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In this issue:

Self-Assessment of Teaching Practice: A First-Step in Enhancing Student Learning

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A salient professional goal of all teachers is to enhance and increase their effectiveness in facilitating student learning. Yet, the realization of this goal in everyday practice often presents a myriad of new questions such as the following: What is effective teaching? What different teaching approaches work best with different learning styles? How can classroom activities be modified so as to improve learning outcomes? These are not simple questions to answer. Indeed, they have escaped understanding and satisfactory address by some of the most experienced teachers. For example, Richard Feynman, Professor of Physics at Cornell University and the California Institute of Technology, Member of the National Academy of Sciences, and winner of the Nobel Prize in Physics in 1965, developed unique insight into his area of Physics, but found it very difficult to understand how he was effective as a teacher. In discussing how he learned in "*The Pleasure of Finding Things Out*" (Basic Books, 1999), Feynman remarks that as a young boy, "Everything we'd read would be translated as best we could into some reality and so I learned to do that – everything that I read I tried to figure out what it really means, what it's really saying (p.3)." This insight about learning was evident in Feynman's own intellectual development and research, but, seemingly, not explicit in his teaching practice. As Feynman (pp. 20-21) described, "All those students are in the class: Now you ask me how should I best teach them? Should I teach them from the point of view of the history of science, from the applications?" Feynman's response to these questions was not to embrace any single teaching strategy, but rather to use a chaotic approach that encompassed every way of teaching, discovering, knowing, and understanding available to him. But this still might not be enough. As Feynman remarked, "I don't really know how to answer this question of different kinds of minds with different kinds of interests – what hooks them on, what makes them interested, how you direct them to become interested… I'm sorry, after many years of trying to teach and trying all different kinds of methods, I really don't know how to do it (pp. 20-21)." Like Professor Feynman, many teachers are faced with a similar dilemma about their teaching and efforts to facilitate student learning. Optimistically, however, as this brief essay hopes to convey, through the fundamental process of self-reflection one may find insight into their teaching, and concomitantly develop best-practices that will enhance student learning.

(continued)

Focusing on the concerns of instruction then, as Arends (2000) notes, in our encounter with students in the classroom a variety of unique situations unfold, and these opportunities for teaching and learning call for an "art of practice". Conceptually, the "art of teaching" is not necessarily acquired by reading books. Rather, as Arends (2000) suggests, successful teachers learn the "art of teaching" by embracing a problem-solving orientation and "through reflection on their own practice (p. 26)." Thus self-assessment of one's teaching practice is noted as an essential first-step in developing the "art of teaching". Beyond this self-reflection on teaching practice follow the problem-solving concerns of finding and utilizing the most appropriate ways to assist students in learning. Thus, the teacher's evaluation of lesson plans, classroom activities, and course assignments, in relation to student experiences and outcomes, lead to an elucidation of best-practices that aid students in their learning. Key also in developing an "art of teaching" is to recognize the social dimensions of the classroom, where teacher and students interact and learn together. Indeed, underscoring the social dimension of teaching Arends (2000) posits, "Making one's classroom a learning community is one of the most important things a teacher can do, even more important perhaps than the practices used in the more formal aspects of instruction (p. 76)."

Embracing this orientation of "the classroom as a learning community", and noting the significance of self-reflection in professional development and its usefulness in discovering best-practices, a self-assessment tool useful for reflecting upon and further developing one's teaching practice is presented below. This self-assessment tool describes many best-practices in classroom instruction, and is a modification of a peer-evaluation instrument developed by Centra, Froh, Gray, and Lambert (1987). It is also reorganized in two ways: The first focuses on the teacher's self-assessments of the lesson-cycle presented in the classroom. The second focuses on the teacher's self-assessments of teacher-student interactions that take place in the classroom. Overall, this self-assessment frame-work emphasizes specific actions teachers may adopt (i.e., best-practices) in facilitating student learning. Again, as noted by Arends (2000), reflection on teaching is essential for teachers seeking improvement in instructional techniques and student learning. Thus, it may logically be argued that regular self-assessment of teaching will likely lead to better teaching and an enhancement of student learning outcomes. The following self-assessment framework and reflective questions, while not being exhaustive, represents a method for gaining insight into one's teaching practice, and suggests various best-practices that may be adopted.

Self-Assessment of Teaching Practice

Directions: Below is a list of teaching behaviors that may occur within a given class or course. Please use it as a guide for self-assessment of teaching practice, not as a catalogue of necessary characteristics or actions of the teacher. If used as a self-evaluative measure, one possible response scale is the following: *Not a part of teaching practice/may need to implement (1); Needs more development (2); Very well developed (3).* Regular self-assessment of teaching practice, combined with written reflections, may be useful for improving effectiveness in various aspects of instruction. Thus it is recommended that the teacher keep a journal and focus on a few areas of special concern throughout the course.

Self-Assessment of the Lesson-cycle:

The self-assessment frame-work considers best teaching practices in the following lesson-cycle: I. Beginning and introduction of lesson; II. Description, explanation and development of new ideas and concepts, as well as introduction of new learning activities; and, III. Summarization of important ideas and concepts. The reflective questions pertaining to best-practices in the lesson-cycle are found below. It should be noted that different and additional questions may be appropriate for different courses and classes.

I. Beginning and Introduction of Lesson:

- Did I introduce and make clear the purpose of the lesson?
- Did I point out and define relationships between this lesson and previous lessons?
- Did I provide an overview of the lesson?

II. Description, Explanation and Development of New Ideas and Concepts, as well as Introduction of Learning Activities:

- Did I present ideas and topics in a logical sequence?
- Did I pace the lesson appropriately?
- Did I use activities at the right time in the class?
- Did I provide clear explanation of the learning activity for students?

III. Summarization of Important Ideas and Concepts:

- Did I summarize the major points of the lesson?
- Did I address problems raised by students during the lesson?
- Did I relate today's lesson to future lessons?

Self-Assessment of Teacher-Student Interactions:

This aspect of the self-assessment frame-work considers best-practices in the area of teacher-student interactions. Following from Arends (2000, pp. 97-106), it illuminates the following key aspects of a productive learning community: IV. Creating a positive atmosphere for learning; V. Making connections with student interests and curiosity; VI. Attending to student needs; VII. Attending to the structure of learning goals and difficulty of learning tasks. The reflective questions pertaining to these aspects of a productive learning community are found below; and again, different and additional questions may be appropriate for different courses and classes:

IV. Creating a Positive Atmosphere for Learning:

- Did I project my voice to be heard by all students?
- Did I make and maintain eye contact with students and appropriately respond to their nonverbal behaviors?
- Were my nonverbal gestures consistent with a professional demeanor as well as ideas and concepts expressed in the lesson?
- Did I vary my intonation to add emphasis to important ideas or concepts?
- Did I use humor appropriately to enhance student interest and understanding?
- Did I facilitate group inclusion and psychological membership in the class?

V. Making Connections with Student Interests and Curiosity:

- Did I present examples and relate ideas to familiar concepts?
- Did I explain ideas and concepts clearly?
- Did I define unfamiliar terms, concepts, principles, etc.?
- Did I present material worth knowing and appropriate to the stated purpose of the course?
- Did I present material appropriate to student knowledge and background?
- Did I present divergent viewpoints and cite noted authorities to support statements?

VI. Attending to Student Needs:

- Did I pace the lesson to allow for note taking?
- Did I check for student learning by asking probing questions, and restate important ideas and concepts to underscore their significance?
- Did I encourage student questions and discussion?
- Did I redirect questions of limited interest to a time outside of class?
- Did I vary explanation and provide satisfactory answer to student questions, making distinction between fact and opinion?

VII. Attending to the Structure of Learning Goals and Difficulty of Learning Tasks:

- Did I prepare students for the lesson with appropriate assigned readings?
- Did I adjust the level of difficulty of learning tasks when appropriate?
- Did I support the lesson with useful classroom discussions and exercises?
- Did I present audiovisual materials to support lesson organization and major points?

- Did I help develop student learning via relevant reading or writing assignments?

Conclusion:

As noted above, Richard Feynman found enjoyment in learning and finding things out. Thus perhaps there is a corollary to be made with teaching. That is, discovering which teaching methods and approaches are most useful in facilitating student learning is very likely to bring a sense of enjoyment to the teacher. Importantly, as Arends (2000) notes, reflection on one's teaching practice is an essential process for refining the "art of teaching" and enhancing student learning. The self-assessment areas and reflective questions noted above are not exhaustive, but hopefully will lead the professor to a more expansive inquiry of their teaching practice and the impact it has on student learning. Further, while this instrument may be useful as a tool for professional development, these self-assessment areas and reflective questions need to be integrated with other aspects of a basic teaching philosophy. Specifically, as Arends (2000) suggests, a teaching philosophy that recognizes that each student can learn and grow in understanding, and that students thrive when teachers create a positive learning community. In the articles that follow in this edition of the *Newsletter*, there is further discussion of effective teaching practices that illuminate ways to refine one's "art of teaching" and assist students in learning.

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A Caveat: Self-Assessment and Peer-Observation of Teaching

The self-assessment frame-work described above may also be complimented with peer-observation of your teaching. In the latter instance, a visit to your classroom by a colleague and completion of the assessment framework along with an accompanying narrative letter from the perspective of the peer-observer will allow further insight into the many different aspects of your instruction. Conceptually, both of these sources of information, the self-assessment and peer-observation, provide a profile of teaching strengths as well as areas where greater development may be sought. Indeed, as one develops a portfolio of teaching, both self-assessments and peer-observations are important pieces of evidence detailing use of best-practices in your teaching. Moreover, both self-assessment and peer-observation extend the examination of teaching practice well beyond what may be provided by student evaluation forms. Thus both self-assessment and peer-observation reviews may be incorporated and discussed in professional development narratives and merit review files.

~ D.D. VonDras

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Full Cycle Learning

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One critical element of my teaching philosophy is captured by the title of this essay, "Full Cycle Learning." It's my way of helping students learn important theories that, in the end, have the potential to also be practical. I'll explain first what I mean by full cycle learning, and then provide an example of how I use it in the classroom.

Full cycle learning draws on the thinking of three prominent individuals. The first is John Dewey, an American psychologist and educational reformer. Dewey believed that learning requires communal interaction, reflection, and experience. In order to learn, students must be given something to *do*, something that demands careful thinking, rather than something to learn.

Dewey also believed that learning is conditioned by one's prior experiences, experiences that yield certain beliefs, presuppositions, and implicit theories about the nature of human behavior and related social phenomena (DeFrates-Densch, 2004). These implicit theories tend to be highly stable over time. Perhaps more importantly, they tend to be inaccurate.

The result? Before a student can learn the theories that we are trying to teach in our classrooms, we must confront their implicit theories. Otherwise, they dutifully write down what we say and then proceed to forget that we ever said it. They don't really believe the theory that we just taught; instead, they prefer their version of cause-and-effect.

The second individual whose thinking influences full cycle learning is Kurt Lewin. Lewin (1946) supported the idea that individuals had to take action in order to learn, but he also argued that "experience alone does not create knowledge." He contended that reflection and progressive problem solving enabled learning.

The third individual whose thinking lies at the root of full cycle learning is David Kolb, a professor of organizational behavior at Case Western Reserve University. Kolb's (1984) experiential learning cycle, shown in Figure 1, begins with concrete experience, followed by reflective observation, abstract conceptualization, and active experimentation.

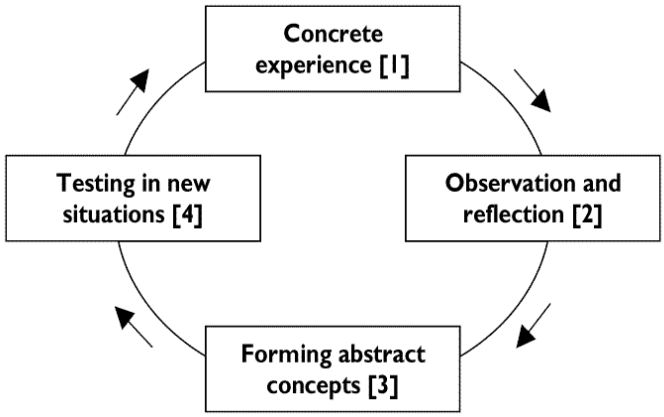

Figure 1. Experiential learning cycle.

Figure 1 suggests that learning starts with concrete experience. I think learning can start at any stage and proceed without attention to the 1-2-3-4 order suggested by Figure 1. What matters most, I think, is for the teacher to tap all four stages at some point in the learning process. If stage 3 precedes stage 2, that's OK.

I use the full learning cycle to decide what I am going to do in order to help students learn important material. I appreciate its attention to students' prior experience, its demand that students reflect on their learning, its focus on linking experience to theory – increasing the generalizability of students' experiences, and its acknowledgement that trial and sometimes error are prerequisite to the full-blown "ah-ha!" moment.

Glasser (1998) argues that we learn 80 percent of what we experience. This contrasts sharply with the results for listening and reading. Glasser (1998) states that we learn only 20 percent of what we hear and – gasp! – only 10

percent of what we read. Accordingly, I have designed my classroom to compel reading (10 percent is better than zero percent) and to engage students in active experience and experimentation.

One topic that lends itself to the full learning cycle is leadership. A "real world" problem faced by organizations and society is that leaders are important, but not everyone wants to be a leader, can be a leader, or should be a leader. Contrary to popular myth, while leaders are expected to take risks and to accept accountability for their decision making, they are not solely responsible for either the success or failure of a group, organization, or community. Followers are equally important and necessary.

Students have strong implicit theories about leadership. I ask my students to tell me about leaders. Good leaders are "strong, decisive, smart, task-oriented, risk-taking visionaries." That's what students tell me, without fail, every semester that I ask. Without leaders, teams can't succeed. When teams fail, it's the leader's fault.

When I ask students to tell me about followers, the tone changes. I ask, "What characterizes good followers?" That question usually yields confusion, nervous looking around to see if others will respond, and a general lack of energized response. Questions about leaders yield more answers than I can write on the board. Questions about followers yield relatively little.

What fuels students' implicit theories about leaders and followers? Society celebrates leaders. Witness the extensive coverage of everything Brett Favre. Organizations celebrate leaders. They garner the highest salaries, credit, and attention. Universities celebrate leaders. At UWGB, we have "University Leadership Awards."

All signs point to the essential role played by leaders. Leaders get accolades, press, rewards, status, etc. Followers are thanked for their excellent service. Society, organizations, universities, and textbooks don't pay much visible attention to followers. We don't give "University Followership Awards."

Relatively recent theorizing proposes a central role for followers, one that acknowledges their contributions without characterizing them as servile and needing to be motivated by leaders (Chaleff, 2003; Kelley, 1992; Useem, 2001). I use full cycle learning to teach this material, because I think it does a much better job than lecture or reading alone, and because I think that students' implicit theories about leadership and followership must be confronted before students can really learn new ways of thinking.

I jump into the cycle at stage 3, abstract conceptualization. Students view a PowerPoint slide show depicting a variety of scenes (e.g., teachers and students, conductors and orchestras, mountain climbers, military troops). Students are asked to identify which slides exemplify leadership and why. Consistently, students agree that only certain slides exemplify leadership, specifically those that show or hint at the presence of leaders, followers, and at least one shared goal. This "free range" conversation aligns with Bennis and Nanus' (2003) tripod perspective on leadership that states that leadership requires leaders, followers, and shared goals.

I then provide a short lecture on different follower types, emphasizing especially the effective and passive follower types described by Kelley (1992). Effective followers are independent, critical thinkers who actively participate in problem solving and decision making. Passive followers are dependent, uncritical thinkers who need constant direction and supervision.

The next step aligns with stage 4, active experimentation. I divide the group into leaders and followers. I further divide the followers into effective and passive followers. Each leader is assigned a group of all effective followers, all passive followers, or a combination of effective and passive. Followers are told that they must stay in their role. Leaders are told to lead their followers to the best of their ability. Each group is then given the task of creating as many origami frogs as possible within 10 minutes. Instructions for creating the frogs are provided.

The results are fascinating. The groups of effective followers make the most frogs and are the most satisfied, even if their leaders did not know how to make origami frogs. The groups of passive followers make the fewest frogs and are the most dissatisfied, regardless of the leader's "origami quotient" (OQ). The leaders – all of

whom volunteered to be leaders and who are often in leadership roles – are confronted with the sometimes shocking realization that their followers' behavior can have a greater effect on the group's productivity and satisfaction than their own behavior. They discover that passive followers are an especially irritating bunch, whose need for constant attention does not yield positive results.

I debrief the exercise, and ask the students to pay attention for the next week to their behavior and to the behavior of friends and colleagues in the groups to which they belong (e.g., student project groups, work groups). This represents stage 1 of the cycle, concrete experience.

Consistent with stage 2, reflective observation, I ask students to complete a reflection sheet about two weeks after the origami frog exercise is concluded. The worksheet asks students to reflect, to identify any insightful generalizations, and to describe what they plan to practice and do differently. By completing this worksheet, the students complete the full learning cycle, at least for a time.

I think that learning takes multiple iterations through the full cycle, especially when implicit theories have been developed and reinforced over many years, and when the learning contradicts what society says is true (e.g., "Leaders are responsible for all good things"). Students are often challenged to transfer what they learn in one setting (e.g., my Organization Behavior class) to another setting (e.g., any of their other classes, work).

Still, I have confidence that the full cycle approach is a powerful learning tool, one that can be applied to any discipline. Recent research that I have conducted in concert with a colleague at Drury University, Professor Robin Sronce, suggests that students do in fact think differently about followers after participating in this full cycle approach. They still expect leaders to lead, but they are less attached to the idea that leaders can lead well without effective followers, or to the idea that followers must be motivated or manipulated by leaders in order to contribute.

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Improved Learning by Non-traditional Students in Mathematically Intensive Courses

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In recent years, universities have been seeing an increase in the number of non-traditional undergraduate students on campus. These students are not limited to fully employed
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students who are taking a few courses. Some students are delaying their education due to military commitments. Others are returning after raising a family. Still, others are first generation college students. With the increasing cost of education, more and more traditional-age students are attending college on a part-time basis. As a result, today's non-traditional students are hard to classify. They vary in age, experience, motivation, funding, and outside time commitments.

Course development for students with this wide range of backgrounds is extremely challenging, especially for mathematically intensive courses. One issue is that the pedagogical assumptions traditionally used are not entirely valid for adult learners. Pedagogy assumes that the learner brings little value into the learning experience and is dependent on the teacher. Motivation for these students is extrinsic. Andragogy assumes that the adult learner has high quality life experiences and is self-motivated. These students are very task-centered and want to relate what they are learning to real-life problems.

Another issue is that although students technically meet course prerequisites, many took prior mathematics courses long ago and often do not remember the previous material. Others never truly learned the prior material but survived by committing formulas to their short-term memory. For either group, there is a need to overcome the preconceptions that all math courses are hard, and since this course contains a lot of math, it will be difficult as well.

To overcome these issues, instructors need to take a new approach. Instead of teaching courses as they always have and treating non-traditional students as exceptions, instructors need to redesign courses around the needs of most of their students. These changes should facilitate student learning, attempt to accommodate the various students in the class, and have some flexibility built in.

In redeveloping a mathematically intensive course for non-traditional students, I have found the following techniques to be helpful:

First of all, it is important to prioritize the material to be included in the course. To accomplish this, the entire course (lectures, exams, homeworks, etc.) should be objective driven. If the material is not covered by an objective, it should not be in the course. This will help remove "busy work" and allows students to focus on the more important items.

Second, give graded homework during every class. This allows students to better understand the key concepts from each lecture and gives the instructor continuous feedback on misconceptions. Remember, if you do not grade the homework, most students will not do the homework. In addition, it is important to get students to become active learners. I show the cone of learning figure by Edgar Dale on the first day of class to my beginning students in order to stress its importance.

Third, make use of technology to facilitate student learning. In-class reviews, examples, practice problems with final answers, and web-links can bring students to a base level of understanding in the course. Readings and PowerPoint slides covering theory can be posted in advance allowing students to pay closer attention during class. Time savings can be used for application problems and in-class assessment. Use of tablet PCs or document cameras can be used to save and post in-class board work. Electronic submission of daily homework can help accommodate the busy schedules of students.

Fourth, assessment needs to be an integral part of the course. Instructors need to determine the concepts that students are having trouble with prior to examinations. Various techniques such as pair and share, muddiest point, one sentence summary, multiple choice concept tests, and quizzes can all be used to determine the level of student understanding. The level of assessment should also include upper levels of Bloom's Taxonomy (analysis, synthesis, and evaluation) to determine the depth of understanding. Depending upon the results, the instructor can adjust their lecture to accommodate the needs of their students.

Fifth, flexibility should be incorporated into the syllabus. Many non-traditional students have outside commitments such as work and family, which require missing at least 1 class per semester. By allowing students to drop their worst exam, quiz, homework, etc., it helps non-traditional students overcome such absences.

Finally, it is important to provide clear objectives for the students, making sure they understand why the material is important and how this material fits into the big picture. Real-life application problems get students excited about the course material and helps non-traditional students to relate the material to their prior experiences. Ultimately, the redesigning of these courses should not only address the needs of non-traditional students but also improve the course for all students.

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Special Section on Scholarship of Teaching and Learning Research

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Teaching Intermediate Algebra Using Incremental Development and Review

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Introduction:

Having taught Intermediate Algebra (Math 101) for about 10 years, it was frustrating that a certain group of mathematically challenged students seemed to struggle with success no matter how I reworked my lectures. These students sometimes came to my office in tears because while they did their homework and came to class, they still did poorly on exams. It seemed as if these students could only remember the type of homework problems that they were learning on any given day. As soon as the class turned to another topic, the old material was no longer retained. While I would encourage these students to review daily, they seemed unwilling or unable to review adequately on their own. Finally, about 3 years ago, these students' difficulties motivated me to begin teaching Math 101 completely differently from traditional methods, instead using incremental teaching and review with the goal of assisting Math 101 students to better understand and retain the algebra skills they learned.

Incremental/Review Method:

Two teaching improvement methods were employed:

- Review – Approximately 80% of the daily assigned homework was review of material learned earlier in the semester.
- Incremental learning – Rather than covering all of a given topic at one time in a series of lectures, students learned a small portion of several topics each day, gradually adding levels of difficulty (increments) once an earlier idea had been absorbed. For example, traditionally rational expressions would be completely covered over the course of 2 or 3 weeks of lectures. Using incremental learning, rational expressions were begun in the first week of class with the simplest of ideas. They would not be lectured on again for a week or so, but the students would see them in their homework every day. Then another level of difficulty (increment) was added and appeared in daily homework, and so on. Thus, the most difficult of the rational expression topics was not addressed until about 13 weeks into the semester. However the students continued to work out rational expression problems in their homework every day. In the same way, all of the major algebraic themes were being simultaneously expanded throughout the semester.

Traditional Method:

The incremental/review method was quite different from the traditional method of teaching Intermediate Algebra. Traditionally, a mathematics topic is covered in depth in successive lectures until the topic has been completely explored. Then a test is given and a new topic is begun. Previously covered topics are infrequently referenced in later lectures. Also, traditionally homework only covers the topic discussed during that day's lecture with little review included.

There were some difficulties in teaching using the traditional method. Some students had

difficulties retaining material taught in a traditional manner. Additionally, discussing problems which encompass material from earlier chapters as it relates to new material presented a challenge as many of the students did not remember the earlier material.

Benefits of Incremental/Review:

- Incremental/review students spent a much longer period of time per topic. For example, students spent about 2 weeks learning logarithms in a traditional text. However in an incremental text, students used logarithms for about 14 weeks in their homework and periodically during lectures.
- Students were able to absorb an idea before building on it.
- Instructors may utilize review opportunities when introducing each increment.
- As each topic is fresh in students' minds from doing it in homework, instructors may more easily combine topics in a single problem which are traditionally in separate chapters.
- Students found it was unnecessary to cram for exams as each homework assignment was like an exam.
- Improved student grades. Just 21.7% of incremental/review students were in the D/F range as compared to 31.2% of my earlier, traditionally taught students.

Difficulties of Incremental/Review Teaching:

- Initially, an instructor may feel as if he or she were lecturing in bits and pieces rather than presenting a smooth, flowing lecture.
- It was difficult to find an incremental/review based text.
- It was doubtful that this would this work if the instructor did not collect homework frequently.
- While this has also been done in physics, some disciplines are just not suited to incremental teaching. For example, English Literature would be very odd presented incrementally. A chapter from Shakespeare, then a passage from Twain, followed by a poem by Byron and back to Shakespeare again sounds awkward.

Qualitative Results:

The students' success made teaching incrementally with review much more satisfying than teaching traditionally. Students were successful who in the past I would never have expected to pass. Often students who are getting B's or better would tell me how excited they were about their grade because they said, "I was never any good at math." Comments I read on my student evaluations included things like: "Great class! Math was fun again!" My students found algebra more enjoyable because they found that they were able to understand it and to do well at it. The first semester I tried these methods, I wrote an extremely difficult problem on the board and discussed it briefly. When I turned around to look at the class, to my amazement and delight, they had completed the problem at their desks and were wondering why I didn't catch up to them and just get it done! Although the initial preparation was more time consuming using these methods of teaching, the favorable response of the students has made it well worthwhile.

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Do They Understand?

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As a participant in the 2006-07 Wisconsin Teaching Fellows program, sponsored by the UW-System's Office of Professional and Instructional Development, I worked to address a challenge involving my introductory United States history courses: how could I revise my exams to match my learning objectives for my students? For several years, I had been assessing student learning in these large courses primarily through multiple-choice exams. This strategy seemed necessary to save time, given that I teach two sections of these introductory courses, with sixty-five students each, per semester. Despite my best efforts, however, these exams did not
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adequately assess the historical-thinking skills and historical understanding that I try to teach. As one of my students pointed out, "Multiple-choice questions don't show quite as much what you know—more what you can recognize." Another student noted: "multiple-choice only asks you to remember something—not remember and apply." As I revised my courses using "essential questions" and performance standards, loosely following the model recommended by Grant Wiggins and Jay McTighe in *Understanding by Design* (2005), I realized that I needed to find a new method to evaluate student learning.

For my Teaching Fellow's project, I developed and studied a new style of exam question that I call "For and Against." I have found that I can grade this assessment quickly enough to make it practical, and I have collected evidence demonstrating that it aligns with my learning goals for students. The "For and Against" assessment asks students to respond critically to a historical claim, such as "The U.S. Constitution created a democratic government" or "The antebellum Republican Party posed a serious threat to the institution of slavery." I ask students to write two brief paragraphs that provide the best evidence *for* the statement and the best evidence *against* the statement, with three or four pieces of evidence for each side. Many of the statements I use might be called "half-truths"—claims that contain scraps of truth but that obscure more than they clarify. Some of them also reflect common misunderstandings. For example, "The coming of the American Civil War had nothing to do with slavery." I have also successfully used statements that include truth but need to be qualified. For example, "The Civil Rights movement of the 1960s succeeded in creating equality for African Americans." I found that these kinds of statements encouraged students to take a critical stance. Half-truths, especially, required students interrogate the statement and its use of language.

As I began using "For and Against," I received Institutional Review Board approval to study its effectiveness as an assessment tool in my introductory history courses. The conclusions sketched herein were based on two kinds of primarily qualitative data that I collected. First, by analyzing student responses to "For and Against" prompts, I gathered evidence that successful students were demonstrating not only their content knowledge (i.e., knowledge of factual material), but also their understanding revealed through their analyses and evidence. Second, I surveyed students about their perceptions of the questions' effectiveness for both assessing and encouraging their learning. I asked questions that allowed me not only to gauge student perceptions but also to assess their *understanding* of the thinking skills demanded by different kinds of exam questions.

Students saw several ways in which "For and Against" was superior to multiple choice. For instance, one student explained: "The For & Against format really made sure you knew enough about each topic to be able to argue for both sides. It also makes you think critically about each of your answers." Another student observed: "For & Against questions make the student connect a few pieces of evidence together. This makes sure that the student knows what they are talking about." A third student seemed to be learning from the exam format: "(For and Against) opened our eyes to two sides of controversial subjects, showing how history is rarely one-sided, and there exist multiple interpretations." Furthermore, an overwhelming majority of students agreed that "For and Against" questions accurately assessed their knowledge while requiring careful thought.

After I finished collecting and analyzing two semesters worth of data, I wrote an essay entitled "Assessing Student Understanding in Large Introductory Courses: A Sample Strategy." This essay will be published later this year in *The History Teacher* and will be accessible online at the following Internet site: http://www.historycooperative.org/htindex.html. The essay situates my project within current literature on assessing understanding. It explains how I use the assessment in class and provides evidence of its effectiveness for both evaluating students and encouraging deeper learning.

"For and Against" has become an integral part of my introductory history classes. The course assessments now align with my goals for student learning: students earn most of their grades by demonstrating historical understanding. Unlike other common assessments, "For and Against" responses cannot easily be memorized in advance. To do well, students have to show not only that they

have information to bring to bear on the statement but also that they can evaluate the statement *as a historian* by judging historical significance, recognizing complexity and contingency, and drawing on context and chronology to frame their explanations. Each time they respond to a statement, students fashion rudimentary historical arguments by transforming inert facts into applied evidence. Perhaps most significantly, this exercise demands authentic thinking by requiring students to carry out the kind of task—evaluating a claim and using evidence—that they will regularly encounter in life outside of the classroom.

Find a sample question and my complete instructions to the "For and Against" strategy at the following Internet site: http://www.uwgb.edu/voelkerd/handouts/for-against-sample.pdf

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A Closer Look at How Students Study (and if it Matters)

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What are students really doing when they say they are studying? I have been working for some years now to answer this question. I have a series of studies where I examine this question in class and here will discuss a specific method to answer the question, a 35-item *Study Behaviors Checklist* that is easily adapted for any course by any instructor. I conducted research in two of my introductory psychology classes and measured students' use of different study techniques and then correlated their responses with their exam scores. Attendance, study guide use, using practice exams, and using class material to explain problems were positively correlated to exam scores. Highlighting material, looking over notes and reviewing the chapter after class, asking for help on material not understood, and asking for additional study material were negatively correlated to exam scores. The results of this line of research nicely draw our attention to how students can optimize their learning.

Background:

Students use a variety of techniques to increase their test scores and learn material. A large body of research has attempted to identify the techniques that are optimal (e.g., Hattie, Biggs, & Purdie, 1996; Kobayashi, 2006; Robbins, Lauver, Le, Davis, & Langley, 2004; Wingate, 2006). Measures of study behaviors, also called study skills, strategies, or techniques, can serve as a diagnostic tool to help instructors identify students in need of additional help, as well as providing students with a better awareness of their strengths and weaknesses and correspondingly, ways to optimize their learning. This study builds on my previous SoTL and tests a short detailed assessment to help identify how students prepare for tests.

Study behaviors can be broadly defined as behaviors serving to acquire, organize, synthesize, evaluate, remember, and use information. Such behaviors include time management, goal setting, selecting what to study, how, and where, taking good notes,
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reading, and self-testing. The many specific study behaviors can be divided into four main categories: repetition-based (e.g., flashcards), cognitive based (e.g., studying with a friend), procedural (e.g., time management), and metacognitive (e.g., taking quizzes to test self-knowledge; for more details see Gettinger & Seibert, 2002).

A number of studies have linked possessing good study behaviors with academic success (Prevatt, Petscher, Proctor, Hurst, & Adams, 2006). Early attempts to assess study behaviors go back to Wrenn's (1933) *Study-Habits Inventory*, the *Student Skills Inventory* (Locke, 1940), and the *Survey of Study Habits and Attitudes* (Brown & Holtzman, 1955). More recently, researchers have commonly used the *Learning and Study Strategies Inventory* (LASSI, Weinstein & Palmer, 2002) or created their own scales (Carrell & Menzel, 1997; Gurung, 2005).

This study builds on previous work to provide a more fine tuned view of what students do by collectively assessing different behaviors in a shorter format than existing scales. Furthermore, it directly ties study behaviors to exam scores and tests the utility of many commonly suggested study tips such as looking over notes right after a lecture. My primary research question is, "What study behaviors are associated with higher grades on exams?" Consistent with recent research, I hypothesized that metacognitive behaviors (e.g., self-testing) would predict higher exam scores.

Method:

One hundred and twenty students (41% women and 19% men; 40% did not report sex) in my introductory psychology class participated in this study (participation was voluntary). The mean age was 19.60 (SD = 2.80). The majority of the students were freshmen (46%); the remainder were sophomores (16%), juniors (7%), and seniors (6%). The mean ACT score was 22.16 (range 17 to 30).

Materials:

A 35-item *Study Behavior Checklist (SBC)* assessed study behaviors of students for the last of four exams (see Table 1). Items were based on previous research (Gurung, 2005; Weinstein & Palmer, 2002) and derived from student interviews. The items assessed students' *organizational behaviors* (e.g., writing down when exams, assignments, and quizzes are due; setting up a study schedule), *application behaviors* (e.g., creating questions about the material), *elaboration behaviors* (e.g., paraphrasing the material; explaining it to another person), *metacognitive behaviors* (e.g., using the book website for quizzes), and *resource use behaviors* (e.g., asking a fellow classmate to explain the material) on a 5-point scale ranging from 1 (*Not at all like me*) to 5 (*Exactly like me*). Students were also asked how many different places they studied for the exam, how many hours they studied for the exam, and if the studying for this exam was characteristic of studying for the previous exams.

Procedure:

After completing the fourth and final class exam consisting of 60 multiple choice questions, I gave participants a choice between two extra credit opportunities in accordance with approved Institutional Review Board (IRB) protocol. Students read instructions stating they had two extra credit opportunities available to them after completing their exam. Participation earned students five bonus percentage points on the exam. Students were able to fill out the 40-item study behavior checklist or were given an article about student study behaviors and had to fill out short answer questions about what they had just read. Students were informed that participation was voluntary, the information obtained would be strictly confidential, and responses to the questions would not adversely affect their class grades or exam scores.

Results:

The mean scores on each of the items of the Study Behavior Checklist appear in Table 1. The scale showed high reliability (Cronbach's alpha =.89). Attending class, organizing notes, writing down relevant figure/table/chart numbers, and knowing when assignments were due were the most highly cited behaviors. Using the book website for practice quizzes and asking for additional study materials were the least cited behaviors. There were no significant differences between men and women in scale responses.

Table 1: Means and Standard Deviations for the Study Behavior Checklist items and Correlations with Exam Score

Item	Mean	SD	
1. I attended every class.	4.46	0.76	0.24*
2. My notes were organized well.	4.27	0.88	0.15
3. I wrote down in my notes figures/tables/charts/sections that were mentioned in lecture.	4.22	0.98	0.12
4. After class, I looked over my notes to check for and fill in missing information.	2.48	1.02	-0.21*
5. I read the difficult material slowly.	3.51	1.08	-0.07
6. I highlighted the most important information in each chapter to review later.	3.04	1.29	-0.23*
7. I took notes on what I was reading.	2.66	1.31	-0.15
8. I created and answered questions about the material while I was reading in my head.	2.35	1.14	-0.02
9. I created and answered questions about the material while I was reading in my notes.	2.57	1.19	0.00
10. I related what I was reading to lecture materials and discussion.	3.64	0.97	0.05
11. I reviewed the chapter after the lecture on that topic.	2.60	1.05	-0.27**
12. I read and evaluated the figures and tables in the book.	3.35	0.99	0.11
13. I evaluated the pictures/photos in the book.	3.17	0.90	0.00
14. I read and evaluated the Personal Application Sections in the book.	2.39	1.17	0.16
15. I knew when the exams, quizzes, assignments were due and noted them in my planner, calendar, PDA, etc.	4.14	1.15	-0.03
16. I actively modified my studying because this exam used a Multiple Choice format.	2.75	1.19	-0.18
17. I reviewed the material to decide how many hours I needed to study.	2.66	1.06	-0.08
18. I set up a study schedule that allowed me enough time to complete all that is due in my different classes.	2.97	1.19	-0.01
19. I crammed before this exam.	2.54	1.15	0.15
20. I answered every question on the study guide.	3.66	1.38	0.22*
21. I used practice exams to study.	3.84	1.36	0.24*
22. I briefly reviewed all the chapters covered before I studied.	3.43	1.11	-0.01
23. I divided material into smaller, manageable, and logical sections (e.g. I used an outline).	2.78	1.32	0.00
24. I varied my studying behaviors by switching between reading, rehearsing, solving problems, writing, etc.	2.84	1.31	0.04
25. I went to the book website for practice quizzes.	2.14	1.35	-0.11
26. I took the online quizzes without any notes.	3.41	1.32	0.07
27. When I got an answer wrong on a quiz, I went back to the related material to better study it.	3.47	1.20	0.06
28. I paraphrased what I was learning and explained it to someone else.	2.85	1.17	0.13
29. I generated my own examples about the material.	2.97	1.11	0.08
30. I was able to explain a problem or phenomenon using the material.	3.42	0.95	0.27**
31. I asked (by email, a phone call, visit, etc.) a classmate/ friend to explain material I did not understand.	2.95	1.34	-0.22*
32. I asked (by email, a phone call, visit, etc) the professor/TAs to explain material I did not understand.	2.40	1.26	-0.09
33. I explained confusing concepts to classmates.	2.76	1.26	-0.02
34. I was able to answer questions my classmates asked.	3.29	1.01	0.12
35. I asked the professor or TAs for additional study materials.	1.61	0.82	-0.26**

Note: * $p < .05$; ** $p < .01$

I correlated student responses to the SBC with scores on students' final exam. The more students attended class, $r(114) = .23$, $p < .05$; answered all questions on the study guide $r(114) = .23$, $p < .05$; used practice exams to study $r(114) = .24$, $p < .05$ and were able to explain problems using the material, $r(114) = .28$, $p < .01$; the higher were their exam scores. A number of behaviors were associated with lower scores. The more students reported looking over notes after class, $r(114) = -.20$, $p < .05$; highlighting important information to review later

$r(114) = -.21$, $p < .05$; asking friends/classmates to explain material they did not understand $r(114) = -.23$, $p < .01$; asking the TA or professor for additional study materials $r(114) = -.26$, $p < .05$, and reviewing the chapter after lecture, $r(114) = -.26$, $p < .05$; the *lower* were their exam scores. The global number of hours studied did not relate to exam scores.

Discussion and Implications for Future Teaching:

This study presents many challenges for pedagogical research in the attempt to identify optimal study skills. Whereas I found support for our hypothesis regarding the utility of metacognitive strategies such as self-testing, very few behaviors significantly related to exam scores, and some often recommended strategies turned out to be negatively correlated to exam scores.

The results of this study, although troubling, are consistent with the literature that suggests there are no strategies that work all of the time, for all students, in all classes (e.g., Hadwin & Winne, 1996; Hattie, Biggs, & Purdie, 1996). The SBC uses some of the most commonly suggested study behaviors but few related to exam scores. Whereas this does not mean those same behaviors would not be useful in another class or with another instructor's exams, it is still surprising to see the low number of associations. It is possible that an introductory psychology multiple choice exam requires only some basic behaviors. This is supported by the utility of behaviors such as using the study guide and practice exams and by how the use of some behaviors such as highlighting important information and even reviewing the chapter right after the lecture served as 'dangerous detours' to learning (Gurung, 2003; 2004) involving more study time at the wrong time. Perhaps more studying closer to the exam (versus right after every class) actually works better in some cases.

It is possible that the negatively correlated items represent behaviors used by academically weaker students. Whereas the academically stronger students may not take time on behaviors, such as going over chapters right after a lecture in lieu of doing so right before an exam, the weaker students may go over the chapters at both times. Replication of these results are needed before such conclusions can be drawn, but one cannot help but wonder how much of the advice given to students is empirically proven to work in an actual classroom (as compared to a controlled cognitive psychology laboratory study). This measure serves to be a great help to instructors as it can form the basis for a discussion of study skills and additional explorations of what works best, for whom, and when. Results such as those found in this study compel a closer look at the recommendations instructors make to their students and highlight some critical techniques.

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Inducing Student Appreciation of Intellectual and Ethical Development in Technology-Oriented Courses

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Project Summary:

The purpose of this project is to find ways to influence student perceptions and attitudes to the values central to liberal higher education in courses where the classroom situation is often dominated by a technical content driven "information download" type of teaching. First, a "what is" question is handled: what are, in reality, students' attitudes toward liberal education in general and mental development, intellectual growth and professional and civic responsibility in particular? This question is investigated using a structured survey approach. Based on the results of two attitude surveys, a "how to" question is addressed: how to influence, orient and guide student perceptions and attitudes to mental development and professional and civic responsibility in a technology-oriented classroom? Conceivably, a "vision of the possible" type answer might emerge from these investigations, pointing to a pedagogy of values-based education through the medium of technical content.

The Problem:

How to induce student appreciation of intellectual growth and ethical development in courses that are technical in nature?

Teaching Situation:

In technical and engineering type courses, it is a constant danger that the course turns into a series of "information download" sessions of technical content. Such a situation does not leave room and time for the instructor to influence student attitudes to the real values of liberal higher education.

Methodologies and Types of Evidence of Student Learning Gathered:

Initially two survey tools are administered. The first survey, titled "Learning Self-Reflection Questionnaire," consists of 34 statements, grouped as 17 pairs. Each pair usually represents alternative objectives or perceptions of the learning process. Every statement probes degrees of agreements or disagreement on a five point scale (-2 to 2, signifying levels of disagreement or agreement, 0 being neutral). The second instrument, "Ranking Learning Objectives," is an order ranking tool to assess relevance of twelve learning goals.

The tools were initially administered in a number of classes, including introductory and upper division computer science classes and a General Education course studying the societal impacts of computing, for a total sample size of 56 students.
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Mean, median, mode and standard deviation are calculated for the collected data in order to determine the most prevailing positive and negative attitudes of the studied student population. Following basic statistics, each subject's data are converted into a score indicating preferences along 3 so-called "tension axes", and a scatter plot is generated.

Correlations of preference scores with type of course, field of study, study year, gender and other group characteristics are computed, and statistical significance of mean differences among groups are determined.

It is important to note that the results presented here are biased by the selection of the courses from which the student population is sampled. In particular they are all technology-centered or at least technological issues-oriented, with a preponderance of majors in computing and information sciences.

Results and Discussion

The attached surveys list the learning perception and preference questions and the educational goal-setting objectives. For learning perception and preference, the most *agreed* statements are indicative of the most frequently occurring perceptions and the shared preferences. Six statements stand out, based on the highest median values (median = 2). These are, ranked by mean values from high to low:

"I prefer a professor doing reviews and going over details as necessary for all students to learn the material." (Mean = 1.84, Median = 2, Std. dev. = 0.8263)

"When I am lacking background knowledge in a class, I prefer the professor providing 'catch-up' coverage of this background, even if that reduces the amount of new material in the class." (Mean = 1.73, Median = 2, Std. dev. = 1.1199)

"I learn best by practicing new skills." (Mean = 1.66, Median = 2, Std. dev. = 1.0834)

"I like the classes of my major the most." (Mean = 1.43, Median = 2, Std. dev. = 1.4753)

"I learn best by trial and error." (Mean = 1.41, Median = 2, Std. dev. = 1.1721)

"I learn best by live interaction with a professor." (Mean = 1.41, Median = 2, Std. dev. = 1.2177).

The most *disagreed* statements are characterized by a 0 or negative median and a negative mean, a total of 7 statements. These are, listed from most rejected to less rejected:

"I prefer the professor going over the full class material, without reviewing things in order for complete coverage, even if I don't understand or master everything right away." (Mean = -1.38, Median = -2, Std. dev. = 1.2730)

"When I am lacking background I prefer the professor fully covering all new material in class, while I work on catching up with the background." (Mean = -1.14, Median = -2, Std. dev. = 1.4325)

"I like General Education classes as much or more than classes required by my major." (Mean = -0.88, Median = -1, Std. dev. = 1.5616)

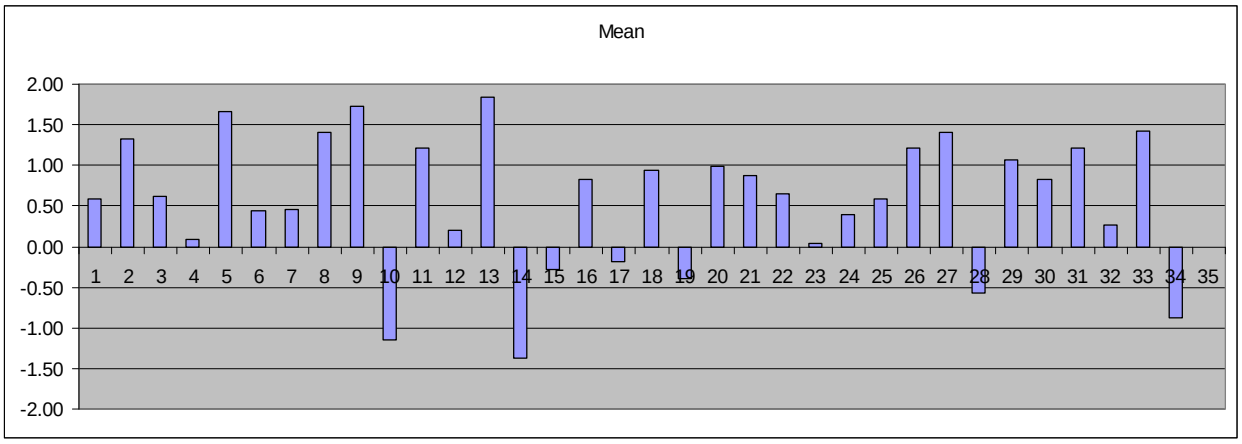
"I learn best by computer-based or distance learning, proceeding at my own pace." (Mean = -0.57, Median = -1, Std. dev. = 1.6388)

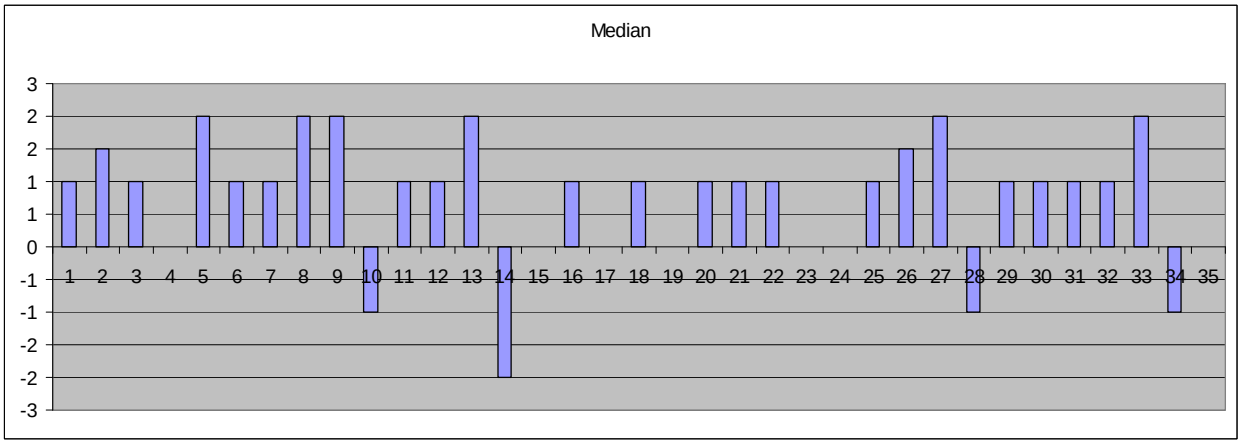
"I learn best studying from a textbook." (Mean = -0.39, Median = 0, Std. dev. = 1.6479)

"I don't mind getting a phony good grade even when I know I haven't really learned the material at the level the grade indicates." (Mean = -0.29, Median = 0, Std. dev. = 1.6483)

"I learn best in groups." (Mean = -0.18, Median = 0, Std. dev. = 1.6853).

The charts below summarize the relevant statistics, all with a sample size $N = 56$.





The 34 statements in the survey are grouped in odd-even *pairs* intending, to some degree, alternative (dichotomy) choices. I didn't expect students to necessarily see the pairs as dichotomies, and for most pairs they did not. However, it is interesting to observe that in the cases where they seemed to have the strongest views or emotions, the pairs indeed appeared as dichotomies (the agreed statement showing high mean, median and mode values, the disagreed ones showing the opposite). Overall, a few observations can be made about the results.

1. Based on the sample, students seem to have a strong preference for detailed, step-by-step, prescriptive instruction and a strong dislike of having to perform independent forms of learning and studying. This could be labeled as the liking of a "spoon feeding" or "hand holding" teaching style. There is also a disinclination of having to take responsibility for lacking background. Students seem to assume that their lack of background knowledge is their professor's problem, and expect that the professor will "fill in the gaps", even if this happens at the expense of full coverage of course content.

2. Furthermore, the results indicate that students in the sample feel that they learn better from their professor, and by interaction with the professor, as opposed to learning by distance education or by peer education in student groups. There seems to be shared dislike of learning from textbooks, as opposed to in-class or out of class interactive activities.

3. There is also a marked preference towards liking courses in one's major and a general dislike of General Education.

These findings are also reflected to a significant degree by the result of the survey of ranking learning objectives. The *top* 3 ranked educational goals are, in descending order of rank (from top to top 3rd):

"Participating in Interactive Educational Activities in and out of the Classroom" (Mean = 9.0, Median = 10, Std. dev. = 2.8794)

"Going Through a Well-Organized Program of Study with a Clear Structure" (Mean = 7.55, Median = 8, Std. dev. = 3.0920)

"Having Opportunities to Interact and Socialize with Young People in My Age Group" (Mean = 7.25, Median = 7, Std. dev. = 3.0704).

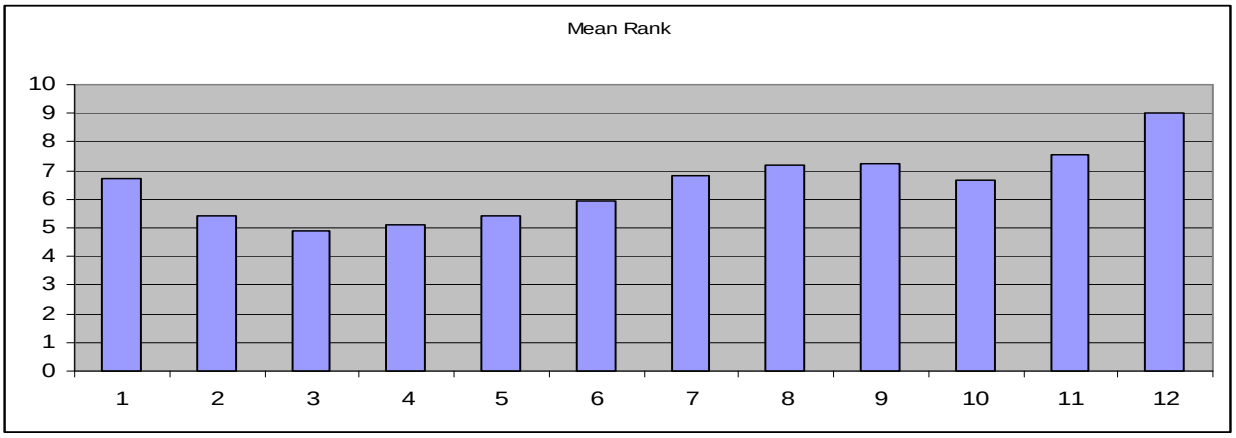
The *bottom* 3 ranked educational goals are the following, listed from lowest ranked to 3rd lowest ranked:

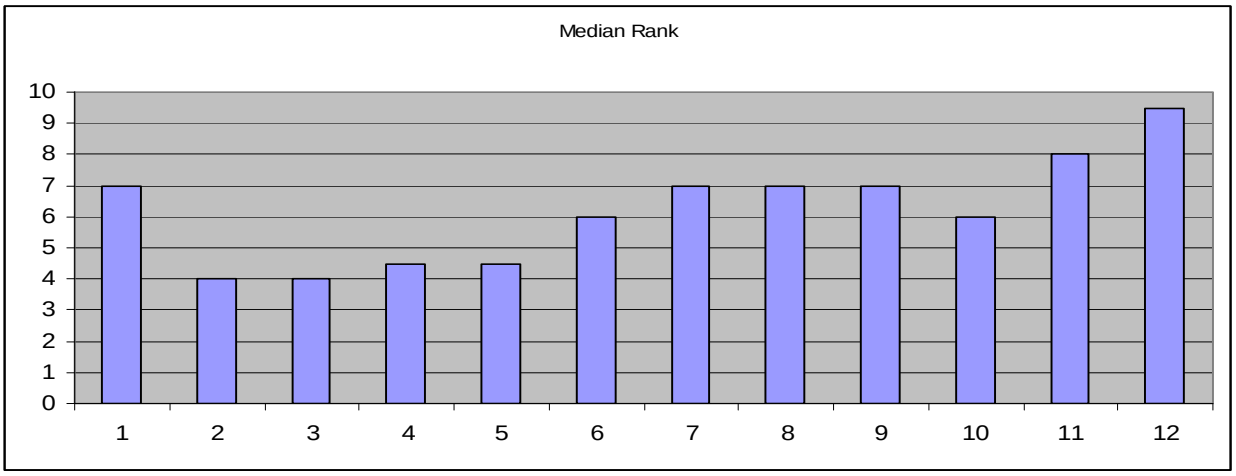
"Obtaining a Broad, Well-Rounded Education, and a Better Understanding of the World" (Mean = 4.88, Median = 4, Std. dev. = 3.1855)

"Obtaining Professional Credentials, such as Degrees, Certificates etc." (Mean = 5.09, Median = 5, Std. dev. = 3.7575)

"Increasing My Ability to Make More Money" (Mean = 5.41, Median = 5, Std. dev. = 3.3295).

Some charts of these statistics (sample size *N* = 56) are shown below.





An inspection of these results reinforces some of the earlier findings.

1. Rejection of the concept of a well-rounded, broad education, a fact that is reflected, among others, by the dislike of General Education.

2. Preference to interactive learning, as opposed to e.g., studying from a textbook.

3. Preference of a well-structured program of study, with the professor providing detailed instructions on what and how to study, as opposed to taking responsibility for an independent, self-structured mode of learning.

In addition, the importance students attribute to socializing among themselves (as distinguished from interacting with persons more knowledgeable than themselves, such as faculty), and a relatively low ranking of tangible outcomes of education (degrees, credentials, money making ability) are also showing.

Conclusions

This study seems to show the picture of students who appear to be in need of structured instruction, "recipes" and "hand-holding" in their education, depending on faculty for guidance. Lack of drive, both in the form of independence in learning and in the form of desire to obtain tangible outcomes of educations, are also noticeable. At the same time, students seem to strongly reject the concept of the value of a broad, well-rounded liberal arts education. These circumstances seem to indicate that to achieve a heightened level of student appreciation of intellectual growth and ethical development in technology-oriented courses, both the major-only focus and the relative intellectual immaturity of the student population need to be addressed through creative pedagogy.

Future Research

This project is part of my UWGB Teaching Scholar and my OPID Wisconsin Teaching Scholar research programs. Plans are being formulated to extend the study to larger, campus- and possibly state-wide, student group samples and for more detailed statistical analysis of the obtained larger data sets. Following more detailed analyses of larger data sets, pedagogies may be created and attempted to shift student perceptions and attitudes regarding liberal arts education, intellectual growth and ethical development. Longitudinal studies can help to determine the efficiencies of such pedagogies.

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Invest in Your Professional Development

Are you interested in peer-review of your classroom teaching, developing a teaching portfolio, or participating in a professional development learning circle? The IDC is interested in facilitating these and other activities that not only to provide new opportunities for professional growth, but to also build inclusive, cooperative, and interdisciplinary connections among peers. For more information please contact Dean VonDras Chair of the IDC (vondrasd@uwgb.edu).

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Share and Discuss: Call for Discussion Topics and Discussion Leaders

Do you have a teaching and learning topic you want to discuss or explore? Would you like to lead a peer-discussion that explores teaching and learning topics, concerns, or issues? Throughout the year, the IDC sponsors such activities. Please contact Dean VonDras, Chair of the IDC (vondrasd@uwgb.edu) for more information or to submit your proposal.

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In accordance with the Open Meeting and Records Law, IDC agendas are posted on the University Calendar of Events. In addition, agendas and meeting minutes are posted on the IDC webpage at:

http://www.uwgb.edu/idc/Meetings/council_meetings.htm

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Award Recipients

Congratulations to the following people who received IDC, UWGB, and UW System awards based on their winning proposals and nominations:

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Research Scholar, Fall 2007

Russell Arent

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Research Scholar, Spring 2008

Kristy Deetz

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Sabbaticals, 2007-08

Forrest Baulieu

Derryl Block

David Dolan

Harvey Kaye

Hye-Kyung Kim

Ganga Nair

Lisa Poupart

Lynn Walter

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Sabbaticals, 2008-09

Franklin Chen

Michael Draney

Jennifer Ham

Aeron Haynie

John Katers

Michael Kraft

Sarah Meredith

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SoTL Award, 2007-08

Theresa Adsit

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Teaching Enhancement Grants, Fall 2007

Theresa Adsit

Denise Bartell

Kathleen Burns

Adolfo Garcia

Regan Gurung

Kevin Kain

Kim Nielsen

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UW-Green Bay Teaching Scholars I, 2007-08

Kathleen Burns

Yolanda Sallmann

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UW-Green Bay Teaching Scholars II, 2007-08

Greg Aldrete

David Coury

Sarah Meredith

Laurel Phoenix

Ellen Rosewall

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Wisconsin Teaching Fellow, 2008-09

Ryan Martin

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This list includes recognitions not announced in previous issues of the IDC Newsletter. Be sure to watch for calls for proposals and nominations for future awards to appear in your Outlook inbox. You can also check our website front page for the most current opportunities at www.uwgb.edu/idc.

The Phoenix

Embracing our educational mission, in our school hymn the inspiration of the phoenix, rising in knowledge, understanding and friendship outlines a path for personal development and learning. Here it is for your consideration:

Alma Mater
Let us rise above these waters
Men and women of Green Bay.
Rise in knowledge,
Rise in wisdom,
Rise in friendship sealed today.
As the Phoenix rose from flame,
Let us rise and still proclaim,
That we pledge our Alma Mater,
And the memories of her name.

Composer, Prof. Emeritus Lovell Ives
Lyricist, former Prof. Peter Stambler

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The mission of the Instructional Development Council is to improve the art of teaching by recognizing outstanding teachers, awarding grants to support faculty travel to training programs, to provide some financial support to faculty who wish to enhance their courses, and to sponsor conferences and short meetings.

www.uwgb.edu/idc

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UNIVERSITY of WISCONSIN

GREEN BAY

Connecting learning to life