to the space requirements of the Journal. If necessary, tables and figures may occupy an entire page to ensure readability and may be in either portrait or landscape orientation. Insofar as possible, tables should fit onto a single page. All tables and figures should be germane to the paper. Tables should be labeled as follows with the title at the beginning (in bold), with data entries single-spaced, and numbered. Column labels should be half-line spacing above data.

Table 1. The title of the table.

Unit	Length, inches
Point	1/12
Pica	1/6

Figures should have their captions follow the. Captions should be single-spaced, with title in bold. Additional text should not be in bold. The Editorial staff may adjust layout to allow optimal use of space.
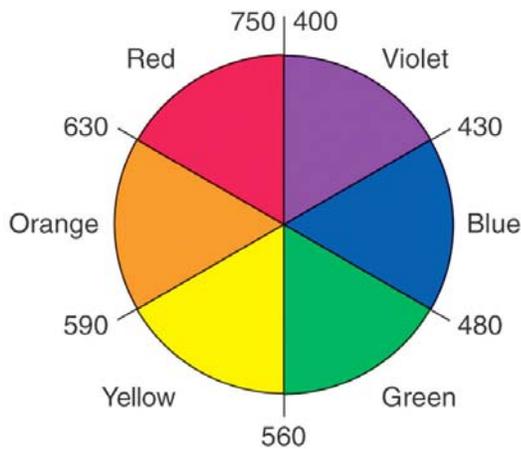

Figure 1. Color wheel with wavelengths indicated in millimicrons. Opposite colors are complementary.

Acknowledgements

Acknowledgements should identify grants or other financial support for this research by agency (source) and number (if appropriate). You may also acknowledge colleagues that have played a significant role in this research.

Appendix

Please insert any appendices after the acknowledgments. The should be labeled as follows:

Dewey, J.

Appendix 1. The Title of the Appendix.

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