The Universality of Good Teaching: A Study of Descriptors Across Disciplines

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The literature on teaching is replete with definitions and examples of good teaching. They include the traits and characteristics of the best instructors, teachers, and professors. In recent years, the literature included the impact of teaching on the student learner, thus coming full circle, from teacher to learner. The literature provides good information, but it is the experience of one's peers that provides reliable and current information. Since 1998, over 1000 faculty, mostly engineering faculty, have considered 5 questions concerning good teaching. They have pair-shared the results, and those results have accumulated. Collectively they have defined good teaching: the methods, the results and measures, and the need for good teaching to ensure that classes and courses are successful. They have even discussed the definition and meaning of "successful." They have assigned adjectives and phrases as exemplars for the best practices of instructors/teachers/professors. In 2006, in discussions with colleagues at a teaching and learning conference, the question arose about the possibility that all teachers think approximately the same way about teaching. In response to these musings researchers conducted a survey of a non-engineering comparison group of faculty from two liberal arts related institutions who were asked to comment on the same five questions concerning good teaching: 66 responses were obtained, and their results are listed and compared below. This paper presents the results of the discussions and the survey on good teaching. It ties the results of faculty discussions and the survey with the literature and the voices of students who have discussed good teaching with educational psychologists. It shows that the fundamentals of good teaching are simple and attainable by every faculty member, and it frames a few of the most important traits and characteristics that the best instructors, teachers, and professors possess.

Hypothesis

If teaching is a universal activity, then it should be regarded in the same light, using the same descriptors regardless of the academic discipline of the faculty member.

Literature Review

Researchers in higher education have explored definitions and examples of good teaching for decades (e.g., Brawner, Felder, Allen, & Brent, 2002; Elbow, 1986; Estes & Ressler, 2003; Gaonker, 2003; Lowman, 1995; McKeachie, 1999; Postelthwait, 1972; Ramaekers, van Keulen, Kremer, Pilot, & van Beukelen, 2011; Skilling, 1969; Wankat & Oreovicz, 1993), and their work has included the traits and characteristics of the best instructors. One recent and extensive study entitled *What the Best College Teachers Do* (Bain 2004) provides clear evidence of the characteristics of the most effective college professors and their effects on student learning, especially on "deep" learning (Bain, 2004, p. 27). The major conclusions of this study are the following:

1. "Without exception, outstanding teachers know their subjects extremely well" (Bain, 2004, p. 15).
2. "Exceptional teachers treat their lectures, discussion sessions, problem-based sessions, and other elements of teaching as serious intellectual endeavors as intellectually demanding and important as their research and scholarship" (Bain, 2004, p. 17).
3. "Simply put, the best teachers expect 'more' [of their students]" (Bain, 2004, p. 17).
4. "While methods vary, the best teachers often try to create what we have come to call a 'natural critical thinking environment.' In that environment, people learn by confronting intriguing, beautiful, or important problems, authentic tasks that will challenge them to grapple with ideas, rethink their assumptions, and examine their mental models of reality" (Bain, 2004, p. 18).
5. "Highly effective teachers tend to reflect a strong trust in students" (Bain, 2004, p. 18).
6. "All the teachers we studied have some systematic program—some more elaborate than others—to assess their own efforts and to make appropriate changes" (Bain, 2004, p. 19).

Bain's (2004) study supports concepts in an earlier analysis by Lowman (1995), who begins *Mastering the Techniques of Teaching* with a chapter on exemplary teaching. He categorizes teaching as a two-dimensional model with the first dimension being intellectual excitement and second dimension dealing with interpersonal rapport. Intellectual excitement can be divided into two components: "the clarity of the instructor's presentations and their stimulating emotional impact on students" (Lowman, 1995, p. 21). Thus, good presentations engage the students, resulting

in attention without distraction. Interpersonal rapport "deals with an instructor's awareness of these [classroom] interpersonal phenomena and with his or her skill as [sic] communicating with students in ways that increase motivation, enjoyment, and independent learning" (Lowman, 1995, p. 27). There are two keys: "avoid stimulating negative emotions" and "promote positive emotions" (Lowman, 1995, p. 21). In addition to the two-dimensional model, Lowman's (1995) research produced results with regard to the teacher's commitment to his or her profession as well as general descriptors of good teachers.

Lowman's (1995) model grew from an analysis of over 500 teaching award nomination forms submitted predominantly (80%) by students. The analysis resulted in descriptors that applied to the model. Table 1 appears in Lowman's (1995) book: note that only descriptors mentioned more than 10 times were included.

This study provides a range of descriptors that are resultant and reflective of Bain's (2004) study: Dimension I is directly tied to findings 1, 2, 4, and 6 of Bain's study—knowledge, delivery, production of a "natural critical thinking environment"—while Dimension II is integrally related to findings 3 and 5—high expectations and trust that students can achieve them. The general descriptors are directly reflected in Bain's (2004) research as well as our own.

In another analysis, Wankat and Oreovicz (1993) in *Teaching Engineering* discuss the components of good teaching with a greater focus on engineering faculty. Wankat and Oreovicz (1993), commenting on good teaching, use some of the same overlapping descriptors including: "stimulating, clear, well-organized, warm, approachable, prepared, helpful, enthusiastic and fair" (p. 4). They also agree with Lowman's (1995) two-dimensional model, further adding Elbow's (1986) observation: "The most important dimension is intellectual excitement which represents the teacher's obligation to knowledge and society" (p. 142). Further they state, "Included in intellectual excitement are organization and clarity of presentation of up-to-date material. Since dull performance can decrease the excitement of the most interesting material, this dimension includes performance characteristics" (Wankat & Oreovicz, 1993, p. 142). In a series of questions that follow this comment, they highlight performance characteristics that include: energy, enthusiasm, love of material, clear and articulate language, and active engagement of students.

Concerning interpersonal rapport, Wankat and Oreovicz (1993) evoke Elbow's (1986) claim that it "is the teacher's obligation to the students" (p. 142). They further discuss the notion that engineering professors do not necessarily agree that interpersonal rapport is important; however, "students consistently include this dimension in their ratings of teachers" (p. 4). So, whether one believes in it or not, interpersonal rapport

Table 1
Descriptors Associated with the Enhanced Two-Dimensional Model of Effective College Teaching

Dimension	Adjective	Appearances	Adjective	Appearances
Dimension I: Intellectual Excitement	Enthusiastic	68	Engaging	18
	Knowledgeable	45	Prepared	16
	Inspiring	43	Energetic	15
	Humorous	34	Fun	13
	Interesting	31	Stimulating	13
	Clear	25	Creative	12
	Organized	22	Lectures well	11
	Exciting	22	Communicative	10
Dimension II-A: Interpersonal Concern	Concerned	45	Approachable	12
	Caring	33	Interested	12
	Available	27	Respectful	11
	Friendly	18	Understanding	11
	Accessible	17	Personable	10
Dimension II-B: Effective Motivation	Helpful	41	Demanding	14
	Encouraging	29	Patient	13
	Challenging	28	Motivating	11
	Fair	19		
Commitment to Teaching	Dedicated	35	Committed	19
General Positive Descriptors	Effective	17	Outstanding	14
	Excellent	17	Great	10

Note. (Lowman, 1995, p. 32)

is part of the scheme by which faculty members are judged. Further, Wankat and Oreovicz (1993) add a new twist to the interpersonal rapport discussion by including the notion of a punishing type of relationship with students. Here, faculty members are "attacking, sarcastic, disdainful, controlling, and unpredictable" (Wankat & Oreovicz, 1993, p. 4). They imply that students who fear their professors get the job done but do not retain the material and do not excel in the subject area. As a group, those professors who act in a punishing manner are perceived as unprofessional and receive the lowest evaluations among their peers. They go on to add that those faculty members who maximized the combination of intellectual excitement and interpersonal rapport were highly regarded as teachers. This is a conclusion that just makes sense, but that needs to be stated so that faculty members can recognize the worth of the two-dimensional model. More important is the fact that Bain (2004), Lowman (1995), and Wankat and Oreovicz (1993) overlap in their results and yet are from different disciplines: Bain is a professor of history, Lowman is a professor of psychology, and Wankat and Oreovicz are professors of chemical engineering. This demonstrates that professors from disparate disciplines writing about teaching agree that the descriptors tend to be the same.

Methodology

In examining the characteristics of excellence in teaching, Samples (2006) began an initial study by discussing teaching with engineering faculty members at a series of workshops. The initial study was very revealing in that it identified many of the descriptors, previously listed, as the basis from which these engineering faculty members prepared their classes and taught them. Subsequent to these workshops, conference session discussions with more eclectic groups of faculty from various disciplines who were interested in the topic of teaching excellence were very revealing: those interested in teaching excellence spoke about the subject using descriptors that were agreed upon by the workshop groups mentioned above. The question that arose for the researchers was the following: beyond those who would take the opportunity to attend a teaching workshop or conference, are faculty across disciplines using the same language and thinking of teaching excellence in the same way?

Thus, the researchers sought to explore teaching excellence communication by augmenting available workshop data with data taken from the faculty at the authors' universities. The workshop data was processed immediately since it was available. This data was based on the experience of engineering faculty from several fields. Simultaneously, preparations were made to collect data from non-engineering faculty from the authors' universities. The details of the collection of the data are presented in the following paragraphs.

For over 10 years (1998-2010) workshops were held to assist faculty in the development of better teaching skills. Like the Excellence in Civil Engineering Education (ExCEED) program, the Essential Teaching Seminars (ETS), sponsored by the American Society of Mechanical Engineers (ASME), the Institute of Electrical and Electronics Engineers (IEEE), and the American Institute of Chemical Engineers (AIChE), and the privately sponsored Teaching the Teachers workshops focused on the practice of teaching as outlined in the books by Lowman (1995) and by Wankat and Oreovicz (1993), as well as the expertise of veteran teachers of varied backgrounds. At the beginning of each workshop, participants were asked to describe good teaching practices via the following questions:

- What is good teaching?
- How is it accomplished?
- Is good teaching necessary to have a successful course?
- How is it evaluated?
- What are the results of good teaching?

At each workshop, participants were divided into groups to answer the questions, and their responses were provided to the group where additional comments are solicited. Thus, the responses were not anonymous and represent some "group think."

The authors' universities are primarily teaching universities—one is a comprehensive university in Georgia with a student body of 7,000, and the other is a baccalaureate university in Pennsylvania with a student body of 3,000. With this in mind, the participants at the authors' universities were asked to respond to the same five questions via a survey instrument that included their location and teaching discipline. Before approaching the faculty for their input, Internal Review Board permission was obtained from both universities to execute the survey. A third party was asked to collected the data and put it into a format that allowed review by the authors. There were 66 returned surveys representing an approximately equal distribution of answers from each university. The responses came from faculty with a broad range of self-identified academic disciplines including natural science, education, mathematics, humanities, history, communication, physics, business, chemistry, psychology, nursing, biology, music, geography, and political science. Additional responses would broaden the impact of the results; however, the sample is unbiased and, when combined the engineering workshop responses, provides a broad coverage of colleges and universities

across the country. The results of the survey were then compiled to compare them with those from the last eight workshops (approximately 25% of the total participants) or 250 responses.

As can be imagined, there were hundreds of answers to the five questions. Many of the answers were very long, especially those from the survey, while those from the workshop participants were more pointed: one-word or short phrase answers. In the paragraphs that follow, the most repeated answers will be listed just as the descriptors were listed by Lowman (1995). The responses are listed below and are accompanied by a brief analysis for questions 1, 3, 4, 5, with question number 2 being considered separately. When addressing question 2, the method for accomplishing good teaching, the responses are listed under the "corresponding" category of the two-dimensional model in an effort to come full-circle in the analysis of what makes good teaching. It is important to realize that the answers to some of the five questions are more student-centered than Lowman portrays in his work. However, the descriptors that Lowman reports were provided by students, whereas the results presented here are from the teacher's perspective: the "overlap" of answers will become obvious. There will be two sets of answers for each question; one from the workshop groups and one from the combined survey results. Finally, there will be a brief discussion of the results and any surprises that were revealed.

Coding of Responses

In Lowman's (1995) book he relates the process used for coding the responses that established the baseline from which this paper starts. For three years, 1989-1991, outstanding teacher nomination packets were examined by research assistants to independently code all adjectives and descriptive phrases. Those adjectives and phrases that appeared more than 10 times resulted in a group of 39 to be further analyzed.

The data collected from both the teaching workshops and the survey were then reported using differing methodologies. The answers to the question, "What is good teaching?" were coded using the 39 words used by the research assistants in the Lowman example. The coded responses provided validation that the faculty who were once students utilized the same descriptors when describing good teaching. These descriptors are highlighted in the good teaching response section. In the next section, the responses to the question, "How is it accomplished?" were divided into responses that coded directly to Lowman's (1995) two-dimensional model that includes intellectual excitement and interpersonal rapport. These responses clearly matched what Lowman called the "observer's description of teaching" (1995, p. 29). There were also responses that did not fall within the descriptor groupings and were eliminated. This was necessary to reduce confusion and to illustrate the preponderance of answers that faculty provided that matched the descriptors. In the final three sections, the answers had no previous coding and were reported to demonstrate the thinking of the faculty. Taken as a group, the responses to the five categories provide a blend that demonstrates the hypothesis.

Findings

What is Good Teaching?

The responses listed in Appendix A include some that could be included in the other tables, but they are left in the summary of good teaching to highlight the opinions of the group. Many of the responses focus on the "duties" of the teacher, some are responsibilities of the student, and others represent classroom tactics that apply to both the teacher and the students. Careful analysis identifies some of the adjectives previously reported: the adjectives are highlighted for easy identification. Further analysis indicates that the teacher must understand the students' learning styles, communicate expectations, motivate the students to perform through the use of various teaching styles and course flexibility, present the material in an organized manner, make the course relevant, and demonstrate methods that stimulate students to learn on their own, both in the course and throughout a lifetime of learning. One response illustrates this well:

> Good teaching is a creative interactional process between the teacher, the students, and the students themselves. During this dialogue process, the students grasp new concepts, their relationships to one another and gain new insights to the reality of the subject under study.

Another sums good teaching into one sentence: "An organized presentation of information that inspires and motivates students to pursue further learning on their own and/or to apply the learning in new ways." There are elements of intellectual excitement and interpersonal rapport throughout, with more being said about these dimensions in the "how accomplished" section. It is clear that the teacher must teach and the students must learn. The latter focus on student learning is essential and must be addressed in the "evaluation" and "results" of good teaching sections.

How is it Accomplished?

The simple answer is through a combination of the two dimensions of Lowman's (1995) model:

intellectual excitement and interpersonal rapport. The responses in Appendix B reflect a good understanding of the need for faculty to utilize both dimensions. Most of the respondents focused on intellectual excitement, yet they often included elements of interpersonal rapport. For instance: "Expert knowledge of the teacher, confidence in the dialogue process and exchange of ideas, thoughts, energy among the student and teacher." It is refreshing that the faculty who participated in the process identified these factors as important to accomplishing the mission of teaching. In the intellectual excitement column there are preparation, planning, technology, motivation, active, organization, enthusiasm and experience: all descriptors that lead to inspiring students to learn and be interested in the subject. In the interpersonal rapport column there are student involvement, teamwork, interaction, enthusiasm, communication, motivation, trust, connectivity, and student responsibilities: adjectives and phrases that lead to a relationship between teacher and student. Teachers who use some number of these ideas have the opportunity to excel as teachers and be efficient in the classroom, thus providing more time for other important efforts such as research and scholarly production.

Is Good Teaching Necessary to Have a Successful Course?

The responses in Appendix C include "yes" and "no." Behind this list were thoughtful discussions that were based upon the ability of students and the meaning of "successful." Some argued that their students would learn successfully in the absence of good teaching. Others maintained that less qualified students need good teaching to add value to their education. Next was the discussion of what "successful" means, with definitions that range from basic understanding of material to good student evaluations that would satisfy university norms. The intention of this question was to elicit this kind of discussion. Success in the classroom should be measured by the level of student learning and his or her development. Is it necessary to have good teaching? One response provided this outlook: "I believe good teaching is necessary to have a successful course. If you understand your content area but can't communicate that knowledge to your students they more than likely won't be inspired to learn." The authors agree with the results of the study and this answer: it helps in the process of making good students great ones, as well as making marginal students solid performers. There is no data to support this contention except that the years of experience of excellent teachers and pages of writings on the subject suggest that good teaching leads to student learning.

How is Good Teaching Evaluated?

The results shown in Appendix D indicate that good teaching seems to be evaluated via two different methods: the evaluation of the teaching itself and the evaluation of the student learning. Assessment or evaluation of teaching can be handled by a combination of student and peer evaluations. Both were cited by the workshop and survey participants as necessary to have effective evaluation of teaching. McKeachie (1999) in *Teaching Tips: Strategies, Research, and Theory for College and University Teachers* relates that student ratings are valid and can be used to improve classes and aid in the development of faculty. Further, he indicates that the peer evaluations are good, but their usefulness is overestimated due to the low number of visits. While good teachers do a fine job evaluating their peers, there is an issue of consistency that must be addressed: an issue that can only be resolved through more frequent classroom visits. The remaining responses deal with the student's ability to learn and his or her actual learning in a classroom setting. The good teacher will evaluate this to some degree, but the real proof of good teaching is retention of knowledge and the student's ability to apply the material in future academic and workplace situations. These long- and short-term evaluations are the subject of pages of material on assessment techniques which will not be addressed here. It is sufficient to say that some method must be established to evaluate student learning and to reward teachers who can foster this in their classes. Simply put by a survey participant, the evaluation process includes, "Student performance, feedback from student course evaluations, instructor's self-analysis, application of skills and concepts learned in other areas."

What are the Results of Good Teaching?

It is interesting and perhaps surprising that Appendix E includes the word "student" more often than any of the other tables. There are, of course, rewards for faculty who teach well: good student evaluations, respect from students and colleagues, and recognition by the University. But in the vast majority of the circumstances represented here, the winner is the student. The student becomes enthused with the material, performs better in class and throughout life, is happier, appreciates the field, is involved and confident, does well on standardized exams, and can think independently. All of these comments reflect on the development and maturation of the student: the process from young student with a dream to a student fully realizing her or his potential. This growth may occur naturally, but the value added by excellence in teaching surely has some impact on the rate of development and level of success enjoyed by the students who experience

excellent teaching. A mathematics professor summed it up well: "Open-minded, educated consumers and citizens who are not afraid to ask questions and are confident in their abilities to problem solve, including finding additional information to help answer their realistic questions."

To tie this discussion of the responses to the questions, it is valuable to return to the literature. Wankat and Oreovicz (1993) developed a compendium of learning principles that include:

1. Guide the learner
2. Develop a structured hierarchy of content
3. Use images and visual learning
4. Ensure that the student is active
5. Require practice
6. Provide feedback
7. Have positive expectations of students
8. Provide means for students to be challenged yet successful
9. Individualize teaching style
10. Make the class more cooperative
11. Ask thought provoking questions
12. Be enthusiastic and demonstrate the joy of learning
13. Encourage students to teach each other
14. Care about what you are doing
15. If possible, separate teaching from evaluation (p. 6-7)

These principles are considered the best practices: "what works." They are the basis of the book, *Teaching Engineering* (Wankat & Oreovicz, 1993), a highly regarded work that brings engineers into the classroom with excellent skills and provides the necessary tools to assist in student learning. Upon reviewing this list, it is obvious that Wankat and Oreovicz (1993) subscribe to Lowman's (1995) two-dimensional model. It is also apparent that the workshop and survey participants had some idea about the requirements of good teaching.

Summary

It is both surprising and refreshing to note that the responses to the five questions from teachers with experience ranging from zero to 25 years result in data similar to that presented by the experts from many disciplines, as well as ultimately from the students whose data was used to formulate Lowman's (1995) work. It is more refreshing to note that the responses came from faculty, many of whom have experience ranging from zero to five years—the target for those in the engineering sample. With such an aware faculty cohort, many of whom are new to teaching, it is possible that the years ahead will see better results in the quality and quantity of graduates. And even if the

numbers of graduates remain the same, perhaps they will be more satisfied with their education than their predecessors.

It is also noteworthy that a detailed study of the importance of teaching quality was reported on by Brawner et al. (2002). In their study, they revealed that the importance of quality teaching was rated very highly by the respondents, 6.5 on a 7-point scale, and that colleagues, department heads, deans, and "top" administrators rated the importance of quality teaching as 5.21, 5.58, 5.14 and 5.10 respectively. Unfortunately, their study indicated that the reward system for quality teaching at the institutions represented received a 3.71 on the 7-point scale. They conclude that, according to the respondents,

> the climate for teaching on their campuses was not particularly good in 1997 and worse in 1999. Most respondents expressed a belief that effective teaching quality [i.e., teaching that sets high but attainable standards, enables most students to meet or exceed the standards, and produces high levels of satisfaction and self confidence in the students] was very important to them . . . [and] decreasingly important to their department heads, faculty colleagues, dean, and top university administrator. (Brawner et al., 2002, p. 8)

Their data supports what was found in this study: that the faculty members are thinking about teaching techniques and that there is a desire to fulfill the needs of the students by providing "good" or quality teaching.

Conclusions

It is interesting when comparing the results of the workshop participants and those who took part in the survey that they are functionally the same. As with the authors of the reference books, the faculty members in this study span a broad range of disciplines. Their descriptors are very consistent, especially when defining the results of good teaching. In almost every case, the focus of the instructor and his or her course is engagement in student learning and success. This complies directly with Postelthwait's (1972) assertion: "Education is more than an information dispensing process. It requires a comradeship of sharing and exchanging of experiences and excitement that grows from common interests and hopes between teacher and student" (p. 1).

There is reason to suspect that many of the respondents in both the workshops and surveys are good teachers since they would be the ones who might volunteer to discuss what good teaching really is. Good teaching can be achieved by the average professor. There are some simple keys that will help

in accomplishing the mission: plan, prepare, practice, organize, communicate, challenge, motivate, and lead the students to learning. The two-dimensional model is easy to use and appears to be in use because the newer faculty members are aware of it. Or, there is an excellent series of training courses that all of these faculty have attended and which has made them aware of the methods. Frankly, it is suspected that many faculty have just learned by watching teachers (perhaps their own) teach—deciding what made sense, what felt right—and vowing to be that kind of teacher. By attending workshops, their ideas about teaching are reinforced by the views of their peers. Thus we have identified good teaching through a peer identification process. Perhaps, all colleges should gather their faculty to discuss this very issue since it has great impact on the students, even if the university reward system does not recognize teaching as important. Most faculty members must teach, and doing it well can be fulfilling and lead to efficiencies across the spectrum of teaching, research, and service.

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Appendix A
Responses to "What is Good Teaching?"

Workshop responses	Survey responses
Achieves student learning	Strategies that **engage** students
Shows applicability/connection to other courses	Performing art to **engage**, captivate and move the audience
Student satisfaction at some level (90%)	
Constant assessment of learning	Interactive and stimulation – involves **expertise** in subject matter
Students are **engaged and challenged** Interactive classes	**Engages** the student – **knowledge** of discipline
All students legitimately receive "A"	Enable students to make "discoveries"
Actively engage students in learning	Puts students at the center of the enterprise
Motivates students	Stimulating student interest
Cognizant of learning styles	Creative, interactional process – a **relationship**
Facilitate and motivate	Effectively **communicating** information
Addresses different learning styles	Expectation for students
Students understand the basics	**Current, engaged, listening, responsive, approachable**
Engenders retention of knowledge (or students)	
Demonstrations	Creating an environment conducive to learning
Instill a desire to learn	**Motivate** students to WANT to learn
Transmit a message	Preserve the past, reveal the present, create the future
Continuous and **organized** presentation Thought process	Good teaching **communicates** and **challenges**
Like other things, you know it when you see it	**Motivate** and **excite**
Relevant	Excite the**, challenge** assumptions, **create** curiosity
Promotes self learning	Active engagement
Identify and address conceptual difficulties	Models learning
Engages students	**Organizing** to maximize learning
Identify student learning styles	Clear and concise **communication**
Good **organization and planning**	Clear and concise information transfer
Attract and keep student's attention	**Engages** – makes them interested in learning
Communicate course content to students	**Inspire** student to learn
Achieve course outcomes	**Stimulates** intellectual curiosity – **challenging** and demanding
Accurate, technically correct	
Passionate about teaching	We **CARE**
Adapts to audience	**Organized** presentation – **inspires** and **motivates**
Good facilitation	Firm **knowledge** base, then **communicate** it
Flexibility in explaining information	Student's **knowledge** acquisition
Energy	Environment that **stimulates** and **motivates** learning
Mentoring and respectful relationship	Based on continual assessment of the process
Engage and motivate the students	**Excites**, accountability with feedback
Cohesive and logical presentations	Involves **organization**, thorough **preparation** and **enthusiastic** modeling
Effective communication with students	
	Engaging students in the process
	Presenting in a logical reasonable way
	Clear and **organized** presentations
	Clear and **fair-**minded assessment
	Connecting with the students
	Developing the student's ability to learn
	Stimulating the mind of the learner

Note. **Bold** text = key points in responses.

Appendix B
Responses to "How is it Accomplished?"

Response focus	Workshop responses	Survey responses
Intellectual Excitement	Planning	Interest in subject matter
	In-class assessment	People learn differently – application
	Student motivation	Careful preparation of materials, clear
	Convey student responsibilities	presentation
	Integrate technology	Relevant course content
	Adaptation of material presented to students	Complete sensory experience
	learning style	Involve the students in the learning
	Involve the senses	Clear learning outcomes
	Engender student self-discovery process	Vary teaching techniques
	Feedback on student knowledge base	Prepared for class
	Focus on basics	Active in discipline
	Student understanding of concepts	Good relevant examples
	Preparation – logical organization of	Storytelling
	content	Listen and Learn
	Be active – keep moving	Place yourself in students shoes and then
	Hands-on experience to motivate students	help them
	Vary the learning tools	Material current and relevant
	Experience (teachers	Intellectual honesty
	Get organized	Enthusiasm
	Motivate students – get them excited about	Higher level thinking and metacognition
	material	Critical thinking practicum
	Challenging tests	Active and energetic delivery and evaluation
	Appropriate out of class assignments	Advanced and current knowledge
	Practical – relevant examples	Regular assessment and feedback
		Good role model
		Inform real life practice with theory
		Socratic method
Interpersonal Rapport	Student involvement	Concern for students
	Flexibility/standards	Shares a large dose of themselves with
	Tailor teaching to the student's level	students
	Enforce discipline/standards	Advising and mentoring
	Teamwork (students and teachers)	Concern for academic well-being of students
	Stay connected with students	Dialogue process, exchange ideas, energy
	Understanding learning styles	exchange with students
	Win students' trust	Cares
	Practice (students)	Enthusiastic about course
	Adapt to student learning styles	Expectations, responsibility, clear policies
	Make it fun	Students involved in class
	Interact with students	Face-to-face encounters
	Enthusiasm – entertaining skills	Student responsibilities outlined
	Effective communication	Practice with the instructor present
	Engage and motive students	Personal exchanges
	Variety of presentation methods	Show passion
	Preparation – Create clear expectations for	Positive and personal attitude
	students	Students actively participate with positive
	Project interest and enthusiasm	reinforcement
		Mutual respect
		Engaged in the learning process
		Practice
		Desire to learn and meet with teacher often

Appendix C
Responses to "Is Good Teaching Necessary to Have a Successful Course?"

Workshop responses	Survey responses
To meet student expectations	I believe so
Communicate and connect	YES!
Assist in interpreting the text	Of course! Good teaching is necessary to have a good
Define success then outcome assessment to measure	class even though some can learn without good
success	teaching.
Meet university expectations	No. But lower half of class will have trouble
What percentages of students succeed?	Students can learn alone but do better with good
Overcome distractions	teaching
Bridge between students and knowledge	Ultimately yes
Address learning styles	Yes
Yes!	Absolutely
Assist in understanding the textbook/material	Yes, No, Yes
Increase retention of material	Of course
Accomplish accreditation outcomes	Not necessarily
Only part of the time	On an individual student level, not necessarily
Value added	Yes and No
Needed for optimal learning	If the students are successful, then the course is
To make class more enjoyable	successful
Good teaching accompanies success	It is a relatively necessary element
Depends on student's backgrounds	Good teaching plays a large part in success in the
Good techniques assist learning	classroom
Increases desire to learn	In general, yes
Depends on the definition of successful	Will increase the probability of success
Students gain knowledge and skills	Yes, but that is only half the equation. Students must
Success based on everyone accomplishing the	work and invest energy to make the class good
objectives	Yes
To motivate students	Depends on what successful means. If passing is ok
Job security	then not necessary – higher level learning will require
Quality graduates	more effort by the teacher and the students
Better students learn in spite of teaching Maybe yes,	Depends – students can teach themselves, sometimes
maybe no	Most of the time, but some will learn even in a bad
Cover difficult material effectively	environment
Motivate students and create enthusiasm Maintain	Yes, the student must be stimulated to learn
attention	In some disciplines like math and science – bad
Basis for student learning	teaching could do some real damage
Adapt to class environment	Yes, need to create the environment for learning
Attract and retain students	No, certain learning outcomes do not require the
To reach students with academic challenges	teacher
	Umm . . . not necessarily and good teaching does not
	ensure success

Appendix D
Responses to "How is Good Teaching Evaluated?"

Workshop responses	Survey responses
Did they learn the material?	Student evaluations
Student engagement	Student performance on evaluations instruments
Peer evaluations	Ad hoc observations by peers
Student enthusiasm and appreciation	Students reaching course objectives and outcomes
Was critical thinking improved?	Success of students over the long term
Proper metrics	The impact of the course on the student's lives
Do students think they are good?	Students get, AND keep jobs
Rate the engagement of students in classroom	Assessment of student learning
Student learning	Measures directly related to objectives and course goals
Student engagement	Feedback from current and past students Accrediting
Assessment of how much students have learned and retained	board and the community
	Self evaluation
Exams not adequate, but used (pre/post test)	Improvements based on established metrics
Student evaluations	By group presentations
Long-term retention of the material	By the instructor, students and peers
Enthusiasm/knowledge of teacher	Assessed against standard measures within the field
External peer evaluation of teaching	

Appendix E
Responses to "What are the Results of Good Teaching?"

Workshop responses	Survey responses
Enabling student judgment	Clear accurate communication of information and concepts
Students think independently	with a high rate of student understanding
Respect of students	Boost their self esteem and self efficacy
Mastery of the material	Students achieve the course objectives
Good student evaluations	Students who are passionate, focused and receptive
Minimize effects of negative elements Students perform	A renewed sense of energy for teaching/learning
better in future courses	Students who feel they have been given the opportunity to
Attracting students to follow-on courses Become more	learn
fun	Strong and confident students who have learned to learn
Good evaluations from "C" students Enhance confidence	Lifelong learner
level	Students leave class with new knowledge and skills
Subsequent application of concepts Promotion and	Students who are critical thinkers and ponder what you
advancement	have given them
Enthusiasm and team participation	Students who take pride in their work and continue
Students ask for more!	throughout life to be hard working taxpaying citizens
Receive more useful student feedback	A significant connection by the students to the material
Students can teach peers	presented
Develop appreciation for instructor	Students are enthused
Ability to communicate well with students using	Students use the knowledge in a practice setting
technical jargon	Students are changed in a direction that shows
Improved student knowledge retention	understanding of material – a positive experience
Students are happy	They are able to create new knowledge
Interest and motivation for further study	Students develop the skills to enter into and successfully
Good evaluations	navigate strange intellectual territory
Students want to learn more	Students who can contribute to society at large and in their
Industry/academic preparedness	disciplines
Develop an appreciation for life-long learning	They feel they have accomplished something
Life-long learning	Students are typically inspired and motivated to learn –
Student confidence in what they do Students should see	make the connection between newly learned information
the application and relevance	and prior knowledge
Student retention	Successful students
Students have an appreciation for the field	Motivated and successful lifelong learners
Student involvement	Reasonable and judicious use of acquired knowledge
Long-term technical competence	Students who learn not only beyond the curriculum but love
Standardized exams	the subject
Develop a personal investment in the learning process	Students desire to learn more
Challenge and accomplishment	Confident in their ability
Good grades – demonstrated learning	Student is eager to learn and apply new knowledge
Preparation for follow-on learning	Engaged students and teacher
Student engagement	Students learn how to learn
Success on National Std. Exams	Students have a sense of accomplishment and exhibit the
Increased student enthusiasm	ability to think
Help evaluate/focus career objectives	Positive advancement of a student's knowledge base,
Added tools to the tool-box – value added	reasoning skill, creative ability or performance level
Instill a holistic view	Students can "think outside the box"
Improve student evaluations of faculty performance	Students who are able to think critically
General improvement of student performance	Students have a new way of approaching problems or
	circumstances connected to their lives
	Student who think critically, who communicate well when
	writing or speaking, and then succeed in their career or
	further schooling

Students leave with an appropriate role model from a
person in the discipline
Students develop a positive attitude about learning
Students change the way they think
They become more aware of the world around them and
what they can do to improve it
More aware and empowered students
Useful citizens, ethical human beings, curious minds and
healthy skeptics
Students become critical thinkers, more stimulated to
pursue further study
Engaged students
Student's are appropriately prepared for succeeding courses
– student retention is affected
Engaged and motivated students
High performing students with a positive attitude