2010

Health Professions Education: Creating a Teaching Excellence Module for Faculty

Susan Stein
Pacific University

Follow this and additional works at: http://commons.pacificu.edu/phrmfac
Part of the Education Commons, Nursing Commons, and the Pharmacy and Pharmaceutical Sciences Commons

Recommended Citation
Stein, Susan, "Health Professions Education: Creating a Teaching Excellence Module for Faculty" (2010). Faculty Scholarship (PHRM). Paper 44.
http://commons.pacificu.edu/phrmfac/44

This Original Research is brought to you for free and open access by the School of Pharmacy at CommonKnowledge. It has been accepted for inclusion in Faculty Scholarship (PHRM) by an authorized administrator of CommonKnowledge. For more information, please contact CommonKnowledge@pacificu.edu.
Health Professions Education: Creating a Teaching Excellence Module for Faculty

Abstract
Faculty members receive little formal training in teaching techniques in health professions education. The project addresses an identified need to create, implement, and evaluate an effective teaching methods course to improve teacher capabilities of faculty members in health professions education at a public university in Washington. Additional areas examined included the influence of age and educational background of faculty members on improvement from the course. The teaching methods course was taught to faculty members from nursing and pharmacy at a public university. Initially, interviews were conducted, using a modified Delphi method, to capture current nursing and pharmacy exemplary educators’ perceptions of effective teaching methodology, activities, and traits later incorporated into the project. Prior to the course, participants completed a pre-course survey regarding perceptions of teaching effectiveness. The Teaching Methods Course, highlighting effective teaching techniques, followed. Participants updated presentations and presented again. Evaluation of teaching effectiveness assessed the participants’ 30-minute lecture pre- and post-course. A panel of educators evaluated the pre- and post-presentation using a standardized rubric. Data analysis included participants’ perceptions of teaching effectiveness and self-evaluations and a panel of educators’ evaluations of presentations. Results of interviews showed similarities in effective teaching perceptions amongst established effective teachers. Results of the course demonstrated significant improvements in effective teaching perceptions by the participants, and significant improved teaching capabilities of the participants. It appears a minimal investment, such as a one-day teaching methods course in effective teaching may be valuable.

Disciplines
Education | Nursing | Pharmacy and Pharmaceutical Sciences

Comments
This is an applied dissertation was submitted to the dean of the School of Health Management and approved in partial fulfillment of the requirements for the degree of Doctor of Health Education at A. T. Still University of Health Sciences.

Rights
Terms of use for work posted in CommonKnowledge.
Health Professions Education: Creating a Teaching Excellence Module for Faculty

By

Susan M. Stein
B.S. Pharm., M.S.

An Applied Dissertation Submitted to the
School of Health Management
In Partial Fulfillment of the Requirements for the
Degree of Doctor of Health Education

A. T. Still University
2010
This applied dissertation was submitted by Susan M. Stein. Ms. Stein’s committee was composed of the persons indicated below. It was submitted to the dean of the School of Health Management and approved in partial fulfillment of the requirements for the degree of Doctor of Health Education at A. T. Still University of Health Sciences.

Committee Members:

Dr. Warren McDonald, Chairperson, Ph.D.

Dr. William Fassett, Ph.D., M.B.A., B.S. Pharmacy

Dr. Sara Hopkins-Powell, Ph.D., M.S.

____________________________  _______________
Kimberly O’Reilly, D.H.Ed., MSW  Date

Interim Dean

School of Health Management
I wish to acknowledge and thank those who encouraged and inspired me to pursue my
doctorate in the art of teaching. Many of you are dear friends and share my passion for
life long learning. Thank you for your ongoing support throughout the development and
realization of this project.

To Bill Fassett, Sara Hopkins-Powell and Warren McDonald; thank you so very
much for mentoring me and providing me with a steady thread of confidence. The
leadership and coordination provided by Linda Garrelts MacLean and Washington State
University’s pharmacy staff was invaluable. The faculty participants from the College of
Pharmacy and College of Nursing were amazing: thank you for your time and energy.
Thank you to the Exemplary Educator panelists who were integral to the objectivity of
the project. Your wisdom and insight provided the standard for teaching effectiveness.
Thanks to all of the Exemplary Educators who shared their wisdom in the project’s
inception. We all gain from your excellence as teachers. To Shawn Davis, your statistical
brilliance brought the results to life: I am indebted to your skill.

To the many individuals who provided input in the project: Dr. Adrian Anast, Dr.
Brad Fujisaki, Dr. Rebekah Ratzlaff, Charles Tanqueray, and Dr. Kenny Jackson. Thank
you for your endless persistence, guidance, and insight in bringing this project to reality.

Finally, and most importantly, I wish to thank Danny, my husband, honey bunny,
soul mate and consigliore. Without his support and wisdom, this dissertation would not
be in your hands.
Abstract

Faculty members receive little formal training in teaching techniques in health professions education. The project addresses an identified need to create, implement, and evaluate an effective teaching methods course to improve teacher capabilities of faculty members in health professions education at a public university in Washington. Additional areas examined included the influence of age and educational background of faculty members on improvement from the course. The teaching methods course was taught to faculty members from nursing and pharmacy at a public university. Initially, interviews were conducted, using a modified Delphi method, to capture current nursing and pharmacy exemplary educators’ perceptions of effective teaching methodology, activities, and traits later incorporated into the project. Prior to the course, participants completed a pre-course survey regarding perceptions of teaching effectiveness. The Teaching Methods Course, highlighting effective teaching techniques, followed. Participants updated presentations and presented again. Evaluation of teaching effectiveness assessed the participants’ 30-minute lecture pre- and post-course. A panel of educators evaluated the pre- and post-presentation using a standardized rubric. Data analysis included participants’ perceptions of teaching effectiveness and self-evaluations and a panel of educators’ evaluations of presentations. Results of interviews showed similarities in effective teaching perceptions amongst established effective teachers. Results of the course demonstrated significant improvements in effective teaching perceptions by the participants, and significant improved teaching capabilities of the participants. It appears a minimal investment, such as a one-day teaching methods course in effective teaching may be valuable.
# Table of Contents

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval Page ................................................................. ii</td>
</tr>
<tr>
<td>Acknowledgements ............................................................... iii</td>
</tr>
<tr>
<td>Abstract ................................................................. iv</td>
</tr>
<tr>
<td>Table of Contents .............................................................. v</td>
</tr>
<tr>
<td>Chapter One: ................................................................. 1</td>
</tr>
<tr>
<td>Statement of the Problem ................................................ 3</td>
</tr>
<tr>
<td>Evidence of the Problem ............................................... 5</td>
</tr>
<tr>
<td>Overview of the Environment ........................................... 10</td>
</tr>
<tr>
<td>Chapter Two: ................................................................. 18</td>
</tr>
<tr>
<td>Ineffective Teaching ......................................................... 20</td>
</tr>
<tr>
<td>Effective Teaching Incentive ............................................. 32</td>
</tr>
<tr>
<td>Characteristics of Effective Teachers ......................... 38</td>
</tr>
<tr>
<td>Faculty Development Programs ....................................... 47</td>
</tr>
<tr>
<td>Chapter Three: ................................................................. 53</td>
</tr>
<tr>
<td>Research Design ............................................................... 56</td>
</tr>
<tr>
<td>Data Collection and Analysis ........................................ 17</td>
</tr>
<tr>
<td>Curriculum ................................................................. 72</td>
</tr>
<tr>
<td>Course Syllabus ............................................................... 74</td>
</tr>
<tr>
<td>Standard Operating Procedures ....................................... 82</td>
</tr>
<tr>
<td>Chapter Four: ................................................................. 91</td>
</tr>
<tr>
<td>Summary of the Research Problem and Design ................. 93</td>
</tr>
</tbody>
</table>
LIST OF TABLES

1. Educator dispositions selected by graduate and undergraduate teacher candidates ................................................................. 41
2. Domain and subcategories describing participant’s unexpected input ................................................................. 51
3. Timeline and intended users of instruments: Phase one ................................................................................. 61
4. Timeline and intended users of instruments: Phase two ................................................................................. 63
5. Teaching Methods Course design map ............................................................................................................. 80
6. Line item budget: Institutional support and project expenses ............................................................................. 82
7. Teaching Methods Course timetable .............................................................................................................. 84
8. Post-course observation summary evaluation of faculty presentations by evaluators: Comments ................................................................. 96
9. Interviewee demographics ......................................................................................................................................... 101
10. Demographic characteristics of participants ........................................................................................................... 104
11. Pre- and post-course using the Formal Observation Summary Instrument ................................................................. 107
12. Pre- and post-course assessments using the Formal Observation Summary Instrument: Order of significance ........................................................................................................... 108
13. Intraclass correlation approach among panelist evaluators ........................................................................................................... 110
14. Pre- and post-course assessments using the Perceptions Survey Instrument ................................................................. 113
15. Pre- and post-course assessment using the Presentation Self-Evaluation Instrument ........................................................................................................... 115
LIST OF FIGURES

1. Research Design Chart: Phase One and Phase Two of the Project........................56
Chapter 1: The Role of Teachers in Education

Overview

Education is considered an investment in the future. Excellence in teaching, the ability of a teacher to effectively impart new knowledge, ideals, and concepts to students to allow understanding, is integral to the society’s future success. Improving the transfer of knowledge, through teaching excellence, will ultimately provide the greatest return on investment. Thus, excellent teaching improves society’s return on investment in higher education. Excellent teaching is invaluable to the enrichment and advancement of society. Effective teachers motivate, educate, and exhilarate their students. Unfortunately, not all who teach stimulate the minds of their pupils. Historically, evaluation of effective teaching has not been well established (Edstrom, 2008; Spooren, Mortelmans & Denekens, 2007). Institutions of higher education have not developed consistent, effective systems for assessing teaching effectiveness (Marsh, 2007; Walker, 2008), and training for teaching effectiveness is not an established component of professional preparation. Consistent with this, ineffective teaching often results. Thus, ineffective teaching persists in higher education in America. Efforts have been made to remedy the problem, but considerable disagreement exists regarding the utility of student evaluations as compared to peer or self-evaluation (Davidovitch & Soen, 2006; Edstrom, 2008). Given these factors, it is unsurprising that student learning is often diminished and the student suffers (Jones, 2008; Marsh, 2007; Walker, 2008).

The challenges and possible causes are numerous. Programs to improve teaching are not a component of the standard curricula for all educators, and differences exist between primary, secondary, and higher education. Teachers in primary and secondary education prepare to enter the field with specific curricula targeting the art and skill of
teaching, and students practice application of these during internship training rotations (Jones, 2008; Muller & Irby, 2006). In higher education, training in effective teaching theories and techniques is limited to students in colleges of education. Educators with advanced degrees in other areas who choose academia as a profession and teach undergraduates or professional students receive little to no formal training in the actual process of teaching (Felder, 1993; Jackson & Matthews, 1996; Jones, 2008; Kennedy, 1997; Markowitz, DuPre, Holt, Chen & Wischnowski, 2008; Trautmann, 2008). Limited training is occasionally provided for teaching assistants or residents, but this training is minimal and neither enhanced, encouraged nor applied after graduate school (Jones, 2008).

Educators in the healthcare field face additional challenges of faculty shortages, lack of extrinsic incentives, and competing career opportunities in clinical practice and industry (Podrazik et al., 2008). Opportunities to train teachers to teach more effectively do exist but are very limited in access and resources. Training programs, such as teaching certificates completed during residency, can provide a glimpse of academe and some basic skills early in the career of a clinically trained academic (Romanelli, Smith & Brandt, 2005; Sylvia, 2004). Other teaching development programs also exist, such as the Faculty Development Program/Teaching Skills at the Johns Hopkins Bayview Medical Center and the Teaching Scholars Program at the University of California San Francisco School of Medicine. The programs are nine to ten months in length and meet once weekly. Sadly, scheduling complications and limited capacity do not render these programs widely available. Outcomes of these programs have been positive, but have been assessed using subjective feedback. Limitations in resources, lack of release time,
and modest capacity result in programs that are offered to few individuals on a one-time basis (Knight, Carrese & Wright, 2007; Muller & Irby, 2006).

**Statement of the Problem**

Over a period of 12 months, the researcher created, implemented and evaluated an effective teaching methods course to improve teacher capabilities of faculty members in health professions education at a public university in Washington.

**Sub-problems.**

1. Will more senior faculty members (determined by age) show less improvement from the course than younger faculty members?

2. Will faculty members with more educational background (year teaching) show more improvement from the course than faculty members with less educational background?

**Impact of the Problem**

Faculty members at higher education health professions programs provide society with highly trained professionals. The quality and effectiveness of teaching is positively correlated with student learning (Hickok, 2006). In health professions education, if the process is ineffective, student learning is compromised and society may not be provided with quality professionals. Research has shown a positive correlation between individual teachers’ skills and student academic performance (Trautmann, 2008). Recent studies have more often focused on evaluating administrative and student-centric variables than the teacher skill-student performance correlation (Ganley, Quintanar & Loop, 2007; Surratt & Dessell, 2007). Specifically, researchers have found that “teacher quality is a
Goldhaber and Anthony (2007) examined whether teaching certification was an indicator of quality teaching in primary education. Their results demonstrated a positive correlation between teaching certification, teaching effectiveness and student learning. The authors postulated that teachers who invested in the certification process voluntarily became more effective teachers (Goldhaber & Anthony, 2007).

Federal interest in improving teacher effectiveness was reflected in the 2006 National Science Board’s commissioned report to Congress on the status of science education (National Science Foundation, 2007). The Commission stated that teaching in primary education through graduate school was “fractured,” inadequate for producing the next generation of scientists, and new standards for training and development were needed. The Commission called for a coordinated national action plan to improve the teaching of sciences at all levels of education and recognized standardizing training of effective teachers was paramount to that goal. The recommendations included developing national standards for primary and secondary science educators and correlating the preparation of those educators to that of educators in higher education and graduate school. Emphasis was placed on meeting standards yet encouraged flexibility in training the educators to support diversity and creativity (Brainard, 2007a, National Science Foundation, 2007).

Academe has a responsibility to provide students with effective educators. The current process is missing an integral link between the responsibility to teach future generations and the provision of tools to develop educators that can teach effectively and
fulfill those responsibilities. The educational system is not dedicated to providing ongoing training to new faculty to assure development of teaching effectiveness and capability (Jones, 2008). Poorly taught students cannot perform as well in their chosen professions, are not as successful, and may even leave their chosen field (Cooke, Irby, Sullivan & Ludmerer, 2006).

**Evidence of the Problem**

How do we know there are ineffective teachers? The most trenchant process of evaluating teaching skill and performance has been an area of discussion. Most often, two forms of evaluation are used: student teaching evaluation (or student evaluation of teaching) and peer evaluation. The published data is not explicit regarding, which is more effective. Data collected from student evaluations clearly identifies an inconsistency in teaching excellence in faculty in the healthcare field (Marsh, 2007). Further, studies have shown student evaluations have not been successful in improving teaching, and students’ perceive their input as neither considered nor utilized. Other perceptions regarding student evaluations have included a tendency for students to provide higher ratings to “popular” teachers, teachers of “easier” courses, and courses in which the students receive a better grade. Interestingly, the underlying data is inconsistent with these perceptions (Surratt & Dessell, 2007).

Studies of peer evaluation programs have evidenced a positive effect on improvement of teaching in a limited group of faculty members. Despite the collegial support, the majority of participants did not seem to improve in teaching effectiveness (Bernstein, Jonson & Smith, 2000; Peel, 2005). If not organized and implemented well, concerns of potential bias, encroachment, and inconsistency create a threatening
environment. Both forms of evaluation are less likely to include post-tenure faculty members, perhaps because these individuals are at risk for experiencing a “crisis of generativity versus stagnation” (Mignon & Langsam, 1999). Another challenge of peer evaluation programs struggle with is establishing environments of trust and support among the aging academe (Huston & Weaver, 2008).

What are some possible causes for ineffective teaching? Many educators aspire to improve teaching performance and reach teaching excellence yet do not always receive the opportunity or incentive. It is highly unlikely one would enter the field of academia with the intent to be an ineffective teacher. Traditionally, academe has rewarded scholarship in the area of active scientific research rather than teaching scholarship (Glassick, 2000). As well, an inherent desire to improve and learn to teach more effectively is necessary for ongoing development.

Another stumbling block to improving teaching effectiveness for faculty members in higher education is limited resources. Opportunities to improve teaching exist in the form of teaching scholar programs and faculty development programs. Unfortunately, availability and access is limited. Programs currently available are not all inclusive or readily accessible. The traditional format for teaching training requires time release, funds for the trainer, scheduling accommodations, and longitudinal commitment. One-time events and focused discussion sessions are less common. Mentorship between young faculty members and accomplished scholars is often underutilized as well (Knight, Carrese & Wright, 2007). Ironically, it appears a casual approach, such as faculty mentoring programs to providing teaching training, is not strongly supported either (Popovich, Peverly & Jackson, 2006).
Faculty members receive little incentive to seek teaching development or improvement, and are often inadequately compensated for efforts toward this end. Institutions traditionally evaluate faculty performance based on three basic areas: scholarship, service and teaching (Boyer, 1990). However, the teaching component is frequently undervalued when determining eligibility for promotion and tenure (Sachdeva et al., 1999). Large universities principally reward scholarship focused on primary research and the successful acquisition of significant grant awards. Excellence in teaching has seldom been recognized as scholarship (Boyer, 1990). Although tenured teaching scholars exist, recognition for teaching excellence as scholarship is weighted significantly less than other forms of scholarship (Schrader et al., 2008). Many faculty members who desire tenure and promotion are encouraged to make scholarship of discovery or application a higher priority than scholarship of teaching and investigation of improved teaching (Jones, 2008; Trautmann, 2008). In the area of health professions education, decreasing numbers of capable professionals are seeking careers in academia due to lack of training and incentives (Brown et al., 2008).

What does effective teaching look like? Attributes of effective teachers can be difficult to quantify. When asked, students and faculty members use similar descriptors to define excellence in teaching. Students have endorsed descriptors such as “excitement” and “passion” as frequently as “knowledge” and “skill” when describing memorable teachers. A persistent significant finding is that recognized excellence in teaching includes knowledge as well as disposition of the individual (Jones, 2008; Lohman, 1996). Other characteristics and practices of effective teachers have included “displaying concern and respect for students,” “stating clear goals,” “providing organized
presentations and appropriate assessments,” and “participating in active engagement” (Ramsden, 1992). A longitudinal collection of informal surveys regarding effective teacher characteristics further supports the value of personal or qualitative traits. “Organization and creativity” was noted as more valuable than knowledge or other academic traits and qualifications of an effective teacher. When asked, students remember teachers who are seen as engaging and interactive individuals (Walker, 2008).

Effective teachers are nurturers and motivators. They desire to personally improve and embrace the responsibility to teach well. Motivation is necessary for success. The editor of the American Journal of Pharmaceutical Education recently prompted educators to ask themselves, “What would it take to get a standing ovation from your students at the end of class?” (DiPiro, 2006, p. 1). Asking this question, and more like them, can inspire teachers to seek opportunities to improve teaching techniques and continue to develop throughout their career.

Lately, new models of teaching have been integrated in higher education. Data supporting student-centered active learning approaches have supported a redefined and expanded involvement of the teacher in the facilitation of student learning (Ganley, Quintanar & Looop, 2007; Trautmann, 2008). Institutions where integrated teacher training and continuous improvement programs have not been implemented have also been found to be slower to implement and utilize the improved teaching techniques (Brainard, 2007b).

Teaching training and development programs do exist in some universities. The Teaching Scholars Program at the University of California, San Francisco, School of Medicine, has been active since 1998. It is a 10-month, one-time program provided each
year for a small cohort of educators. The program is believed to be valuable, but lack of resources (e.g., release time, sufficient mentors) limits its benefits, and the program does not provide ongoing or follow-up training. Evaluation of the program’s results has not been published (Muller & Irby, 2006). Knight, Carrese and Wright (2007) evaluated the long-term effects of faculty development programs and found significant improvements in the qualitative components of academic performance and satisfaction after completing one training program.

The University of Chicago has a program targeted at faculty development for hospitalists and other internists who teach in clinical environments. The faculty development program, called Curriculum for the Hospitalized Aging Medical Patient (CHAMP), consists of 12, 4-hour classes available annually to eight to ten scholars within the faculty. The program is designed to focus on geriatric clinical training for half of the course and teaching skill development in the other half, improving teaching as well as clinical skills. Results are overwhelmingly positive, as noted by subjective measurements, yet challenges in resources continue to limit broader implementation. It was noted that if additional ongoing support were available, it would further reinforce skills learned during the program (Podrazik et al., 2008).

Unfortunately, these teaching training programs are time-consuming, require release from other duties, provide little ongoing development or support, and often have limited access. Little in the literature supports a conclusion that American higher education – let along the professional education academy – provides much in the way of accessible and consistent efforts to improve teaching effectiveness.
In summary, teaching effectiveness is related to student outcomes yet there is little support for programs to improve teacher effectiveness. Teachers employed in higher education outside of the professional education field receive little training or incentive to improve their teaching capabilities and student learning suffers (Jones, 2008). Additionally, teachers in health professions education suffer from lack of training and development in challenging clinical environments (Brown et al., 2008). Many educators in many areas of teaching, including professional health professions education, desire to become effective teachers but there is a scarcity of resources to achieve this goal.

**Overview of the Environment**

The university setting for the project represents a broad variety of undergraduate and graduate programs. With over 25,000 students, Washington State University (WSU) offers over 200 fields of study including undergraduate, graduate and professional students. The public university employs over 2,400 faculty members located on four campuses in the state of Washington: Pullman, Vancouver, Tri-Cities and Spokane. Approximately 225 of these faculty members are located on the Spokane campus. The Spokane campus supports over 1,300 students, 610 of whom are in professional and graduate programs. Faculty at the Spokane campus health professions programs expressed an interest in expanding the training of new faculty members in pedagogy. As a result, the Spokane campus was a favorable research environment in which to conduct the project.

**Community**

The city of Spokane is located in the eastern portion of Washington and three of WSU’s campuses are located in the eastern region as well. The multi-campus setting
offers an environment interested in improving inter-campus communication through mutual values such as training. Providing the training to multiple campuses also increases the efficiency of available resources while increasing mentoring and peer relationship opportunities.

The university is state-supported with a variety of programs and degrees available, providing faculty members who specialize in a variety of fields of study. The university is comprised of 10 colleges: agricultural and natural resource sciences, business, communication, education, engineering and architecture, liberal arts, nursing, pharmacy, sciences, and veterinary medicine. Human health professions programs include dentistry, speech and hearing sciences, exercise metabolism and nutrition, nursing and pharmacy. Honor programs are also available in distance and professional education.

Spokane has a population of 202,000, median age of 34.7, median household income of $40,468, and families represent 58% of the population. The metro area is essentially coextensive with Spokane County, with a population of 468,684. The demographics of the community are 4.2% Hispanic, 91.4% Caucasian, 1.9% Black, 2.2% Asian, 1.7% Native American and 2.8% other (U.S. Census Bureau, 2009).

**Background and History**

Founded in 1890, the public land-grant research university spans four campuses in moderate sized communities in the pacific northwestern portion of the United States. The Spokane campus identified for the project is an urban campus established in 1989 specializing in health sciences and upper-division programs. Within this setting, the primary health professions programs are found in the College of Pharmacy and College
of Nursing. Pre-physical therapy, pre-occupational therapy and pre-physician assistant programs are also available. The number of students in each program varies.

The pharmacy program was established in 1892 and WSU’s first baccalaureate program in pharmacy was established in 1905 (White, 1996); the College now has students located on the Pullman and Spokane campuses. The College of Nursing was established in 1968 and is located on the Spokane campus with distance learning in four other Washington cities: Yakima, Walla Walla, Tri-Cities and Vancouver. On the Spokane campus, the College of Pharmacy and College of Nursing are located in adjacent buildings.

Limitations

The teaching methods course was taught to a small population of faculty members in health professions education. The findings may not be representative of results obtained with a cohort representing faculty members from a larger population, multiple universities, different health professions educational programs or non-health professions educational programs. The researcher determined the use of student evaluations to evaluate improved teaching capabilities might introduce personal bias. As a result, a panel of exemplary educators was utilized to evaluate each participants teaching skill before and after the teaching methods course. Another limitation was that the student classroom environment was removed; the student perspective was not captured through student evaluations.

Others limitations included the short length of the teaching methods course and limited opportunity for the participants to incorporate new methods, improve techniques and re-evaluate performance. In addition, the generalizability of the findings of the
project to universities or other settings outside of a single, land-grant institution is unknown. Although the participants volunteered for the project and represented two different colleges in health professions education, the cohort may have represented more motivated individuals with a desire to improve teaching skills.

**Resources**

The projected cost to develop and implement the teaching methods course was anticipated as being significant. The researcher’s time was considered part of the educator’s duties and no additional compensation was required. The faculty members who participated in the project, the interviewers and panel evaluators participated as part of their academic duties. Participation in the project was considered educational development and no additional compensation was anticipated. Equipment necessary to implement the teaching methods course included a classroom, technology and other teaching materials necessary for presentations and classroom activities such as white boards, paper and writing materials. Additional technology was necessary to video record the teaching presentation. The equipment was readily available within the university and approval was granted for use in the project at no additional cost.

Major budget expense for the project was anticipated to be time investment on behalf of the participants, panel evaluators and researcher. Twelve faculty members invest approximately five days preparing lectures and attending class. Three panel evaluators were trained (approximately two hours including overview) then reviewed two days of faculty presentations. Because the participants and panelists participated as a part of their academic duties, expense for time investment was estimated as the following: faculty members average cost the university is $450 per day for a minimum of three days
($1350/participant), or $16,200 for twelve participants; panelists’ investment was estimated at $3000 for three panelists. Additional costs consisted of classroom materials, evaluation materials, travel expenses, refreshments and lunches for all participants. These expenses were borne by the researcher.

**Context**

The faculty members within the health professions programs at the university represented a variety of teaching experiences, backgrounds and credentials. According to the program administrators, previous interprofessional faculty development programs were infrequently provided and faculty members at the university were interested in expanding interprofessional teaching development programs. The College of Pharmacy faculty members typically taught 94 students per class in a four-year professional doctoral program. The College of Nursing program is multi-faceted with bachelors, masters and doctoral programs and the number of students per class and years per program vary. Faculty members taught in a variety of learning environments, including extensive online distance learning courses.

**Role in Organization**

The researcher did not have a formal role in the university organization. Therefore, the researcher potentially contributed greater objectivity to the project and result analysis as compared to implementing the program while teaching as a faculty member simultaneously. Faculty members who participated in the project may have been more likely to view the researcher, teaching methods course and the project components as non-threatening and objective. It is possible the external relationship of the researcher provided opportunities for greater participation and self-assessment. Alternately, faculty
members may have considered the training less valuable since it was “outside the system.”

**Organization Chart**

The health professions programs are organized in separate colleges: the College of Pharmacy and the College of Nursing. Both colleges report directly to the provost. The deans of both colleges are represented on various administrative committees throughout the university.

The College of Pharmacy is located on two campuses. The two initial years of the program are on the Pullman campus, which is separated from the Spokane campus by about 75 miles. The third year of the program is located on the Spokane campus. However, the two campuses are considered administratively, academically and financially “co-located.”

The College of Nursing’s main facility is located on the Spokane campus and has four other campuses in addition. Various distance-learning programs exist and are based out of the Spokane campus. The bachelors degree program is a four-year program, the masters is approximately two-years in length and the doctorate is approximately four years in length.

**Purpose of Applied Dissertation**

The project was intended to examine whether a teaching methods course would improve teacher capabilities and teaching effectiveness. The project evaluated the value of providing training to improve teaching effectiveness and teaching perceptions through the implementation of a one-day teaching methods course. In addition, the project utilized a panel of educators to evaluate participant performance.
Definition of Terms

*Academe*: Higher education, also referred to as college or university

*Effective Teaching*: Teacher who displays knowledge as well as effective disposition, which encourages learning, such as excitement and passion for the topic, and who has been successful in facilitating student learning.

*Evaluation Rubric*: A standardized rubric utilized by the educator panelists to evaluate both faculty presentations (before and after the teaching methods course). Each participant was evaluated on the following areas: delivery (verbal, body language, visual cues, projection); content (organization, time management, flow of information, accuracy, referencing); active learning integration (technique used, effectiveness); and overall impression (enjoyable, interesting).

*Peer Evaluation*: A tool used by faculty in which colleagues evaluate each other’s teaching skill using a rubric tool. Often includes written feedback and may be a scheduled evaluation or random appearance.

*Student Teacher Evaluation or Student evaluation of teaching effectiveness*: A system of evaluation in which students evaluate the performance of a teacher. Often completed just after a course has finished.

*Teaching Excellence*: Qualities, often hard to define, displayed by an effective teacher which results in students ability to learn, retain information and desire to pursue life long learning.

**Acronyms**

AACP: American Association of Colleges of Pharmacy

FDP: Faculty Development Program
SETs: Student evaluations of teaching effectiveness

TSP: Teaching Scholar Program

Summary

Academicians in higher education generally do not receive formal training in effective teaching methodology while in graduate school or while employed. Faculty members seldom receive encouragement, incentive or reward to improve their teaching ability. Conversely, teachers with an undergraduate or graduate degree in education receive extensive didactic and practical training in teaching techniques. A review of the literature indicates the desire for faculty members in higher education to receive training and earn rewards for teaching effectiveness. The project examined the results of providing a teaching methods course to faculty members in health professions education. The project evaluated the results of the course in improving teaching effectiveness and perceptions of effective teaching methodology among faculty members in a health professions education program.

Education provides a valuable opportunity in society to improve, develop and grow. Health professions education enables students to develop new technologies, further therapeutics discoveries and enhance healthcare. Providing educators the opportunity and incentive to achieve teaching excellence may improve teaching capabilities. Excellence in teaching may then exponentially increase the effectiveness of education in future generations.
Chapter 2: Review of Related Literature

Effective teachers are vital to students and to the enrichment and advancement of society. Skilled teachers in health professions education produce competent professionals responsible for treating the nation’s citizens. Ineffective teaching in schools and colleges across the nation cheats students of the opportunity to grow and develop analytical, practical and behavioral knowledge, norms and experiences. Subsequent to this, students may disavow formalized education and the opportunity for classroom didactics is lost forever. The prevalence of ineffective teaching in higher education is a growing concern (Jones, 2008). In health professions education, ineffective teaching may have a profound negative impact on the provision of quality healthcare. Experts in the field agree that measures to improve teaching effectiveness are long overdue (Knight, Carrese & Wright, 2007). Given this acknowledgement, educators should be asking themselves the following question: Why does the education system tolerate ineffective teaching when the impact on society is so significant?

Ineffective teaching may arise from a variety of factors. Lack of investment in faculty development, inadequate incentives for faculty development, limited resources, inconclusive evaluation methods, and insufficient recognition of effective teaching in higher education have all been cited as reasons for lack of mastery of effective teaching. Graduate students in schools/colleges of education receive extensive training in teaching techniques and classroom management. In contrast, educators in other fields of study have been trained for their discipline and received minimal teaching training in the process (Jones, 2008). This lack of training in education techniques does not necessarily indicate a hole in the education of students, however, as many students have no intention
of joining the educational field. Nevertheless, graduates from these other fields of study are recruited to teach and this is when lack of teaching training becomes problematic (Knapper, 1995; Trautmann, 2008).

In the medical profession, clinical educators struggle to balance improving teaching skills and incorporating advancements in teaching design while maintaining their clinical expertise. Without support in teaching development, students are needlessly subjected to ineffective teaching (Cooke, Irby, Sullivan & Ludmerer, 2006). The fact that scholars who choose academe as a career in areas of higher education receive little to no formal training in the actual process of teaching is not a new problem (Felder, 1993; Jackson & Matthews, 1996) and no resolution has been identified (Jones, 2008; Markowitz, DuPre, Holt, Chen & Wischnowski, 2008; Trautmann, 2008). Graduate education does not sufficiently prepare students to teach, despite many pursuing academia upon graduation (Draugalis & Plaza, 2007). Draugalis and Plaza (2007) emphasize the importance of educators receiving appropriate training in their assertion that “proficiency in teaching and service roles will not be achieved if left to osmosis or simple modeling” (p. 106).

The literature reviewed for the project amply limns a landscape in which effective teaching in higher education remains an unmet goal, as summarized in the following areas:

- Ineffective teaching: Prevalence and etiology
- Teaching incentives
- Characteristics of an effective teacher (e.g., age, educational background)
- Faculty development programs and documented results
The discussion will address relevant literature in each area and present data correlating age and educational background to teaching excellence.

**Ineffective Teaching: Prevalence, Evaluation and Etiology**

*Prevalence of ineffective teaching.* Effective teaching is a process in which educators impart knowledge, perspectives and skills to students. Hickok (2006) provided that the goals of education are understanding, retention and application of concepts. Effective teaching is positively correlated to student learning and understanding. Ineffective teaching, on the other hand, contributes to the poor performance of students upon completion of the educational process (Hickok, 2006). It seems intuitive that ineffective teaching creates negative experiences for students, faculty and society. In the field of health professions education, the consequences of poor education are significant. Students trained in health profession education are the source of the nation’s health care providers. Ineffective teaching and incomplete training of these students negatively effects the care society receives in an exponential manner. The students become the health professions educators who proceed to teach others ineffectively and the cycle continues (Cooke et al., 2006).

Faculty members are often originally trained in areas of specialty and recruited without demonstrating teaching ability or participating in pre-employment training in teaching techniques. According to Knapper (1995), “many faculty lack a sophisticated conceptual understanding of how learning takes place in college students… Most faculty have been trained as researchers in their discipline but have had no background in educational or pedagogical theory” (p. 60).
The National Science Board was charged to create an Action Plan for Congress in which the current status of science, technology, engineering and mathematics (STEM) education was evaluated. The 2007 report was distressing, and charged that the sciences in the educational system were in disarray from primary school through graduate school and in urgent need of restructuring. The Board lamented the volumes of unused previous recommendations and plans, which contained creative ideas, such as linear alignment of sciences from pre-Kindergarten to higher education, to address a problem clearly overdue for immediate attention and action (National Science Foundation, 2007).

The National Science Board Action Plan stated that inconsistent quality of teaching has contributed to the fragmentation of STEM education throughout the colleges and schools. The Action Plan contained data that projected upcoming generations will not supply the nation with a sufficient amount of new scientists if the system is not corrected. A coordinated effort to improve the teaching of sciences across all levels of education was urgently called for, and training effective teachers was paramount to that goal. Developing national standards for primary and secondary science educators, and coordinating the preparation of those educators in higher education and graduate school, was emphasized. Flexibility in training was encouraged to support diversity, development and creativity (Brainard, 2007a; National Science Foundation, 2007).

The evaluation completed by the National Science Board can readily be applied to health professions education. It is especially pertinent as apprehension regarding the lack of well-trained medical educators is evident and growing (Cooke et al., 2006; Whitcomb, 2007). In fact, serious concern for the condition of the medical education system existed prior to the National Science Board Action Plan, as evidenced by a 2004 report from the
Ad Hoc Committee of Deans of Medical Schools. More recent trends in the education process were projected to jeopardize the quality health care if significant deficiencies were not addressed (Whitcomb, 2007).

**Evaluation of teaching efficacy.** Students expect teachers to be effective. Traditionally, student evaluations of faculty members have been assumed to be effective indicators of poor teaching and may identify the need for improvement. Tools for student evaluation of faculty have been controversial, though, with few tools psychometrically evaluated or derived from pedagogical design and theory (Spooren, Mortelmans & Denekens, 2007). For instance, the famous “Dr. Fox” experiments (Naftulin, Ware & Donnelly, 1973) ignited controversy that is still discussed in contemporary circles of education. The experimenters reported high student evaluations when an engaging actor was hired to teach a lecture with little content and intentional contradictions. The evaluations were quite positive, providing the authors reason to malign the value of student evaluations.

The utilization of the results of student teaching evaluations is also unclear. Surratt and Desselle (2007) examined the impressions of pharmacy students on the use and intent of student evaluations of faculty through a teaching effectiveness questionnaire. Students felt information provided was not employed by the faculty member to improve or modify performance or teaching methodology. Students also doubted whether “…the instructors were held accountable by the university for substandard teaching efforts” (p. 23). If students feel their input is not valuable, how accurate are their evaluations? More importantly, it appears administrators at schools and colleges that collect student input may not be using the information or may not be
effective in displaying how the information is being incorporated (Surratt & Desselle, 2007).

A recent survey implemented to determine the value of student evaluations in improving teaching or course design at a university in Sweden revealed flaws inherent in the student evaluation process (Edstrom, 2008). The process inadvertently punished the instructor who experimented with new teaching methods. Questions which rate teaching activities may show negative results yet are not correlated with an innovative teaching approach that failed during an earlier application. Thus, the incentive to explore and create new methods is inadvertently squelched. Evaluations, especially those with quantitative measurements, provide little guidance in how to improve. If a course received a “3 out of 5” on the laboratory activities, what was missing? Even with comment fields provided, students are hesitant to provide additional input (Edstrom, 2008).

The traditional timing of administering course evaluations is not optimal either. Mid-course evaluations are often only used to determine if a course is going very poorly and needs immediate attention: a “fire alarm” function (Edstrom, 2008). Edstrom questioned the assumed historic value and accuracy of student evaluations. According to Edstrom (2008), “evaluation is portrayed as a ritual whose main role is to create an appearance of rationality and accountability” (p. 103).

Peer evaluations are another tool occasionally used to evaluate teaching effectiveness. When applied properly, peer evaluations can be valuable, and help foster insight and gently encourage growth. Without appropriate design and implementation, peer evaluations can be viewed as threatening and biased. An organized system with clear
expectations, an objective measuring tool and frequent applications can be valuable for feedback. What the faculty members do with that feedback, though, is unclear. Few studies show improved teaching performance following peer evaluation or observation in higher education (Peel, 2005).

At the University of Nebraska, 37 faculty members participated in a peer evaluation system based on the American Association for Higher Education (AAHE) project. Although the faculty found the process rewarding, peer evaluation did not positively correlate as a collective to improved teaching effectiveness. Few faculty members improved while many others languished. Interestingly, regardless of the positive experiences, the faculty did not alter their attitudes about their role or responsibility in student learning. According to Bernstein, Jonson & Smith (2000):

Despite all the goodwill generated by and toward the peer review process, there was little or no change in faculty attitudes toward student learning or faculty responsibility for student learning. In general, the seminar discussions did not alter the basic faculty view that students are responsible for learning and that attitude remains a cornerstone of a typical teaching philosophy. (p. 80)

Additional peer designs have incorporated systems that expand peer influences on teaching development. Rather than relying on the one-on-one traditional design of peer consultation, some faculty and administrators created “faculty learning communities” within universities (Cox, 1999, p. 40). The premise is to incorporate individuals, often across multiple disciplines, with a variety of experiences focused on improving each other’s teaching skills. Ideally, the faculty learning communities embark on a structured development process encompassing the academic year. Frequent activities, discussions
and evaluations provide information and feedback for all members. The programs have reported success in alleviating junior faculty member stress, improving collegiality and the experience of learning from colleagues (Cox, 1999).

As new methods and pedagogy gather evidence, educators eventually begin to apply new principles to practice. During times of significant innovation, a gap can develop while teaching philosophy catches up to teaching practice. Most recently, the educators have slowly been transitioning to a student-centered teaching environment; however, the culture is still focused on the teacher. As a result, traditional evaluation tools remain teacher-focused and list competencies such as area of knowledge and pedagogy, presentation skills and course and curriculum design and organization. The transition creates additional challenges in identifying effective teaching attributes (Tigelaar, Dolmans, Wolfhagen & Van der Vleuten, 2004).

A group in the Netherlands examined developing and validating structured teaching competencies for higher education (Tigelaar et al., 2004). Using the Delphi method to collect expert opinion and consensus, a broader teaching evaluation tool was developed, which focused on expectations of teaching performance in a student-focused teaching model. The following domains were evaluated: person as a teacher, expert on content knowledge, facilitator of learning processes, organizer and scholar/lifelong learner. The instrument was in the process of being validated and tested (Tigelaar et al., 2004). Regrettably, no additional publications regarding its use were located, perhaps accentuating the challenge to accurately evaluate teaching.

Other evaluation tools have been examined. Goldhaber and Anthony (2007) explored whether teaching certification was an indicator of quality teaching in primary
education. The study assessed the National Board for Professional Teaching Standards (NBPTS) certification process as compared to elementary student achievement. The NBPTS certification is voluntary and, as of November 2005, has been awarded to over 47,500 teachers. The data evaluated for the study was collated from North Carolina’s public school system. A slight positive correlation was revealed between teaching certification, teaching effectiveness and student learning. The certification process itself did not appear to increase teaching efficacy. The authors postulated the relationship between the teachers who invested in the certification process voluntarily became more effective teachers (Goldhaber & Anthony, 2007). Marsh (2007) utilized the Students’ Evaluation of Educational Quality (SEEQ) method in a study examining the long-term student evaluation of teaching. The SEEQ method incorporated a consultant to discuss the results of the evaluations, identify strengths and weaknesses, target areas of improvement and identify techniques for support. Marsh found the teachers who received feedback with the consultants, discussed strategies to overcome challenges and followed up with additional feedback improved more than randomly selected teachers (Marsh, 2007).

Etiology of ineffective teaching. Why does ineffective teaching exist? As with mastery of any other skill, good teaching requires ongoing and progressive training. Typically, instructors from colleges and universities outside of the education discipline begin careers as new doctoral graduates with little experience and even less training in teaching (Davidovitch & Soen, 2006; Jones, 2008). When not provided with teaching-specific training or guidance, faculty members educate as they were educated. Inefficiencies and poor techniques are not corrected and recommendations or mentoring
is not provided to improve or develop teaching methods (Kinsella, 1995). Some inexperienced educators will even assume a defensive teaching style in which the material is presented as rapidly as possible with little time open for interaction with students (Cox, 1999).

Ideally, development of effective teaching skills should begin when future faculty members are in graduate school (Draugalis & Plaza, 2007). The opportunity to mentor and to explore curriculum design and teaching methods is available but the current structure does not allow access to the resources. Systematic preparation is not utilized and basic teaching skills are not taught (Trautmann, 2008). Proposals to improve the system include dedicated mentoring and integration of the graduate student into the faculty. Per Kolb’s (1981) experiential learning cycles, students learn through action. Mentors within health professions education have attempted to create supportive systems for graduate students interested in academia. A proposed system in pharmacy education would include systematic training for graduate students consisting of increased responsibility and independence to provide a teaching structure from which to grow and develop into future effective academics (Draugalis & Plaza, 2007).

The realities of the demands of teaching are not always clearly communicated to individuals recruited to academe. Faculty members are presented inconsistent messages during recruitment. Candidates are presented with explicit research and funding expectations and provided tours of laboratories yet clear teaching responsibilities are not explained. In fact, faculty candidates are often asked to present a seminar on their research topic, which may be perceived as plans for future research and productivity rather than a demonstration of teaching competence (Shapiro, 2006).
Once hired, expectations for extensive teaching responsibilities await for many new faculty members. New faculty members can be overwhelmed and resources for improvement can be difficult to access (Jones, 2008). Reward is provided to individuals who excel in research and grant acquisition as opposed to the ability to teach effectively. As a result, resources are focused in the area of expectation: fundable research. Faculty members with successful grant awards may even be given an extended hiatus from teaching to further support research yet the practice rarely provided in recognition of effective teaching or to provide enhancement of teaching responsibilities. Individuals drawn to academia for the love of teaching are lost in the process. The practice of rewarding fundable research demonstrates a selfishness on the part of universities, as resources are being invested primarily in research and not in the improvement of teaching and, therefore, not in the improvement of students and their education. This could be perceived as shameful as it compromises students and ultimately hurts society because schools are too busy feuding with one another over recognition for contributions to research that the focus on producing excellent students is lost (Fairweather, 1993; Jones, 2008; Shapiro, 2006).

Experience in teaching does not correlate with teaching excellence. It would seem reasonable to expect that faculty members would improve their teaching skills over time. Studies have examined the relationship between student evaluations of teaching effectiveness (SETs), teacher age, experience and academic rank. The common theme noted is a negative correlation between age and experience, yet a positive correlation to academic rank. Therefore, faculty members who are younger and have less experience tend to obtain higher SETs while faculty members with higher academic rank also
receive higher SETs (Marsh, 2007). The findings seem somewhat counterintuitive: faculty members should gain skill over time and improve as educators yet the results do not clearly support this model.

One of the greatest limitations of the majority of the study’s results was how data is gathered. Specifically, SETs outcomes are recorded a single time, after the conclusion of each course. Research has shown a negative correlation between teaching effectiveness and increasing age and experiences (Barnes, 1985; Marsh, 2007). Marsh (2007) examined SETs results for identified faculty members over an extended period of time, with unanticipated conclusions. Improved teaching skill and teaching effectiveness did not improve over time. Over a 13-year period, 195 different teachers were evaluated by students through SETs across 6,024 courses in a broad cross section of fields of study at a single university. The dependent variable in the study was the class-average evaluation for the instructor. Professors were identified as less or more effective based on student evaluations. Less effective teachers consistently received lower ratings on student evaluations throughout the study. Marsh (2007) postulated the results might have been due to the lack of reward and training. It may also be possible that some individuals will never be great teachers yet would benefit greatly by learning basic teaching skills (Marsh, 2007). The results were consistent with a study completed earlier, in which the author found a decrease in teaching efficacy and lack of innovation over time (Barnes, 1985). Other researchers claim complacency sets in after tenure for many faculty members when they are not challenged or involved in innovative teaching methodology (Mignon & Langsam, 2000).
Not all faculty members are complacent in the area of teaching efficacy development. Senior faculty members who are effective teachers can serve as mentors to others, sharing their experience, skill and passion. The mentoring process provides reward and opportunities for discussing innovative ideas for the mentor as well as mentee. Taylor (1999) discussed the experience of reviewing education techniques and pedagogical philosophy over the span of almost thirty years post-tenure. He completed a self-evaluation of his performance based on student evaluations but found more value by concentrating on what was taught and how well it was taught. Comments by previous students and accomplishments of alumni justified his effectiveness. Taylor (1999) expanded his interpretation of teaching effectiveness over time by appreciating the value of teaching students application of concepts rather than memorization.

A similar pilot project was implemented at the University of Illinois College of Pharmacy to highlight the “networking model” of faculty mentoring focused on improving teaching efficacy (Popovich, Peverly & Jackson, 2006). Mentoring relationships can be extrapolated to create an environment providing support, collaboration and resources amongst similar colleagues. A weekly faculty conversation forum was created to engage individuals in discussing teaching topics throughout the academic year. Individuals were invited to participate in non-threatening discussions to learn and explore as a group. The focal point was identified as the commonality: the topic of “Conversations about Teaching”. The forum provided a community-building opportunity that encouraged faculty members to approach more senior members in a comfortable, non-urgent manner (Popovich et al., 2006).
Eleven faculty members participated in the University of Illinois project and the majority determined the discussions improved their confidence as educators. The participants provided feedback via a self-assessment pretest-posttest survey to evaluate effectiveness of the series. All participants either “tended to agree” (6/11) or “agreed” (5/11) the discussion series improved their confidence as educators, and all either “tended to agree” (7/11) or “agreed” (4/11) that their ability to self-assess their teaching improved (Popovich et al., 2006). The power of mentoring discussions, with little structure other than selected topics and a scheduled time to meet, provided a remarkable result considering the miniscule investment. According to Popovich et al. (2006), “successful mentoring, kept simple and informal, requires only a time and place where a discussion about teaching can occur” (p. 114). How prevalent would ineffective teaching be if resources such as faculty members willing to openly discuss teaching were engaged and encouraged more often?

Another factor to consider when evaluating for teaching effectiveness is that of faculty retention. Faculty retention is paramount to a university’s success, as a revolving door of instructors may hinder student progression and continuity of the goals and mission of the university. Poor teaching performance and poor student teaching evaluations do not provide an environment of job satisfaction for faculty members. Insufficient teaching preparation can have a disastrous effect on new and junior faculty members. Poor, sometimes ruthless, student teaching evaluations result in feelings of panic, injured feelings and frustration. The culmination of negative experiences decreases the likelihood of job satisfaction and resulting retention issues abound (Trautmann, 2008).
An example of the impact of lack of teaching preparation on the retention of faculty members can be found in overall teaching organization and curricula design. The importance of effective curriculum design defines expectations and decreases anxiety. Faculty members perform more successfully when given the tools and training to create a course or curriculum. Implementation of the course and subsequent evaluation provides useful feedback to the faculty regarding performance (Kern, Thomas, Howard & Bass, 1998). If the faculty had begun developing these types of teaching skills while in graduate school or early in their teaching career, many of these experiences could be avoided and retention improved (Trautmann, 2008).

Some types of education, such as clinical or experiential education, apply didactic concepts to clinical environments, often with actual patients in clinical environments. Ineffective teaching is seen here as well. Without training, educators’ ability to optimize teaching opportunities decreases. In a recent report on the status of medical education, the lack of integration of didactic knowledge within clinical experiences was identified as a disturbing trend. As a result, graduates were not receiving appropriate training required to provide consistent quality patient care. The trend of ineffective training in graduates was attributed to faculty members not receiving appropriate training. Clinical educators have not been allowed the time or resources to train or develop teaching skills. Regrettably, the trend not only affects students but many more patients who receive their care (Cooke et al., 2006).

**Effective Teaching Incentive**

Individuals who join academe after completing graduate work do so because of a desire to train the next generation while pursuing answers to questions of relevance in
their field of study. Traditionally, promotion and tenure for faculty members has been
dependent on their performance on three areas: scholarship, service and teaching (Boyer,
1990). These areas are not weighted equally for promotion and tenure at many
institutions. Large universities are known to place significant emphasis on accumulation
of awarded grants and publication of primary research when rewarding performance.
Academic leaders fear faculty members will fall behind colleagues in research rigor if
teaching effectiveness is emphasized (Brainard, 2007b; Brown et al., 2008).
Administrators also fear losing faculty members to other universities if teaching
performance is addressed.

In some cases, excellence in teaching is not even recognized as valuable
scholarship or performance measure (Boyer, 1990). As a result, faculty members striving
for tenure and promotion are not encouraged to improve teaching effectiveness and are
disassociated from responsibilities of teaching students well (Jones, 2008; Trautmann,
2008). Unfortunately, situations exist in which faculty members involved extensively in
teaching and have not been well rewarded (Taylor, 1999) or have been denied promotion
and tenure for their teaching accomplishments (Sachdeva et al., 1999). According to
Shapiro (2006), a participant in the Research University Consortium for the
Advancement of the Scholarship of Teaching and Learning, “the few brave untenured
souls who choose to build their careers on the scholarship of teaching and learning at
research universities do so at their own peril” (p. 40).

In an attempt to create an incentive to reward effective teaching, Boyer (1990)
encouraged scholarship be expanded to include scholarship of discovery, scholarship of
integration, scholarship of application and scholarship of teaching (p. 16). Working
within these definitions, it has been postulated all four could be applied to teaching ability: discovery could encompass primary publication and evaluation of teaching methods; integration could include tertiary publications; principles of education could be applied to evaluation and concepts; and teaching could encourage innovation and application of new teaching models (Sachdeva et al., 1999).

Although Boyer’s (1990) work has been discussed extensively and even embraced by many academic leaders, integration of these ideas has been slow. Scholars have struggled to agree on a definition of the “scholarship of teaching.” One interpretation of the scholarship of teaching includes the following criteria: it must be public, available for peer review, and reproducible so it can be built upon for others to improve (Boyer, 1990; Glassick, 2000). In meeting these requirements, effective teaching could truly be interpreted as active, valuable research and scholarship contributing to the betterment of learning in higher education. Also, the act of teaching itself and the research of exploring effective teaching techniques could be folded into teaching scholarship. Couldn’t an educator, who was recognized as an effective teacher through various evaluation systems, be considered a scholar?

Teaching excellence must be recognized as essential and creditable as a necessary skill in the field of academia. Uninteresting, unstructured and untrained teaching has consequences, which the educational system in the United States is all too familiar (Brainard, 2007a). Given the lack of support interpersonally, professionally and economically, it is not surprising that so many teachers become burned out and lose any intrinsic motivation for improvement. Excellence in teaching must be embraced by society before the resources required to improve will be allocated (Jones, 2008). To
change the culture, universities with policies recognizing teaching effectiveness as expectations of promotion must adopt policies in support of teaching as a valued scholarship activity. The recognition of teaching as scholarship could be applied for the benefit of students and other teachers across professions. As Shapiro (2006) states, “…the dialogue in the paneled conference rooms where promotion and tenure decisions are made must include high expectations for student learning and hold all faculty accountable for making that happen” (p. 43).

Remarkably, there is rarely punishment for ineffective teaching. While scholars lament the lack of reward, poor teaching is doubly problematic because it harms students and is often tolerated or ignored. Remediation or training is rarely required in response to identified poor teaching. Professors progressing strongly in research development with poor teaching trends may even be allotted decreased teaching responsibility rather than deal with the issue of ineffective teaching. As long as promotions continue to be almost exclusively awarded to those participating in research and grant acquisition, the expectation of effective teaching will be minimized and ineffective teaching will persist (Shapiro, 2006).

A retrospective study was completed to examine faculty member productivity in an attempt to quantify the perceived ability of faculty members to simultaneously engage in productive research and effective teaching. Fairweather (2002) evaluated data from the 1993 National Survey of Postsecondary Faculty, which captured results from 25,780 part-time and full-time faculty members in 817 institutions. Rather than focus on student rating, instructional quality was emphasized. Instructional quality was defined as faculty who “used collaborative or active learning as the primary instructional approach”
(Fairweather, 2002, p. 34). Although the definition was not ideal, the attempt to evaluate teaching based on methodology rather than student opinion was a valuable contribution to the languid body of research in this field.

The results produced some interesting insights regarding productivity. The author found assistant professors and female professors applied collaborative instruction more often than full professors. Additionally, increased classroom time correlated with higher instructional productivity. More importantly, very few professors were able to attain high productivity in both research and instructional methodology. According to Fairweather (2002), “In sum, simultaneously achieving high levels of productivity in teaching and research — the ‘complete faculty member’ — is relatively rare” (p. 44). It was postulated an ideal template for success in productive research and teaching may be to support group solutions and collaborative agreements rather than individual performance (Fairweather, 2002).

In a survey completed by deans and faculty of medical schools, frustration regarding the inadequate evaluation system and insufficient recognition for teaching excellence was identified. The survey found almost unanimous support for developing a system to recognize teaching excellence. A task force was created and recommendations were established, some of which included an educator’s pyramid to identify the path of development. The stages in the pyramid began with teacher and moved through master teacher, educator and finally master educator. With this identifying structure, the components of progression of effective teaching could be recognized (Sachdeva et al., 1999). Although these discussions occurred over 10 years ago, little published literature displays new trends to improvement the system.
An example of a system that was designed to recognize and support teaching excellence can be found at Harvard Medical School. An educational ladder was developed to support and recognize teaching accomplishments. A portfolio system was developed which defined expectations and criteria and provided training. The portfolio was later refined into two tracks, clinician and teacher, which are inherently interrelated in education and practice. Other types of support being implemented in some programs include awards and visible recognition for teaching excellence and resource allocation for teaching innovation (Sachdeva et al., 1999).

Additional support for teaching commitment and recognition has developed in the field of emergency medicine. Schrader et al., (2008) documented the need to invest in skilled faculty to produce effective physicians. The author recommended a model, which would identify special tracks for promotion. An example such as “clinical” could be interpreted as having greater teaching and as less primary research emphasis and “educator” could be an option with even greater academic focus (Schrader et al., 2008).

Effective teachers do receive an intrinsic reward: good teachers know when they have connected with a student. Whether observing previous students progress to graduate school or other successful endeavors or receiving a call from grateful students years later, skilled teachers receive the most valuable rewards directly from the students themselves (Taylor, 1999). Many faculty members have been attracted to academia to provide guidance and support to the next generation of professionals in their field of study. The altruistic intent can provide a powerful incentive for educators, especially when faculty members are in a supportive culture and environment (Bain, 2004).
Characteristics of an Effective Teacher

What does effective teaching look like? Characteristics of effective teachers have proved challenging to clearly identify and describe. A common answer when asked to describe a skilled educator is: “You know a good teacher when you see one”. Effective educators have mastered skills such as thorough comprehension in the field of study, understanding of the learning process and teaching techniques (Davidovitch & Soen, 2006). Teaching can be described as two interrelated components: the task of teaching and the outcome of learning. Davidovitch and Soen postulate that, “To be effective teachers, instructors must understand what occurs during the teaching process and how to facilitate meaningful learning and problem solving by their students” (p. 352). Furthermore, effective teachers care and are emotionally engaged in the student-learning paradigm. Effective teachers feel a responsibility to teach well. The caring quality has not been well studied or documented yet may be the most important ingredient for becoming an effective teacher (Bain, 2004).

The most efficient way to increase the number of effective teachers would be to identify consistent attributes and traits. Unfortunately, these attributes vary and can be difficult to quantify. According to McKeachie (2006), “There is no one best way of teaching” (p. xviii). Bain (2004), with the support of various colleagues at university teaching centers at Vanderbilt, Northwestern and New York University, completed a longitudinal study to identify the characteristics of effective teachers in an attempt to replicate practices and improve other educators. The author attempted to capture student input over fifteen years to focus on understanding, retention and reflective impression of educators. The study became a significant project spanning over a decade and the results
became a published text now recommended for junior faculty (Bain, 2004). The author’s findings were of little surprise yet revelations were apparent. Some tenets of effective teachers mirror other findings such as knowledge in subject area, preparation and organization, and treating students with “simple decency” (Bain, 2004, p. 18). Other identified practices were more enlightening such as approaching teaching as a serious responsibility, providing methodical and systematic assessments, expecting “more” from students routinely and creating a “natural critical learning environment” (Bain, 2004, p. 18). The effective teachers created an environment of expectation of themselves and the students that encouraged responsibility, accountability and engagement. Interestingly, each effective teacher admitted teaching techniques weren’t always effective yet persistence prevailed in overall success (Bain, 2004).

Students and faculty alike tend to use descriptors to define excellence in teaching. Metaphors such as “excitement”, “attitude” and “passion” (Singh & Stoloff, 2007, p. 9) have been used as frequently as “knowledge” and “skill in the area of study” when describing memorable teachers (Singh & Stoloff, 2007, p. 6). The broad range of descriptors is significant because an individual’s knowledge base appears to be as valuable as personality disposition (Edstrom, 2008; Jones, 2008; Lohman, 1996). Other characteristics of effective teachers include concern and respect for students, stating clear goals, providing organized presentations and appropriate assessments, and actively engaging (Ramsden, 1992). The characteristics identified in a successful fellows training program supported the descriptions already provided in addition to “passion for and skill in teaching” and “ability to teach through inquiry” (Trautmann, 2008, p. 43).

Walker (2008) published a longitudinal collection of anecdotal descriptions of
“qualities of the most memorable teacher who encourage you to teach” (p. 61). Over 15 years, the researcher posed the same question to education students and collated the results. Walker’s qualitative study produced a memorable list of 12 qualities of effective teachers: “prepared, positive attitude, high expectations, creativity, fair, personal and approachable, sense of belonging, compassion, sense of humor, respect, forgiving, and admitted mistakes” (p. 64). The intent of the publication was to encourage other educators to “…recognize the validity of these twelve characteristics of an effective teacher and will seek to adopt them as their own” (p. 67). Walker emphasized the importance of the human component of teaching in the study, and reminds educators of the important roles that rapport and interpersonal skills play in effective teaching.

Characteristics of effective clinical teachers further support the value of skill development beyond knowledge and competence in a particular field of study. Traits associated with excellence in teaching in clinical education include communication, enthusiasm, and being actively involved with and supportive of students (Sutkin, Wagner, Harris & Schiffer, 2008). Due to the additional complication of teaching in academic medical centers, successful educators need to be creative, resourceful and innovative. The challenging environments of clinical education may be the reason effective clinicians do not always equate to effective teachers (Levinson & Rubenstein, 2000).

Attempts have been made to try to identify personal traits or dispositions of effective teachers. Singh and Stoloff (2007) examined the effect of teacher dispositions on quality teaching. Teacher dispositions are described as “…values, commitments, and professional ethics that influence a teacher’s behavior toward his/her students, families, colleagues and communities” (p. 4). These researchers developed the Eastern Teacher
Disposition Index (ESTDI), a disposition measure to be used in the selection of new faculty candidates. It is unclear why the authors selected the acronym ESTDI rather than ETDI. The tool was created by collating documented definitions of educator dispositions and ranged in focus from self-evaluation to evaluation of subject to interaction with others. Utilizing the Delphi method, the authors presented the ESTDI tool to a cohort of 54 graduate and 32 undergraduate teacher candidates. The results, shown in Table 1, show the value of student-centered focus and passion in the field of study and subject area.

Table 1

*Educator Dispositions Selected by Graduate and Undergraduate Teacher Candidates*

<table>
<thead>
<tr>
<th>Statement</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate enthusiasm for the subject being taught</td>
<td>100</td>
</tr>
<tr>
<td>Demonstrate positive attitude towards subject and learning in general</td>
<td>100</td>
</tr>
<tr>
<td>Actively seek out growth opportunities</td>
<td>94.2</td>
</tr>
<tr>
<td>Engage in research based instructional practices</td>
<td>69.8</td>
</tr>
<tr>
<td>Create connections to subject matter that are meaningful to students</td>
<td>97.6</td>
</tr>
<tr>
<td>Stay current with the evolving nature of teaching</td>
<td>96.5</td>
</tr>
<tr>
<td>Understand central concepts, skills, tools of inquiry and structures of the discipline they teach</td>
<td>100</td>
</tr>
</tbody>
</table>

*Note.* Adapted from “Measuring Teacher Dispositions,” by D. K. Singh & D.L. Stoloff, November 2007, paper presented at the meeting of the National Fifth Annual Symposium on Educator Dispositions, Erlanger, KY.

Educators have been found to follow a pattern of emotional development when entering academia. The process begins with a focus on survival and progresses toward managing the material assigned and covering essential topics. If faculty members remain committed and continue to develop, they reach a point at which the teaching focus transitions from the material to the student. As a result, teacher effectiveness appears
related to teaching experience and development (Kugel, 1993). Experience alone does not appear to be indicative of improved teaching performance. Studies have shown teachers do not automatically improve and develop over time (Barnes, 1985; Marsh, 2007). Rather, additional development in fields other than teaching experience appears to be necessary for success.

With the recent increased interest in active learning techniques, student-focused education is accumulating more and more support. Instead of imparting knowledge, the student is an active participant and the teacher supports the development and growth in the student’s perceptions and conceptualizations. The student-focused teaching methodology appears to be related to improved student outcomes and further supports the need for continued development of teaching methods and creativity (Tigelaar, Dolmans, Wolfhagen & Van der Vleuten, 2004). An analogy may be made between an effective teaching model and an effective business model: the primary focus is the customer not the business.

Faculty members’ impressions or expectations vary widely regarding the importance of teaching well. Many faculty members believe learning is the student’s responsibility as opposed to the theory that teaching is the teacher’s responsibility (Bernstein, Jonson & Smith, 2000). The premise of student responsibility for learning is inconsistent with the current trend toward student-centered education. Faculty members in a faculty-centered educational model feel a responsibility as facilitators but not for the end result of comprehension, understanding and student performance. Academic organizations expectations toward tenure and promotion tend not to emphasize the importance of effective teaching either (Boyer, 1990; Glassick, 2000; Shapiro, 2006).
Regardless of expectations, younger faculty experience anxiety associated with teaching responsibility, which may further decrease the chance to be successful (Solem & Foote, 2006).

Acquisition of accurate student input regarding characteristics of effective teaching would be very useful. The value of student evaluations of teachers in identifying effective teachers has been inconclusive (Marsh, 2007). Student evaluations have been the standard for obtaining student perspectives in identification of good teachers or effective traits. Students are the consumers of the service. The question being debated is whether students are qualified to provide valuable subjective input. The few studies that have shown student evaluations of educators to be valid tools to correlate teaching to outcomes also admit evaluations pose significant limitations due to lack of an alternative evaluation system to validate students’ opinions (Barnes, 1985; Marsh, 2007; Solem & Foote, 2006). Marsh (2007) has done extensive work designing and working with student evaluations and has established a positive correlation for the performance of the same instructor in multiple courses rather than to the content of the same course taught by different instructors. A longitudinal approach to evaluations is useful in specifically identifying the individual teacher and separating teaching technique from the material of the course.

Identifying the strengths in teaching performance and potential can aid in effective teaching development. Conceptual modeling may provide a useful tool in evaluating and improving teacher effectiveness but documentation is limited. By incorporating teaching performance with ethical, emotional and intellectual development, it may be possible to project potential teaching skill development (Song, 2006). The
Danielson model divides teaching concepts into four domains: planning and preparation; classroom environment; instruction; and professional responsibilities. Each domain contains at least six descriptive components that further define the domain to capture the other areas of development necessary to become and develop as an effective educator. The Danielson model has gained support in evaluating teaching performance longitudinally using a variety of standardized assessment tools (Song, 2006). Another proposed system promotes faculty designing personal systems to evaluate innovative teaching methods. Individualized evaluation systems would allow flexibility to focus on particular areas of concern, perhaps where students struggle in past years or where new methods have been utilized. Conversely, standardization and equity would be challenging with multiple evaluation tools (Kember, Leung & Kwan, 2002).

A trend of broadening cultural diversity among faculty has prompted evaluation of the impact of culturally diverse faculty members on student interaction. In an American Society for Higher Education (ASHE) Educational Resources Information Center (ERIC) Diversity Report published in 2003, the authors strongly encouraged faculty members to engage in new teaching methods to increase inclusiveness of underrepresented groups. Traditionally, instructors from Caucasian-dominant culture have trained the majority of new faculty members. As a result, faculty members from non-dominant cultural backgrounds struggle with additional challenges that complicate improving teaching effectiveness. Teaching strategies including establishing clear guidelines for classroom etiquette, encouraging respect for others ideas, and open discussions could greatly improve the teaching environment (Dedoussis, 2007; Torres, Howard-Hamilton & Cooper, 2003).
Umbach (2006) examined how “faculty of color” may interact and engage undergraduate students differently from Caucasian faculty members (p. 318). Over 13,000 faculty members from 134 different colleges and universities completed a survey regarding various constructs of their teaching methods, ideals and teaching behaviors. Relative to Caucasian faculty members, “faculty of color” were more likely to use active and collaborative learning techniques and to interact more with students as part of their teaching methodology and behavior. According to Umbach (2006), “Faculty of color scored higher than Whites for nearly every dependent variable” (p. 335). Unfortunately, limitations of the study, such as voluntary participation, make it difficult to apply the findings to other institutions or populations.

**Age and educational background in effective teaching.** Other characteristics that have been studied to determine potential influence on effective teaching include gender, age, academic rank and discipline (Adams & Gamage, 2008; Carrell & West, 2008). The influence of age on effective teaching should be delineated from academic rank and experience. Each faculty member ages regardless of efforts toward this end, but advancements in academic rank and educational experience are more susceptible to deliberate efforts toward furtherance.

Teaching efficacy does not necessarily improve with age and experience in the absence of teaching development (Barnes, 1985; Feldman, 1983; Marsh, 2007). According to Marsh (2007), “…younger teachers, teachers with less teaching experience, and teachers with higher academic ranks tended to receive somewhat higher evaluations” (p. 780). In an attempt to evaluate the long-term influences of effective teaching, Marsh examined student teaching evaluations via a Students’ Evaluation of Educational Quality
(SEEQ) system over a 13-year period at a private university. The innovative SEEQ system utilizes student evaluations accompanied with structured interviews with a consultant. Over 195 faculty members were evaluated by 6,024 undergraduate and graduate students over a 13-year period of time. Most teachers had little variation across the evaluations; effective teachers remained effective while ineffective teachers remained so (mean $r = 0.57$ undergraduate and mean $r = 0.4$ graduate). Younger faculty actually received higher student evaluations of teaching ability as compared to older faculty. As well, faculty members with higher academic rank scored better across all ages (Marsh, 2007).

Davidovitch and Soen (2006) completed a study to examine teaching quality differences based on age and seniority in 182 faculty members in Israel. Over a five-semester period, younger faculty members were perceived as better teachers, regardless of rank and across all age groups. Also, faculty members with higher rank across all age groups were rated as possessing greater teaching abilities. Both evaluations were measured by student evaluations of teachers. The authors found the results contrary: older faculty members don’t teach as well but the more senior faculty members are better teachers. The authors did not provide possible explanations.

Carrell and West (2008) found no improvement in teaching efficacy when they examined professors based on mathematics, science and engineering courses, educational background in the form of terminal degree and experience. A negative correlation was revealed between academic rank, teaching experience and terminal degree status with student performance in teaching mathematics and sciences in introductory or
“contemporaneous” courses. A positive correlation was noted with advanced or “follow-on” course performance (Carrell & West, 2008).

Researchers examined the characteristics of Special Education teachers in secondary education. A positive correlation was noted between teaching experience and student achievement. Educational background was evaluated via credentials: number of areas of certification, level of certification and higher degree earned. The results yielded the level of certification as the most important factor, higher degree earned next important and the number of areas of certification as least important (Carlson, Lee & Westat, 2004).

**Faculty Development Programs**

Many faculty development programs are similar in that they consist of established curriculum provided to selected faculty members over a set period of time and are not repeated. Some of the programs maintain contact with “graduates” and continue to provide electronic resources. Others do not appear to have a follow up system in place. In addition, it appears administrators of these programs have not evaluated the effectiveness of the program content by assessing the participants’ teaching capabilities prior or subsequent to the training. The continuous quality improvement theory and total quality improvement applied to organization quality control are similar in nature (Ganley, Quintanar & Loop, 2008). According the literature, it appears few programs have been evaluated which provide a training program that is designed as a step-wise, evolving training system with ongoing resources, short courses and workshops offered continuously each year. A few sample programs are provided in the following paragraphs.
University of California San Francisco (UCSF) Teaching Scholars Program.

Attempts have been made to create training programs within universities to improve the teaching skills and the teaching scholarship of faculty. The University of California, San Francisco (UCSF) School of Medicine developed a Teaching Scholars Program. The 10-month program is designed to provide qualified applicants with an opportunity to receive additional training in teaching and develop educational leaders. Several sections are covered in the curriculum. The focus is on learning theory and assessment, teaching methods, curriculum development and evaluation, leadership, career development and educational research (Muller & Irby, 2006).

Coursework for the UCSF Teaching Scholars Program takes place one afternoon per week for 10 months. The administrators within the program also support faculty involvement in ongoing development opportunities. Faculty members learn from each other and encouraged networking opportunities broaden the scope of learning. Teaching skills are the sole emphasis of an entire section. The curriculum includes small group teaching, clinical teaching and team teaching. Emphasis is placed on ongoing training in teaching and Boyer’s (1990) broad description of scholarship is acknowledged. The university administration supports and accepts the educational accomplishments of the scholars as scholarship towards tenure and promotion. Enrollment and development of other faculty members has grown over time. Limitations of the program include resources (time-release for current faculty), available mentors and continued development. It appears improved teaching success and teaching excellence has resulted, as determined by the faculty members themselves. Mean ratings of the program curriculum by participants have been 4.2 - 4.9 (on a five-point Likert scale, 5 being “excellent”).
Comments cite “enhanced knowledge and teaching skills, increased understanding of curriculum and academic program development, strengthened academic leadership skills and career development…” (Muller & Irby, 2006, p. 962)

**University of Miami Teaching Scholars Program.** Another Teaching Scholars Program exists at the University of Miami. The program’s successful history and graduates prove the value of mentorship and attentiveness to faculty challenges. Junior faculty members are encouraged to apply. Unfortunately, resources are limited and few applicants are admitted to the program. The program is designed to provide training, observation, exploration and problem solving opportunities without the pressures of a full teaching load. Senior faculty members support the program and the results of increased faculty satisfaction and performance are apparent (Jones, 2008).

**Graduate Teaching Fellows in K-12 Education.** The Graduate Teaching Fellows in K-12 Education (GK-12) program was initiated by the National Science Foundation in 1999. The idea was to link graduate students with K-12 teaching experiences. The effectiveness of the GK-12 fellows’ involvement was measured through the student learning evaluations. As of 2008, 5,600 fellows have completed the program from 151 universities. All were shown to improve. The characteristics cited included passion for teaching, involvement and embracing the methodology (Trautmann, 2008).

**Claremont Graduate University’s Teacher Education Internship Program.** The Claremont Graduate University’s Teacher Education Internship Program (CGU’s TEIP) has been designed to emphasize the importance of teaching quality and effectiveness in achievement outcomes. Three concepts are emphasized in the program: accountability, collaboration and social justice. According to Ganley, Quintanar and
Loop (2007), “Teacher quality is indelibly linked to accountability…we work with teachers to internalize the belief that they have the power to impact student achievement” (p.10). Although a limited cohort graduates from TEIP annually, the graduates are in high demand and continue to develop throughout their career (Ganley, Quintanar & Loop, 2007).

**Other programs and proposals.** Some universities provide formal teaching scholar programs, ranging from one-year fellowships to certificate programs, many located at health professions and medical schools. Limited resources decrease the opportunity for all interested faculty to participate. Faculty members who complete the programs have positive outcomes in personal and professional development (Morzinski & Fisher, 2002).

A recent paper proposed a mentorship program in pharmacy education where the experienced professor guided the graduate student in development focused on teaching and service. Suggested modules include learning theories, evolving teaching to a scholarly level and instructional design. The program has not yet been implemented (Draugalis & Plaza, 2007).

Other faculty development programs exist in varying forms. Many require extensive resources and frequently cite lack of administrative support. The ideal length (one-day workshop versus longitudinal course), cohort size or long-term effects have not been clearly documented or published. The program at Johns Hopkins Bayview Medical Center was evaluated to determine the long-term benefits of a nine-month teaching skills training program active since 1997. Over 241 faculty members were surveyed three to 17 years after completing teaching skills training. The qualitative survey had an 83%
response rate and 82% of respondents determined the training had a “moderate” or “a lot” of impact on their professional careers. More importantly, unsolicited qualitative data collected reflected the training provided support in communication, organization, time management, leadership, confidence and career development. Table 2 identifies categories collated by the researchers from an open-ended question survey. The authors were intrigued that the unexpected feedback from over 200 submissions could be categorized into 14 similar descriptors (Knight, Carrese & Wright, 2007).

Table 2

*Domain and Subcategories Describing Participant’s Unexpected Input*

<table>
<thead>
<tr>
<th>Domains (bolded) and Subcategories of Input from Participants (n=200)</th>
<th>Percent</th>
<th>Development as a teacher</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrapersonal Development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commitment to reflection and self-awareness</td>
<td>18.5%</td>
<td>Overall teaching skills and abilities</td>
<td>14.5%</td>
</tr>
<tr>
<td>Prioritizing and setting goals</td>
<td>14.5%</td>
<td>Confidence in self as teacher</td>
<td>7%</td>
</tr>
<tr>
<td>Organization and time-management skills</td>
<td>28%</td>
<td>Greater enjoyment and satisfaction in teaching</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Interpersonal development</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthier relationships</td>
<td>5%</td>
<td>Learner-centered and creating a supportive learning environment</td>
<td>14 7%</td>
</tr>
<tr>
<td>Listening and communication with others</td>
<td>12.5%</td>
<td>Continued use of teaching methods learned and helping other teachers improve</td>
<td>37%</td>
</tr>
<tr>
<td><strong>Career Development</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to give and elicit feedback</td>
<td>16%</td>
<td>Benefits from exposure to development program faculty and peers</td>
<td>7.5%</td>
</tr>
<tr>
<td>Conflict management and negotiation skills</td>
<td>5.5%</td>
<td>Influence on career path and planning</td>
<td>8%</td>
</tr>
<tr>
<td>Leadership and group participation skills</td>
<td>10%</td>
<td>Opportunities due to expertise granted</td>
<td>7.5%</td>
</tr>
</tbody>
</table>

Summary

In summary, education is an invaluable component of society and effective teaching is a key ingredient to the betterment of society at all levels. Effective teaching is positively correlated to learning and ineffective teaching is dangerous and too prevalent in the current education system. The sources of ineffective teaching are numerous and heartbreakingly common. Training is lacking and incentives to independently seek out additional education or enrichment experiences are insufficient. Characteristics of effective teachers include knowledge and competency as well as passion, effective communication and innovation. Formal training programs do exist, but in limited venues, and with insufficient evidence and evaluation of merit.
Chapter 3: Methodology

Instructors teaching in health professions receive little formal training in improving teaching capabilities and effective teaching techniques (Jones, 2008; Whitcomb, 2007). Without sufficient training and development, educators lack the skills to maximize the intended positive impact of teaching. Faculty development and improving teaching performance are areas of increasing interest to faculty and administrators (Jones, 2008; Trautmann, 2008). Several programs appear to improve teaching effectiveness, as determined by the participants, but these lack resources, availability, and flexibility. The programs’ assessment components rely on participant feedback (Muller & Irby, 2006).

The researcher proposed to determine whether an effective Teaching Methods Course could improve teaching capabilities of faculty member in health professions education. Teaching effectiveness has been defined as displaying knowledge of the subject, projecting effective disposition and utilizing communication techniques, which encourage learning and understanding (Singh & Stoloff, 2009). The study was submitted and approved through the Institutional Review Board (IRB) at A. T. Still University, Pacific University, and Washington State University (WSU) prior to initiation of the study. The submissions were similar for each university, and the A.T. Still IRB application can be found in Appendix A.

The research proposal and best practices designed to address the stated problem, evaluate the intervention from the perspective of the participants and evaluators are reviewed below. Per review of the literature, (Jones, 2008; Muller & Irby, 2006; Trautmann, 2008), the best practices include:
Creating a research proposal to address the need for improved teaching capabilities of faculty members and a proposed method to provide an efficient training model, including budget, implementation timeline and intended audience.

Designing an interview tool to gather current perceptions of teaching effectiveness in health professions education.

Designing a curriculum to provide effective teaching in the Teaching Methods Course.

Developing and revising evaluation tools to measure the outcomes of the Teaching Methods Course relative to participant’s self-evaluation and panelist evaluation.

Developing Standard Operating Procedures for the implementation of the Teaching Methods Course including limitations and conditions.

The proposal consists of the problem statement, methodology, best practices, instrumentation, data collection, data analysis methods, budget, timeline and limitations.

Problem Statement

The problem statement for this project addresses the identified need to create, implement and evaluate an effective Teaching Methods Course to improve teacher capabilities of faculty members in health professions education at a public university in Washington. Additional areas to be examined include:

1. Whether or not there is a statistically significant difference between pre- and post-course performance evaluation by more senior faculty members (determined by age) than younger faculty members.
2. Whether or not there is a statistically significant difference between pre- and post-course performance evaluation by faculty members with more educational background (year teaching) than faculty members with less educational background.

The research was designed to evaluate whether a Teaching Methods Course taught to faculty members from the College of Pharmacy and College of Nursing at Washington State University improves teaching capabilities as measured by a panel of educators using a validated teaching performance tool. Goals established for participants in the teaching methods course included developing a template for effective lecture presentation skills to better connect with students and incorporating active learning techniques in presentations to enhance learning. The course promoted interdisciplinary training by including participants from pharmacy and nursing programs who teach at multiple campuses. Each participant’s teaching effectiveness was exhibited via a short sample presentation completed the day prior to and after the course. Assessment of the participant’s teaching effectiveness occurred before and after the course by a panel of exemplary educators using a validated evaluation instrument.

Additional components of the study included an evaluation of participants’ perceptions of teaching effectiveness and active learning techniques, captured in a pre and post course survey. Participants also completed a self-evaluation after each presentation to encourage reflection. The following is a brief diagram to display the design of the study, with each phase delineated.
Figure 1. Research design chart: Phase one and phase two of the project
The project was designed to examine the value of modest resource investment (a one-day course) and its effect on teaching by measuring pre and post teaching performance via participant presentations. There were two phases of the project. Phase one was composed of completing telephone interviews with exemplary educators to gain information from experts in the field and incorporating the findings into the course curriculum. Insight gleaned from the interviewers was also integrated into the participant’s teaching perception survey instrument. Phase two involved implementation of the Teaching Methods Course. Pre and post course presentations were completed to assess teaching effectiveness. Panelists evaluated participant’s presentation and data was analyzed.

**Phase one.** Information was compiled to refine the curriculum of the course. To assemble current teaching effectiveness perceptions and techniques, pre-course interviews were completed with identified exemplary educators in health profession education. The findings were collated, reviewed and compared to the curriculum. Information and enhancements gained from the interview process were incorporated to applicable components of the teaching methods curriculum. The teaching perception survey tool was also revised with information obtained from the interviewees. For example, active learning techniques highly recommended by the exemplary educators were used in statements in the survey.

**Phase two.** Identification of the course participants and stipulations of the project were the first steps of the Teaching Methods Course. Participants selected the topic of their pre- and post-course presentation approximately two weeks prior to the course. The researcher provided on-site training to the panel of educators to ensure consistent use of
the teaching effectiveness instrument. The panelist training occurred prior to the beginning of the course to ensure engagement and project participation.

The day prior to the course, participants provided a pre-course presentation to allow qualitative evaluation of their teaching effectiveness and to provide a sample of their teaching capabilities. The presentation was video recorded. Immediately following the presentation, participants completed a Presentation Self-Evaluation (Appendix E). The self-evaluation was designed to encourage reflection and awareness of teaching effectiveness. The panelists evaluated the pre-course presentation. Participants completed a pre-course teaching perception survey. The Teaching Methods Course occurred the next day and was approximately six hours in length. This was followed by a post-course teaching perception survey completed by the participants. The pre- and post-course survey was designed to evaluate the participants’ perceptions of teaching efficacy and active learning techniques and measure any change after the course completed. After the course was completed, the participants completed their post-course presentations, which were also video-recorded. Participants completed a presentation self-evaluation as well. The panelists evaluated the presentations.

**Phase one sample.** Exemplary educators in the field of health professions education were identified to participate in the phase one interviews. Exemplary educators were identified as those educators with a minimum of three years teaching experience, who were actively teaching at the time of the study, and who received some form of teaching expertise recognition (either via award recognition or multi-peer recognition). Recommendations were sought from nursing and pharmacy professional organizations, published literature and deans. A total of 10 exemplary educators were selected from the
field of study to reflect the participants: four educators from nursing education and six educators from pharmacy education. They represented pharmacy and nursing education in regions across the nation. Interviewees were identified by searching for national or local recognition of teaching skill (awards, publications) and through administrative recommendations from professional organizations and academia. Age, gender, cultural background and academic training varied. The age of the interviewees was an average of 57 with a range of 44 to 65. Seven (70%) were female and 3 (30%) were male and nine (90%) had earned Ph.D.s while one was completing her dissertation. Participation was voluntary and will involve two interviews over a short period of time. Time commitment has been estimated at 20 minutes for the initial interview and 20 minutes for the second telephone and email contact. The interviews occurred via telephone with a mean length of conversation of 30 minutes. See Appendix B for the survey questions.

**Phase two sample.** The teaching methods course was taught to a cohort of faculty members at WSU, a public university of over 25,000 students. The university is composed of health professions programs including the College of Pharmacy and the College of Nursing on multiple campuses. The College of Pharmacy consists of 42 faculty members on three campuses. The College of Nursing consists of 102 faculty members on five campuses.

**Recruitment.** Participants were recruited using email announcements from program administrators in nursing and pharmacy education. The researcher provided an extensive message with detailed expectations and time commitment. Interested faculty members received additional information about the project. An email confirmation of participation was sent from the researcher to the faculty members after they agreed to
participate. Participants self-identified and determined if they had time available to participate. The course was scheduled to occur at the end of finals exam week and prior to the winter break. As a result, some faculty members had a particularly challenging scheduling conflict and many interested individuals were not able to participate. The Colleges of Pharmacy and Nursing are representative of similar programs in other regions in faculty member size and student size.

The sample consisted of faculty members with teaching responsibilities in one of the health professions programs at WSU who had expressed interest in participating in the study. Participation was voluntary. Age, gender, educational training and cultural background of the participants varied. The age of the participants was an average of 35.42 with a range of 28 to 62. Nine (75%) were female and 3 (25%) were male and two (17%) had earned Ph.D.s while six (50%) had earned their Pharm.D.

Previous training in effective teaching techniques also varied. Participants represented each of the campuses. A maximum of 12 participants was planned to accommodate the time limitations of providing and evaluating the pre and post course presentations. The cohort was intended to evenly represent faculty members from pharmacy and nursing education.

The panel of educators was composed of three educators with evidence of teaching excellence. Teaching excellence was defined as a minimum of three years of fulltime teaching experience, consistent strong student and peer evaluations of teaching ability, and documented understanding and use of effective teaching methods. Gender and academic background varied. Two (66%) were female and one (34%) was male and all three (100%) had earned Ph.D.s. The panel was composed of a representative from the
College of Pharmacy, the College of Nursing and the College of Education at WSU. The pharmacy and nursing representatives reflected the participant cohort, consisting of both pharmacy and nursing faculty who had displayed teaching excellence as documented in awards and dean recommendations. The education representative provided insight regarding the dogma of education, teacher training and effective teaching performance. Administrators within the College of Education, College of Nursing and College of Pharmacy at WSU identified panelists. The researcher contacted each prospective panelist and extensively explained the project prior to commencement of the study.

Interviewees, course participants and panel participants were provided informed consent documentation after agreeing to involvement in the study. Signed consent forms were maintained in a secured environment by the researcher. The identification of all interviewers, participants and panelists was protected. Confidentiality was maintained throughout the project. No compensation was provided for involvement in the project.

**Phase one instrumentation.** The project was initiated with phase one and the interviews of exemplary educators approximately four weeks prior to the scheduled Teaching Methods Course. Table 3 provides additional detail regarding instrumentation for phase one.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Exemplary Educators</th>
<th>Participants</th>
<th>Panelists</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>Exemplary Educators</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interview Survey</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In phase one, the exemplary educator interview process involved a diverse group of exemplary educators. Interviews were completed using the Exemplary Educators Interview Survey, created by the researcher and available in Appendix B. The interviews were designed to capture the perceptions and ideas currently embraced in health professions education. The interview questions were developed using a combination of published research, training text and input from other established university colleagues (Davidovitch & Soen, 2006). Demographic data questions were identified to document age, educational background, teaching training and evidence of teaching excellence. The following four open-ended statements were created to explore teaching methodology and perceptions:

1. Please state three examples of effective teaching methods.
2. Please state three examples of ineffective teaching methods.
3. Please state three examples of effective active learning techniques, including time requirement.
4. Please state three examples of effective teacher traits/characteristics.

The interview was completed via the telephone and the conversation digitally recorded for accuracy. The data were used to revise the curriculum of the Teaching Methods Course. In addition, the data were used to modify the pre and post Teaching Methods Course Survey draft. Using a modified Delphi method, interviewees were contacted a second time to rank the group answers to the open-ended statements. The modified Delphi method provided an opportunity to gather expert opinions with the benefit of collation, review and expanded discussion rather than compromise (Turoff & Hiltz, 1995). The information from the first interview was collated into the four major
topics: effective teaching methods, ineffective teaching methods, active learning techniques and traits of effective educators. The list was condensed to accommodate duplicative answers. The final list was emailed to all interviewees. The interviewees ranked the collated responses regarding their personal perception of teaching effectiveness.

Phase two instrumentation. The initiation of phase two began approximately seven weeks after phase one concluded and involved three instruments. The panelists used one instrument and the participants used two different instruments. Table 4 provides additional detail regarding instrumentation for phase two.

Table 4

<table>
<thead>
<tr>
<th>Phase</th>
<th>Exemplary Educators</th>
<th>Participants</th>
<th>Panelists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two</td>
<td>Teaching Methods</td>
<td>Formal Observation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Course Survey</td>
<td>Summary</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Presentation Self-Evaluation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In phase two, participants completed the pre-course Teaching Methods Course Survey within 12 hours of the beginning of the course. Participants completed the survey online via SurveyMonkey.com and submit responses anonymously. The instrument was a five-point Likert scale ranging from Strongly Disagree to Strongly Agree to determine perceptions of effective teaching theories. Content validity of the questions was increased by interspersing negatively phrased questions among the positively phrased questions.
The survey was refined using information gathered from the exemplary educator interviews. The survey was revised and field-tested with the colleagues not participating in the project prior to implementation. The Teaching Methods Course Survey was converted to an electronic version and implemented via SurveyMonkey.com 24 hours prior to the course. The same survey was released immediately following the course and remained available for 72 hours.

Panelists were trained to use a validated evaluation instrument for participant performance assessment. The evaluation tool was selected because of its documented use in evaluating teachers in colleges of education and in primary and secondary educational practice. The Association for Supervision and Curricular Development (ASCD) published an instruction evaluation tool, the Formal Observation Summary, along with other tools utilized to improve teaching and assessment (Danielson, 2008). Many educators, especially those working in the K-12 area of instruction, use this instrument to evaluate teaching performance. According to Danielson, “…the tool was validated in an ETS [Educational Testing Services] study” (C. Danielson, personal communication, September 26, 2009). In addition, the tool is being used in an ETS study currently funded by a Gates grant (C. Danielson, personal communication, September 26, 2009). Each category has specific descriptions of the expectations of the performance of the presenter to aid in evaluation. There are three domains: planning and preparation, the classroom environment and instruction. Each domain has multiple components further defining expectations of educators’ capabilities. Each level of the scaled evaluation tool is titled and defined on a scaled range: (a) unsatisfactory, (b) basic, (c) proficient and (d)
distinguished (Danielson, 2008). The Formal Observation Summary is paper-based. Panelists’ results were entered into an electronic database upon completion of evaluation. The panel used the Formal Observation Summary to assess participant’s teaching effectiveness. The tool was used to evaluate the presentations before and after the course. Initially, all participants were expected to provide presentations on the same topic to standardize evaluation of performance. The topic limitation proved extremely challenging to the participants due to scheduling conflicts and time available to participate. As a result, each participant selected the lecture topic for the presentation. If the participant requested a recommended topic, “treatment with leeches” was selected as an appropriately neutral topic to allow participants to create short presentations with minimal time investment to display their teaching technique and performance. The panelists used the Formal Observation Summary to evaluate each participant’s presentation before and after the teaching methods course. As a result, each panelist evaluated all 12 participants twice for a total of 24 evaluations.

The participants completed a Presentation Self-Evaluation after each presentation. This tool, located in Appendix E, was derived from the Formal Observation Summary. The same domains and topic headings were used to support the structure for the validated panelists evaluation and definitions for each domain were removed. A five-point Likert scale ranging from Very Strong to Needs Extensive Improvement replaced the categories available for the participants to evaluate their performance. The participants were instructed to identify, on a scale of one through five, their strongest areas and their areas of improvement.

Data Collection and Analysis
Phase one data collection. As part of establishing and refining components for the intervention, data were collected during a series of interviews with exemplary educators approximately four weeks prior to the course intervention using the questions in the Exemplary Educators Interview Survey. Each interview was conducted verbally via telephone at a prescheduled time. The interviews were audio taped and ranged from 30 to 45 minutes in length. Each interviewee was identified by name, title, degree, background in teaching and years teaching, teaching training received, awards or acknowledgement of teaching success, average class size, location, gender and age. Data were collected via written notes and the digitally recording was accessed frequently to ensure accuracy of documentation. Data regarding perceptions of teaching effectiveness were gathered using open-ended statements.

After the ten interviews were completed, the data were collated and duplicative answers were condensed. Care was taken to avoid missing any key phrases or themes. A second series of ten interviews followed, requesting the interviewees to rank the answers provided to the open-ended questions. The collated list of answers was sent via email to the interviewees the day prior. Interviewees were asked to submit ranked responses as email attachments promptly to emphasis first impressions and decrease extensive analysis or bias. A scheduled telephone call followed and additional data and insight was collected at that time. The second phone call lasted 10 to 15 minutes in length. The second interview provided an opportunity for interviewees to clarify questions regarding the project or ranking of responses.

Phase two data collection. Data to determine whether the course affects teaching effectiveness were captured by panelist’s evaluations of the participant’s presentations.
The panel of educators used the Formal Observation Summary to evaluate both presentations, before and after the teaching methods course. Each participant was evaluated on the following domains: planning and preparation, the classroom environment and instruction. The panelists completed a training prior that included verbal instruction in utilization of the tool and interpretation of the categories of performance to decrease inter-rater variability. Extensive discussion occurred between the three panelists to further tailor the Formal Observation Summary to the needs of the project. The panelists and researcher decided to eliminate some of the sections of the tool designed for use when the educator was in the presence of a large class of students. In the project, the presentations would not be given to a large group of students and, therefore, the sections would not be valid. A sample presentation was provided to further allow the panelists to use the evaluation tool.

The panel of educators assessed the participants’ teaching effectiveness by observing a 30-minute lecture presentation before and after the course. The panelists observed the lectures via a digital recording and used paper and pen format to complete the Formal Observation Summary. The panelists evaluated all of the pre-course presentations first followed by all of the post-course presentations. All evaluations were submitted to the researcher for data entry into an Excel database. Participants also completed a self-evaluation of their presentations before and after the course using the Presentation Self-Evaluation. The data were collected via a paper format and converted into an Excel spreadsheet.

Participants completed the Teaching Methods Course Survey before and after the course. The survey asked the same demographic questions as the Exemplary Educators
Interview Survey. Questions designed using a five-point Likert scale identified a difference in awareness and perceptions. Each level of the scaled survey tool was titled and defined on a scaled range: (1) strongly agree, (2) agree, (3) neutral, (4) agree and (5) strongly disagree. The data may reveal differences in perceptions of teaching effectiveness and active learning techniques. The data provided additional analysis examining whether a teaching methods course affects teaching capabilities and effectiveness of faculty members. The independent variables, age and educational background, were addressed in the demographic portion of two surveys. The Teaching Methods Course Survey and the Exemplary Educators Interview Survey both request demographic information on the participants including age, years teaching, educational background and accomplishments (e.g., degrees, awards) and any teaching training.

**Phase one data analysis.** Data were analyzed to capture current teaching perceptions. Analysis for this began with data collected from the exemplary educator interviews. Using the modified Delphi method, collation of these answers was completed using quantitative and qualitative methods of grouping like-responses. This information was then incorporated into the Teaching Methods Course and the Teaching Methods Course Survey. The quantitative and qualitative demographic data was collated and compared for trend analysis. Information gathered from the open-ended questions was useful in triangulation analysis.

**Phase two data analysis.**

**Problem statement.** Data analysis was completed to determine if the Teaching Methods Course provided a significant difference in the teaching effectiveness of the participants. A categorical quantitative analysis was completed to evaluate the teaching
effectiveness of the participant during a short period of time (before and after the
teaching course) for one topic (assigned by the researcher). An effort was made to
decrease confounding variables, such as lecture topic, length of presentation and student
bias. Three areas of data collection were used to evaluate the problem statement: Formal
Observation Summary, Presentation Self-Evaluation and Teaching Methods Course
Survey.

The relationship between the course and the teaching effectiveness of the
participants was examined by comparing the results of the Formal Observation Summary
completed by the panelists before and after the course. The tool provided data in three
domains on a four-point scaled categorical evaluation ranging from Unsatisfactory to
Distinguished. The four-point scale was converted to a score of one through four for each
sub-domain, one assigned to Unsatisfactory and four assigned to Distinguished. A non-
parametric analysis of paired ordinal small sample size data was completed on the data.
The sign test was used and the medians were examined. A regression analysis further
examined the results. Variability among panel evaluators was determined with the use of
statistical analysis. The Teaching Methods Course Survey contained a five-point Likert
scale used for statements regarding teaching perceptions. The scale ranged from Strongly
Disagree to Strongly Agree and results were converted to quantitative data numbering
one (for Strongly Disagree) through five (for Strongly Agree). The scoring for these
questions was reversed to coincide with the intent and analysis. The mean, median and
standard deviation was calculated for each question and for the entire survey on pre and
post course results.
Phase two subproblem one. The Teaching Methods Course Survey data was used to analyze effect or relationship of age of the participant on the difference in the pre- and post-course presentations. Demographic questions provided age as quantifiable data, which was compiled by exact years. Age was treated as a co-variant in the non-parametric analysis of paired ordinal small sample size data from the Formal Observation Summary.

Phase two subproblem two. The Teaching Methods Course Survey data was used to analyze effect or relationship of educational background, in terms of years teaching in the pre- and post-course presentations. The demographics portion of the Teaching Methods Course Survey regarding title, years teaching, degree and training was compiled. Educational background as years teaching was treated as a co-variant in the non-parametric analysis of paired ordinal small sample size data from the Formal Observation Summary.

The researcher collaborated with pharmacy, nursing, education and psychology programs at Pacific University and Washington State University regarding available analysis tools and validity for the purpose of this study.

Best Practices

Phase one. The researcher conducted pre-course Exemplary Educators Interview Survey with 10 identified exemplary educators in various areas of healthcare education in regions across the nation. Interviewees were identified by national or local recognition of teaching skill and recommendations from professional organizations and academia. Participation involved two interviews over a short period of time. The ten interviews occurred four weeks prior to the beginning of phase two. Interview times were scheduled
in 50-minute intervals. The first phase of telephone interviews was completed within two days. The Exemplary Educators Interview Survey contained seven demographic questions and four short answer questions. The short answer questions explored perceived effective teaching methodology, traits and techniques (Appendix B). Using the modified Delphi method (Turoff & Hiltz, 1995), collation of these answers was completed using semi-quantitative methods of grouping like-responses to establish patterns and correlates.

In the second phase of ten interviews, the original interviewees were presented with the collated responses for the short answer questions and asked to rank them in order of importance to achieve consensus. The response data were emailed to the interviewees the day prior to the telephone interview to allow for review. Respondents rated their top selections and emailed the results to the researcher prior to the second phone interview. The 15-minute interviews were completed over a period of a week. Data collation used semi-quantitative methods of grouping like-responses for trend identification.

Data analysis from the interviews was reviewed and integrated into the curriculum and the Teaching Methods Course Survey. The curriculum was evaluated and refined to assure inclusion of significant trend data obtained from the interviews.

Phase two. Prior to attending the course, participants prepared a 30-minute presentation using their current teaching methods. Each participant selected the lecture topic for the presentation. If the participant requested a recommended topic, “treatment with leeches” was selected as an appropriately neutral topic to allow participants to create short presentations with minimal time investment to display their teaching technique and performance. All participants presented the same day and participants did not view or
participate in each other’s lecture. All presentations were videotaped. To increase standardization of measuring teaching effectiveness, a panel of exemplary educators evaluated the presentations rather than a group of students. The panel of educators evaluated each faculty member’s performance using a validated evaluation tool, the Formal Observation Summary. The panel received training prior to evaluation of faculty presentations to increase standardization and decrease inter-rater variability.

Participants completed the Presentation Self-Evaluation after the first presentation and after the second presentation. The self-evaluation utilized a variation of the evaluation tool the panel of educators used in evaluating the teaching performance.

Participants completed a pre and post Teaching Methods Course Survey of effective teaching methods to assess current perceptions of effective teaching methods and active learning techniques. This survey was revised using information gathered by exemplary educators to ensure accuracy and consistency with current perceptions.

Curriculum

The goals of the Teaching Methods Course were to improve teaching techniques for instructors in health professions education (Draugalis & Plaza, 2007; Knight, Carrese & Wright, 2007; Muller & Irby, 2006). After completing the course, it was anticipated the participants would be aware of the role of communication, the value of lecture organization and the role of active learning techniques in effective teaching.

Prior to attending the course, participants prepared a 30-minute presentation using their current teaching methods. The course was designed to lead-by-example in introducing and explaining many of the skills and techniques integrated in the course objectives. Participants used active learning techniques to reiterate principles of effective
communication. They developed then demonstrated active learning techniques in pairs during class. These skills and activities were then incorporated into their own teaching skills and course design. Participants were working on their presentations throughout the course, updating and revising material as well as practicing new techniques.
Course syllabus.

Teaching Methods Course

December 15-17, 2009

Course Coordinator:
Susan M. Stein
steins@pacificu.edu
(503) 352-7285

Format: 6-hour course
Faculty: Susan M. Stein, M.S., B.S.Pharm, R.Ph
Prerequisites: Full time, part time faculty members in health professions education at a university (terminal degree in their health profession discipline)
Office Hours: 4pm – 10pm online

COURSE DESCRIPTION:
This course is a six-hour teaching methods course designed to improve teaching effectiveness in health professions education. The course will promote interdisciplinary training by including participants from pharmacy and nursing. In addition, the participants will self-evaluate the changes in their teaching and perceptions of teaching effectiveness. Participants will develop a template for an effective lecture, with emphasis on learning objectives, organization and expectations, explore presentation skills and styles, and develop active learning techniques to enhance learning opportunities within a lecture.

COURSE GOALS/OUTCOMES:
The goals of this course involve improving teaching effectiveness for teachers in health profession education.

- Participants are aware of the role of communication, the value of lecture organization and the role of active learning techniques in effective teaching.
  - Describe effective communication skills
  - Identify one goal/outcome and two objectives that apply to a participants current teaching responsibility
  - Describe essential components of effective 30-60 minutes lecture
  - List and describe three active learning techniques

RECOMMENDED TEXTBOOKS/REFERENCES:

INSTRUCTIONAL STRATEGIES:
## Schedule and details of instructional activities planned:

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Objectives</th>
<th>Instructional Activities</th>
<th>Student Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe effective communication skills</td>
<td>Identify and practice clear enunciation and verbal cadence</td>
<td>Short videos of effective and ineffective techniques: “Creative teachers in action”</td>
<td>Participation</td>
</tr>
<tr>
<td></td>
<td>Maintain appropriate eye contact with students</td>
<td>Think-Pair-Share past experiences with good and bad professors</td>
<td>Participation and creative input</td>
</tr>
<tr>
<td></td>
<td>Identify and utilize effective movement and hand gestures</td>
<td>See above</td>
<td>Participation and creative input</td>
</tr>
<tr>
<td>Identify one goal/outcome, two objectives for a current teaching responsibility</td>
<td>Identify “what is important” = one course goal</td>
<td>Utilizing current course, complete a lecture design table <a href="http://ctl.stanford.edu/Faculty/">http://ctl.stanford.edu/Faculty/</a></td>
<td>Lecture design table evaluated using rubric</td>
</tr>
<tr>
<td></td>
<td>Identify two outcomes students should be able to fulfill upon completion</td>
<td>See above</td>
<td>Lecture design table evaluated using rubric</td>
</tr>
<tr>
<td></td>
<td>Identify objectives specific to each outcome students should be able to fulfill upon completion</td>
<td>See above then share via a discussion</td>
<td>Lecture design table evaluated using rubric</td>
</tr>
<tr>
<td>Describe essential components of an effective 30-60 minute lecture</td>
<td>Identify important concepts and objectives for the lecture</td>
<td>Use pre-course lecture and redesign using handouts and tables of tips (Blackboard link here)</td>
<td>Lecture evaluated using rubric</td>
</tr>
<tr>
<td></td>
<td>Identify one activity to enhance and apply the topic to the students</td>
<td>See above</td>
<td>Lecture evaluated using rubric</td>
</tr>
<tr>
<td></td>
<td>Maintain time management to allow for the</td>
<td>See above</td>
<td>Lecture evaluated using rubric</td>
</tr>
<tr>
<td>Cycle of share information, discussion or activity, follow up or reflection in the lecture</td>
<td>Identify opportunities in which these components can be used in a 30 minute lecture</td>
<td>Discuss, share and ask for volunteers to share on overhead/Elmo</td>
<td>Participatory discussion noted</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>List and describe three active learning techniques</td>
<td>Identify the components of an effective active learning technique</td>
<td>Using pre-course lecture, apply one technique <a href="http://www.calstatela.edu/dept/chem/chem2/Active/">http://www.calstatela.edu/dept/chem/chem2/Active/</a> <a href="http://www.oln.org/ILT/7_principles/active.php">http://www.oln.org/ILT/7_principles/active.php</a></td>
<td>Evaluate idea verbally with class</td>
</tr>
<tr>
<td>Describe the value of active learning</td>
<td>Present idea to class</td>
<td>Evaluate presentations using rubric</td>
<td></td>
</tr>
<tr>
<td>Identify the time requirements for different types of activities</td>
<td>Share and discuss</td>
<td>Participatory discussion noted</td>
<td></td>
</tr>
</tbody>
</table>

**ASSESSMENT DESIGN AND METHODS:**
Students are given both formative and summative assessments.

**Formative Assessment**
Throughout the course, students will complete various short assignments. Each assignment or project will be evaluated during the class time via self-evaluation, other participants and instructors feedback.

**Summative Assessments**
Students will be evaluated based on their presentation skills and abilities prior to and after the course. A panel of educators will complete an evaluation. Participants will also complete a self-assessment of their presentations.

**SPECIAL PROJECTS/ASSIGNMENTS:**
Class activities/assignments have been developed to complement lecture material. Full participation in these activities/assignments is expected of all students. Many of these
activities are web-based. For assessment purposes, students are held accountable for the learning objectives associated with these activities/assignments.

GRADES:
This course uses a “Pass=P”/“No Pass=N” system of recording student achievement. Students are evaluated on participation in the course activities and assignments presented during the course. Assessment tools for this course involve a survey and an evaluation tool. The survey will evaluate perceptions regarding teaching methods administered before and after the course. An evaluation tool will evaluate the teaching effectiveness of each participant, completed by a panel of educators for the presentation before and after the course.

COURSE POLICIES:
Academic Integrity
You are required to adhere to all College and University standards regarding academic integrity. Please note:
Academic Dishonesty will not be tolerated and will result in a grade of ‘N’.
The course staff retains the right to implement any policies designed to help prevent academic misconduct in this course.

American Disability Act Statement and Learning Support Services (LSS) for Students with Disabilities
This program is committed to providing an educational environment that is accessible to all students. Services and accommodations are available to students covered under the Americans with Disabilities Act. If you require accommodations in this course, you must immediately contact the professor to review the documentation of your disability and discuss the services and any accommodations you require for the course.

Attendance Policy:
All students are expected to attend the entire course. Students who abstain from attending classes are held responsible for the course materials.

SPECIAL NOTES:
Class begins at 8 a.m. and end at 4 p.m. Students are allowed a 1 hour break for lunch from 12 p.m. to 1 p.m. Scheduling and duration of activities will also be at the discretion of the facilitator. Students are expected to attend class and participate in all learning activities.

SCHEDULE OF LECTURES:

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00am – 8:15am</td>
<td>Introduction and overview of the objectives for entire day</td>
</tr>
<tr>
<td>8:15am – 9:00am</td>
<td>Discussion of what an effective teacher looks like: document ideas on white board, select top five choices of traits</td>
</tr>
<tr>
<td></td>
<td>Presentation: Effective teaching communication skills</td>
</tr>
<tr>
<td>Time</td>
<td>Activity</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>9:15am – 9:30am</td>
<td>Think-Pair-Share past experiences with good and bad professors</td>
</tr>
<tr>
<td>Break ----5min</td>
<td></td>
</tr>
<tr>
<td>9:45am-10:15am</td>
<td>Presentation: Effective course/lecture design tips with open discussion</td>
</tr>
</tbody>
</table>
| 10:15am – 11am | Utilizing current course, complete a lecture design table [http://ctl.stanford.edu/Faculty/](http://ctl.stanford.edu/Faculty/)  
Identify two outcomes students should be able to fulfill upon completion  
Identify objectives specific to each outcome students should be able to fulfill upon completion  
Share and discuss examples of each participants design |
| Break ----5min |                                                                          |
| 11am-11:30am  | Presentation: Effective lecture components                               |
| 11:30am- 12 noon | Use 30-min lecture created for the pre-course component and update, using methods discussed. Support open format of working in groups of 4 to help each other improve their methods yet retain stylistic components |
| 12noon – 1:00pm | Lunch and casual discussion with participants (lunch provided)          |
| 1:00pm-2:00pm | Presentation: Effective active learning techniques  
Discuss, share and ask for volunteers to share on overhead/Elmo |
| Break 5 min   |                                                                          |
| 2:30pm-3:00pm | Using pre-course presentation, apply one technique [http://www.calstatela.edu/dept/chem/chem2/Active/](http://www.calstatela.edu/dept/chem/chem2/Active/)  
[http://www.oln.org/ILT/7_principles/active.php](http://www.oln.org/ILT/7_principles/active.php)  
[http://cte.umdnj.edu/active_learning/active_general.cfm](http://cte.umdnj.edu/active_learning/active_general.cfm) |
| 3:00pm-3:30pm | Present idea to class  
Share and discuss |
| 3:30pm-4:00pm | Summarize, follow up and survey                                         |

The provisions of this syllabus may be added to, deleted from, or changed if, in the opinion of the course coordinator(s), it becomes necessary to do so to achieve course objectives. The students will be notified in advance of any such changes.

**Course description.** The course integrated teaching methodology and design tips with active learning components. Participants were engaged in active discussions regarding new techniques to teach effectively then encouraged to apply those techniques
to their presentation project. In this way, participants were revising their presentations throughout the course. Participants were encouraged to engage in active discussion to strengthen relationships, understanding and communication between disciplines. Often, participants were encouraged to share examples of past experiences to highlight challenges and accomplishments of teaching adventures. Assessments were provided throughout the course in the form of prompt feedback from the instructor, other participants, or self-reflection. Six breaks for 10 minutes each were scheduled throughout the day and lunch was provided. Technology was utilized throughout the course and participants were encouraged to bring personal laptops. Resources, such as educational texts and journals, were referenced frequently to support future use and promote evidence-based practice. Online references were used extensively to support increased access to presented tools and incorporate the behavior of searching online for more tools in the future. Outcomes, objectives, activities and assessments were designed to complement and enhance each other, further developing the participant’s application of the concepts presented. Additional details regarding the course are provided in Table 5.
### Table 5

**Teaching Methods Course Design Map**

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Objectives</th>
<th>Instructional Activities</th>
<th>Student Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective teaching communication skills</td>
<td>Enunciation and verbal cadence</td>
<td>Effective and ineffective techniques and videos</td>
<td>Participatory discussion</td>
</tr>
<tr>
<td></td>
<td>Appropriate eye contact with students</td>
<td>Think-Pair-Share +/- experiences with professors</td>
<td>Participatory discussion</td>
</tr>
<tr>
<td></td>
<td>Effective movement and hand gestures</td>
<td>Think-Pair-Share +/- experiences with professors</td>
<td>Participatory discussion</td>
</tr>
<tr>
<td>Identify one goal/outcome, two objectives for a lecture topic</td>
<td>Identify one course goal</td>
<td>Complete a lecture design table</td>
<td>Evaluated using rubric</td>
</tr>
<tr>
<td></td>
<td>Identify two student outcomes</td>
<td>Share and discuss</td>
<td>Evaluated using rubric</td>
</tr>
<tr>
<td></td>
<td>Identify two student objectives</td>
<td>Share and discuss</td>
<td>Evaluated using rubric</td>
</tr>
<tr>
<td>Essential components of an effective 30-60 minute lecture</td>
<td>Concepts and objectives for lecture</td>
<td>Pre-course lecture: redesign using handouts</td>
<td>Lecture evaluated using rubric</td>
</tr>
<tr>
<td></td>
<td>Enhance one activity and apply</td>
<td>Pre-course lecture: redesign using handouts</td>
<td>Lecture evaluated using rubric</td>
</tr>
<tr>
<td></td>
<td>Time management for lecture, discussion and activities</td>
<td>Pre-course lecture: redesign using handouts</td>
<td>Lecture evaluated using rubric</td>
</tr>
<tr>
<td></td>
<td>Identify opportunities for activities in a 30 minute lecture</td>
<td>Discuss and share with class</td>
<td>Participatory discussion</td>
</tr>
<tr>
<td>List and describe three active learning techniques</td>
<td>Components of an effective active learning technique</td>
<td>Pre-course lecture: apply one technique</td>
<td>Class discussion</td>
</tr>
<tr>
<td></td>
<td>Value of active learning</td>
<td>Present idea to class</td>
<td>Lecture evaluated using rubric</td>
</tr>
<tr>
<td></td>
<td>Time requirements for types of activities</td>
<td>Share and discuss</td>
<td>Participatory discussion</td>
</tr>
</tbody>
</table>
During and after the course, participants were encouraged to make additional updates to their presentations, utilizing the resources and information introduced and discussed during the course. The researcher was available from 4 pm to 10 pm via email for any questions regarding information provided in the course. The following day, the participants exhibited their presentation. The presentations were videotaped. The participants explored using some new techniques or methods discussed in the course the previous day. The post-course presentations occurred over an eight-hour period. The panel of educators evaluated the presentations utilizing the Formal Observation Summary.

**Standard Operation Procedures**

**Budget.**

The researcher was responsible for planning and administering the project. The pre-course interviews with exemplary educators were completed in Oregon at the university where the researcher is employed. The university generously provided telecommunications support for the interviews. Staff at Washington State University (WSU) provided support in implementing the project. Staff organized copy services and catering services as well. Faculty members from the Pullman, Tacoma and Spokane campuses of WSU participated in the study. A large lecture hall and several study rooms at the College of Pharmacy on the Spokane campus were provided at no expense to the researcher and participants throughout the three-day project. Technology service and support was generously provided by WSU Technical Support Department.

The panel serving as evaluators donated their time to the project. To accommodate the quantity of participants, each providing a 30-minute presentation, the
evaluators committed to two eight-hour days of support to the project. The College of Education, the College of Nursing and the College of Pharmacy each contributed a panelist. A major expense in the study was travel expenses to accommodate the participants from the Pullman and Tacoma campuses. Integrating faculty development across campuses and disciplines is a valuable component of the project. The opportunity to share experiences and learn from each other may establish long-term relationships.

The participating universities donated electronic resources, such as laptops and software, for the participants and researcher to utilize throughout the project.

Table 6

*Line Item Budget: Institutional Support and Project Expenses*

<table>
<thead>
<tr>
<th>Public University Support</th>
<th>Cost</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty release time for participation (12 faculty)</td>
<td>$0</td>
<td>$16,200</td>
</tr>
<tr>
<td>Panel release time (three administrators)</td>
<td>$0</td>
<td>$3000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Researcher University Support:</th>
<th>Cost</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher release time</td>
<td>$0</td>
<td>$2,125</td>
</tr>
<tr>
<td>Expenses for the Project</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscellaneous supplies</td>
<td>$100</td>
<td></td>
</tr>
<tr>
<td>Support staff ($20/hr for five hours)</td>
<td>$100</td>
<td></td>
</tr>
<tr>
<td>Travel/lodging/meals for participants</td>
<td>$4,000</td>
<td></td>
</tr>
<tr>
<td>Refreshments</td>
<td>$800</td>
<td></td>
</tr>
<tr>
<td>Total expenses:</td>
<td>$5,000</td>
<td></td>
</tr>
</tbody>
</table>
Institutional Review Board.

The study was approved through the Institutional Review Board (IRB) at A. T. Still University, Pacific University and WSU prior to study initiation. The submissions can be found in Appendices A1, A2 and A3. The IRBs at Pacific University and Washington State University WSU approved use of the A.T. Still University Consent Form. Participation in the study was voluntary. All participants, including the ten exemplary educators and three panelists, agreed to and signed the A.T. Still University Consent Form (see Appendix F). Confidentiality was maintained at all times. There were no foreseeable risks associated with participation in this study.

Policies.

A.T. Still University, Washington State University WSU and Pacific University are higher education institutions where research is embraced and encouraged. The universities, through their IRBs and handbooks, have active policies regarding conducting research appropriately. The researcher adhered to the policies of the universities.

Implementation Timeline.

The timetable for the project and a brief description of activities is presented in Table 7. The process is preceded by IRB approval, recruitment and collection of completed consent forms.
Table 7

*Teaching Methods Course Timetable*

<table>
<thead>
<tr>
<th>Phase</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase One: one month prior to</td>
<td>Scheduled verbal interviews with established educators, collation of data collation, integration of acquired information into teaching methods course</td>
</tr>
<tr>
<td>Phase Two, one week in length</td>
<td>Train panel of educators at the public university</td>
</tr>
<tr>
<td>Phase Two: one week prior to course beginning</td>
<td>Provide information to participants regarding course</td>
</tr>
<tr>
<td></td>
<td>Participants complete a pre-course survey</td>
</tr>
<tr>
<td>Phase Two</td>
<td>Participants give lecture to panel of educators</td>
</tr>
<tr>
<td>First Presentation, day before course begins</td>
<td>Participants complete a post-presentation self-evaluation</td>
</tr>
<tr>
<td>Phase Two</td>
<td>Teaching methods course</td>
</tr>
<tr>
<td>Course begins, six hours long</td>
<td>Participants update presentations</td>
</tr>
<tr>
<td></td>
<td>Participants complete a post-course survey</td>
</tr>
<tr>
<td>Phase Two</td>
<td>Participants give lecture to panel of educators</td>
</tr>
<tr>
<td>Second Presentation, day after course ends</td>
<td>Participants complete a post-presentation evaluation</td>
</tr>
</tbody>
</table>

**Restrictions.**

Policies for the public university may be considered restrictions dictating anticipated activities or planned evaluation components of the study. As stated, the standard operating procedures and university policies support research. The universities
also support faculty training and development. The teaching methods course fits the
description of training opportunities and faculty development. Technological restrictions
may have applied to the videotaping of the participants but complications did not arise.

**Delivery Methods.**

The course was delivered in the classroom lecture hall setting with online
assistance from Blackboard® Learning Systems as the platform for PowerPoint® slides.
Announcements were sent via electronic mail to the subject’s university electronic mail
accounts one week prior to the course and the evening prior to the start of the workshop.
An outline of the course expectations and timeline for the day’s activities were sent with
each notification, along with encouragement for active participation. Expectations were
defined in detail in the course syllabus, which was reviewed the morning of the workshop
with all course participants and faculty present. A question and answer session was
provided for all 42 participants prior to the division of the group into two sub-groups.

**Feedback.**

Participants completed the entire project without receiving the results of the
panelist evaluations. Feedback was provided to the participants by the researcher
throughout the Teaching Methods Course. In addition, the researcher encouraged
participants to provide prompt feedback to each other during active learning components
of the course. The researcher was available via email prior to and after the course. The
participants received their videotaped presentations after the project was complete for
visual evidence of their teaching performance. The researcher followed up with
participants after the study was completed to discuss the aspects of the study, results and
interpretations.
Teaching Methods.

The course was provided in a “smart classroom” with an integrated podium, which provided online access and digital display. Participants either brought a laptop or one was provided for them. Teaching format involved short PowerPoint® slide presentations displayed on an intranet learning system. Active learning techniques were utilized repeatedly throughout the course. Six breaks of 10 minutes each were staggered throughout the day as requested by the participants. During lunch participants remained in the classroom and engaged in informal discussions about the material and their experiences.

Evaluation Tools.

The data for this course were assembled through a pre- and post-course Teaching Methods Course Survey (Appendix C), completed by the participants, to provide information regarding perceptions of the participants regarding teaching effectiveness. The pre- and post-course Formal Observation Summary (Appendix D), completed by the panel of educators, reflected any change in teaching effectiveness of the participants.

The panel of educators used a validated evaluation tool, the Formal Observation Summary, to evaluate both participant presentations, before and after the teaching methods course. Each participant was evaluated on the following domains: planning and preparation, the classroom environment and instruction. The data regarding the participant’s presentations prior to and after the teaching methodology course was collected via observation by a panel of trained and standardized educators. The participant’s presentation was videotaped and the panelists viewed the presentation at a later date due scheduling complications. The panelists viewed and evaluated the pre-
course presentations prior to the post-course presentations. The pre and post course Presentation Self-Evaluations completed by the participants, provided information regarding self-awareness of teaching effectiveness. The participants used a tool adapted from the validated panelist evaluation tool. In this way, the descriptive components of the evaluation tool were available to the participants before and after the course.

**Limitations.**

There are limitations to this project. The course was taught to a small sample of faculty members in health profession education and the findings are not indicative of effects of a teaching methods course with a different population. The cohort self-selected and represents a purposeful or convenience sample. Additional limitations include limited availability of faculty to participate in the course due to scheduling conflicts with current teaching responsibilities.

It was determined the use of student evaluation to evaluate improved teaching capabilities may allow for personal bias. It has been widely disputed whether student evaluations truly identify teaching effectiveness (Marsh, 2007). The data has been inconclusive and the profession is looking for an alternative evaluation system for teaching effectiveness (Edstrom, 2008). A panel of experienced educators evaluated each participant’s teaching effectiveness before and after the methods course. This evaluation system contains limitations in that it removes the student perspective. The assessment was based on an evaluation tool completed by a panel of experienced educators. It can be considered an asset that the Danielson evaluation tool had been validated and used in other studies assessing teacher performance (C. Danielson, personal communication, September 26, 2009).
Others limitations of this project include length of course and limited teaching opportunity to improve and evaluate. Conversely, the short length of the course was also a benefit since it explored the potential benefit from a modest time-intensive training model. Most faculty development programs are challenged with the limitation of time investment and release time for the participants (Muller & Irby, 2006).

In this project, a control group was not utilized when examining the possible effect of the teaching methods course on the teaching effectiveness of the cohort. This was the result of limited time release for additional participants and the panel of educators.

**Summary**

Educators in health professions programs generally receive negligible formal training in improving teaching capabilities and effective teaching techniques (Jones, 2008; Whitcomb, 2007). Effective educators are essential components in facilitating student learning and understanding. Teaching effectiveness has been defined as displaying knowledge of the subject, projecting effective disposition and utilizing communication techniques, which encourage learning and understanding (Singh & Stoloff, 2009). Many universities provide some form of faculty development yet short, focused training on improving teaching methods is often overlooked.

According to the literature, it is expected faculty members may have received minimal training in effective teaching methodology prior to this course (Jones, 2008). Interestingly, published training programs provide little documentation regarding evaluation of teaching effectiveness prior to training and after training. A pre and post training evaluation had not been utilized to measure possible change in performance. In
addition, an educator’s panel had not been employed to assess the teaching effectiveness of educators. The majority of data reported from current educator teaching training programs in the published literature is focused on immediate subjective response. This study is anticipated to provide valuable personal feedback for each faculty member as well as insight for the educational community regarding the design and effectiveness of training programs.

In the medical profession, clinical educators struggle to balance improving teaching techniques and utilizing technological advancements while maintaining their clinical expertise. Lack of support in teaching support has resulted in ineffective teaching performance (Cooke, Irby, Sullivan & Ludmerer, 2006). Scholars who choose academe as a career in areas of higher education receive little to no formal training in the actual process of teaching has been an ongoing problem (Felder, 1993; Jackson, 1996). Unfortunately, there has not been a resolution or movement to redesign the system to train educators properly (Jones, 2008; Markowitz, 2008; Trautmann, 2008).
Chapter Four: Results and Discussion

Health professions educators traditionally do not receive sufficient formal training in developing teaching capabilities and teaching techniques (Jones, 2008; Whitcomb, 2007). Without training and development, educators may not reach their teaching potential. Faculty development has been an ongoing area of interest in investment in higher education and recent trends emphasize improving teaching capabilities and performance (Jones, 2008; Trautmann, 2008). In addition, the expanded interpretation of scholarship by Boyer suggests that teaching as well as the research of educating should be accepted as teaching scholarship (Boyer, 1990; Glassick, 2000). Some training programs appear to improve teaching effectiveness, as determined by the participants, but these lack resources, availability, and flexibility while the programs’ assessment components rely on participant feedback (Muller & Irby, 2006). This chapter consists of a discussion of results and conclusions of the project described in earlier chapters, and future research opportunities.

Best Practices

The purpose of the research was to determine whether an effective teaching methods course would improve teaching capabilities of faculty members in health professions education. Teaching effectiveness has been defined as displaying knowledge of the subject, projecting effective disposition, and utilizing communication techniques, which encourage learning and understanding (Singh & Stoloff, 2009). Earlier chapters reviewed the literature on creating effective teachers and developed a proposed set of best practices to be applied in the development of a teaching methods course. The best practices include:
• Create a research proposal to address the need for improved teaching capabilities of faculty members and a proposed method to provide an efficient training model, including budget, implementation timeline and intended audience.

• Design an interview tool to gather current perceptions of teaching effectiveness in health professions education.

• Design a curriculum to address effective teaching objectives in the Teaching Methods Course.

• Develop a teaching effectiveness survey to measure outcomes of the Teaching Methods Course relative to the perceptions of participants.

• Develop and modify current evaluation tools to measure the outcomes of the Teaching Methods Course relative to participant’s self-evaluation and panelist evaluation.

• Develop Standard Operating Procedures for the implementation of the Teaching Methods Course including limitations and conditions.

The discussion addresses the problem statement and two subproblems, project overview, implications of findings, and limitations.

**Problem Statement**

The problem statement for this project addressed the identified need to create, implement and evaluate an effective Teaching Methods Course to improve teacher capabilities of faculty members in health professions education at a public university in Washington. Additional areas examined included:
1. Whether or not there is a statistically significant difference between pre- and post-course performance evaluation by more senior faculty members (determined by age) than younger faculty members.

2. Whether or not there is a statistically significant difference between pre- and post-course performance evaluation by faculty members with more educational background (years teaching) than faculty members with less educational background.

**Summary of the Research Problem and Design**

Improved teaching effectiveness in health professions education is valuable to society. Effective teachers motivate, educate and exhilarate students. Training programs designed to enhance teaching capabilities are not readily available in health professions higher education (Jones, 2008). The educational process primarily focuses on didactic pedagogy followed by clinical application. According to the literature, (Jones, 2008; Markowitz, DuPre, Holt, Chen & Wischnowski, 2008; Trautmann, 2008) faculty members desire more training in teaching effectiveness.

Teaching training programs, such as teaching certificates during residency training, do exist for some health professional educators. Programs, such as Johns Hopkins Bayview Medical Center and the University of California-San Francisco School of Medicine, provide nine to ten-month training programs, which meet once weekly. Published results, as measured by subjective data, have been positive but limitations in resources, release time and capacity has resulted in fewer programs offered on a one-time basis with little follow up or objective measurement of improvement (Knight, Carrese, & Wright, 2007; Muller & Irby, 2006).
Research on provision of training to improve teaching capabilities in the health professions has been limited. Most studies in this area have focused on small programs with subjective assessment (Knight, Carrese, & Wright, 2007; Muller & Irby, 2006; Trautmann, 2008).

**Research design.** The two-phase project involved a survey to capture current teaching effectiveness perceptions followed by a teaching methods course to examine the value of modest resource investment (a one-day course) and the effect on teaching capabilities (by objectively measuring pre- and post-course teaching effectiveness). Phase one involved interviews with a national representative cohort of ten exemplary educators to gather perceptions. Phase two involved a teaching methods course provided to a public university cohort of twelve faculty members, who were evaluated by a panel of three exemplary educators from that university.

**Phase one.** Phase one interviews were completed using a verbal interview with ten exemplary educators followed by a modified Delphi process to reach consensus and capture expert opinion. The researcher conducted pre-course telephone interviews with ten identified exemplary educators in pharmacy and nursing education. Interview participants answered seven demographic questions and examples for four statements in providing their perspective regarding teaching efficacy.

**Phase two.** Phase two examined whether a teaching methods course taught to twelve faculty members from the College of Pharmacy and College of Nursing at Washington State University (WSU) improved teaching capabilities as measured by a panel of three educators using a validated teaching performance tool. Phase two tools
included the presentation self-evaluations, panelist evaluations of presentations and perception surveys.

Phase two focused on promoting teaching capabilities thought to be necessary for delivery of effective teaching, as determined from phase one results. Twelve course participants were WSU faculty members and comprised nine members from the College of Pharmacy and three members from the College of Nursing originating from multiple campuses. The panel of evaluators consisted of three exemplary educators at WSU. One evaluator was selected from the College of Education, one from the College of Pharmacy and one from the College of Nursing.

The teaching methods course was a one-time six-hour event. Participants’ perceptions of teaching self-efficacy were measured via a survey before and after the course. Each participant’s teaching capabilities were demonstrated by providing a short presentation the day prior to and after the course. Assessment of the participant’s teaching capabilities was completed before and after the course by the panel of exemplary educators using a validated evaluation instrument. Participants also completed a self-evaluation of the presentation.

**Intervention Implementation**

**Panelist evaluators.** Three exemplary educators represented the College of Education, the College of Nursing and the College of Pharmacy. A definition of exemplary educator similar to the interviewer selection process was used to determine the panelists. Two panelists were located on the Spokane campus and one was located on the Yakima campus.
The researcher trained the panelist evaluators to ensure consistent use of the teaching effectiveness instrument and to decrease inter-rater variability. The evaluator training provided valuable discussion prior to project implementation. A sample presentation, prerecorded by a non-participant faculty member, was utilized to apply the Formal Observation Summary. The evaluator’s agreed that ten performance descriptions in the Formal Observation Summary would be used for the project. The evaluators chose not to use the evaluation sections specific to audience engagement due to lack of audience participation in the project. The Formal Observation Summary originally contained 16 performance descriptions within three domains. Following the evaluators’ discussions, all domains were retained with ten performance descriptions to be completed.

The evaluators requested the researcher to ask each participant four questions throughout the presentation to simulate audience interaction. The questions were targeted to four “typical student questions”: clarification of a concept; challenge a statement; request an example; request additional background.

The panelist evaluators provided comments in the post-course Formal Observation Survey, which provide additional feedback for improvement in participant performance. Table 8 provides a sample of comments with pre- and post-course scores. Three different students and three different panelist evaluators are represented in Table 8.
Table 8

*Post-Course Observation Summary Evaluation of Faculty Presentations by Evaluators: Comments*

<table>
<thead>
<tr>
<th>Domain</th>
<th>Description</th>
<th>Pre</th>
<th>Comment</th>
<th>Post</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning and Preparation</td>
<td>Knowledge of Content</td>
<td>2</td>
<td>Strong, Basic, not</td>
<td>3</td>
<td>Changes in presentation conveyed a much greater command of content</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Proficient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom Environment</td>
<td>Respect and Rapport</td>
<td>2</td>
<td>No Comment</td>
<td>3</td>
<td>Much more conversational and explanatory, clear attention to audience, eye</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>contact, etc.”</td>
</tr>
<tr>
<td>Instruction</td>
<td>Communicating with Students</td>
<td>3</td>
<td>Clear, avoids jargon</td>
<td>4</td>
<td>Opening with personal reflection is an excellent way to engage student</td>
</tr>
</tbody>
</table>

**Pre-and Post-Course Presentations**

The researcher initially intended that all participants create a new presentation on the same subject for the project, to neutralize evaluator bias and participant comfort with the material presented. Due to challenges and limited resources, participants were allowed to provide a presentation of a new lecture recently created in their area of specialty. The researcher encouraged participants to select a lecture that represented their
current teaching techniques and capabilities. One participant (8%) followed the original instructions and created a presentation for the project. Eleven of the participants (92%) used a recently created presentation.

The presentations were video recorded. Each presentation was completed within 30-minutes. The researcher was in the room for all twelve presentations. Participants completed the pre-course Presentation Self-Evaluation immediately following their presentation. The panelists evaluated the participant pre-course presentations prior to evaluating the post-course presentation.

Participants completed post-course presentations, which were the original presentations reviewed and updated during and after the course. The researcher was in the room for all twelve presentations and posed four similar questions to simulate an audience environment. Immediately following the presentation, participants completed a Presentation Self-Evaluation. Some participants provided verbal comments to the researcher following the presentation, which included “This course was so helpful!” and other statements of appreciation. The panelists evaluated the participant post-course presentations after evaluating the pre-course presentation. The comments section of the tool was utilized, often evaluating skills that already met the “Distinguished” criteria with supportive comments. Also, evaluators note some participants appeared to be “racing” through the presentation toward the end of the 30-minute interval.

**Teaching Methods Course: Pre- and Post-Course Surveys**

The Teaching Methods Course was approximately six hours in length. Prior to the course, each participant completed a pre-course Teaching Perception Survey online using Survey Monkey. The course was designed to incorporate examples of effective teaching
while practicing the examples in the course itself: to impart understanding by demonstration. Active learning techniques employed required the participants to critique their presentations and their classmates. Other activities focused on group discussions on improving the presentations. Active learning techniques recommended in phase one were used (think-pair-share, case discussions, video links, student presentations). Discussions encouraged sharing experiences, frustrations and challenges. Resources were provided through the course and encouragement to continue to pursue effective teaching techniques throughout their career as an academic. All participants stayed for the entire course, were actively involved in the activities and engaged in an unstructured discussion at lunch.

After completion of the course, each participant completed a post-course Teaching Perception Survey. The survey tool was identical to the pre-course survey. Comments captured in the post-course survey included statements broadening teaching techniques such as agreeing that lecturing can be effective teaching if “combined with interaction.” Additional strongly supportive comments were shared via email after the course was completed. Examples of changes in teaching behavior included rewritten syllabi, redesigned lectures, application of new active learning techniques and even a post presentation of the transformation the course triggered in the career of one of the participants.

Data collection and analysis. Multiple instruments were used in data collection. In phase one, the Exemplary Educators Interview Survey was used to collect current perceptions of teaching effectiveness from ten exemplary educators. Data were collected after the interviews and collated. A modified Delphi method was utilized to compile
group like-responses on effective teaching traits and techniques. Mean and trend data were analyzed.

In phase two, three tools captured pre- and post-course data. The participants completed the Teaching Methods Course Survey pre- and post-course. The participants completed a Presentation Self-Evaluation after each presentation. The panel of evaluators completed a Formal Observation Summary for each participant after their presentation.

A categorical quantitative analysis and a non-parametric analysis of paired ordinal small sample size data were completed on the pre- and post-course presentation assessments and perception surveys. A Fisher’s exact test analysis of sample independence was completed to evaluate differences between groups (teaching group and participant gender). Data were analyzed using the sign test procedure to determine significant changes from pre- to post-course assessments. The pre- and post-course design thus utilized a paired sign test with 95% Confidence Interval of the Difference with two-tailed significance of \( \leq 0.05 \). Variability among the panelists was determined with the use of intra-class correlation coefficient agreement analysis. Pearson’s r correlational analysis between the objective performance measures for the pre- and post-course assessments for age and years of teaching experience were conducted.

**Presentation of Results and Findings Phase One**

**Sample demographics.** Ten exemplary educators participated in phase one of the study. Educators from nine states comprised the panel (Alabama, Illinois, Missouri, Nebraska, Ohio, Oklahoma, Oregon, Utah, and Wisconsin). Four panelists were nursing educators (40%) and six were pharmacy educators (60%), seven (70%) were female and three (30%) were male. The age of the interviewees was an average of 57 with a range of
44 to 65. The majority of educators had earned Ph.D.s (90%) and one was in the process of completing her dissertation. Teaching recognition ranged from internal Teacher of the Year awards to national organization Innovation in Teaching awards. Educators taught an average class size of 115, with a range of 35 to 200. The educator’s current positions ranged from Dean to assistant professor. Few had active clinician experience in their past career. The six (60%) pharmacy educators’ training ranged from basic science specialty (medicinal chemistry, pharmacology/toxicology, and pharmaceutics) to pharmacy to social and behavioral science. The four (40%) nursing educators’ training ranged from maternal childcare to nursing midwifery to educational and instructional design. Demographic information is presented in Table 9.
Table 9

*Interviewee Demographics*

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Practice</strong></td>
<td></td>
</tr>
<tr>
<td>Nursing</td>
<td>$n = 4$</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>$n = 6$</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>$n = 3$</td>
</tr>
<tr>
<td>Female</td>
<td>$n = 7$</td>
</tr>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>$= 56$</td>
</tr>
<tr>
<td><strong>Academic Rank</strong></td>
<td></td>
</tr>
<tr>
<td>Professor</td>
<td>$n = 4$</td>
</tr>
<tr>
<td>Dean, Professor</td>
<td>$n = 3$</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>$n = 2$</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>$n = 1$</td>
</tr>
<tr>
<td><strong>Highest Degree Earned</strong></td>
<td></td>
</tr>
<tr>
<td>Ph.D.</td>
<td>$n = 9$</td>
</tr>
<tr>
<td>Ph.D. ABD</td>
<td>$n = 1$</td>
</tr>
<tr>
<td><strong>Years Teaching</strong></td>
<td></td>
</tr>
<tr>
<td>19 – 39</td>
<td>$M = 21$</td>
</tr>
<tr>
<td><strong>University Setting</strong></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>$n = 7$</td>
</tr>
<tr>
<td>Private</td>
<td>$n = 3$</td>
</tr>
<tr>
<td><strong>Received Teaching Awards</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$n = 9$</td>
</tr>
<tr>
<td><strong>Received Graduate Teaching Training</strong></td>
<td>$n = 5$</td>
</tr>
<tr>
<td><strong>Received Post-Graduate Teaching Training</strong></td>
<td>$n = 9$</td>
</tr>
<tr>
<td><strong>Typical Class Size</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>115</td>
</tr>
<tr>
<td><strong>Clinical Degree/Training</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$n = 7$</td>
</tr>
<tr>
<td><strong>Practiced in a Clinical Environment</strong></td>
<td>$n = 3$</td>
</tr>
</tbody>
</table>

**Qualitative Results**

The researcher examined example provided by the experts in four categories of Teaching Methods Perceptions examples: Effective Teaching, Ineffective Teaching, Active Learning, and Effective Teacher Traits and identified examples that were similar or identical. The results were collated and condensed and a modified Delphi method was
used to achieve commonality and capture expert opinion. Thirty discrete examples for each category (three examples from each of the ten interviewees) were possible. This analysis resulted in a reduced set of examples in each category: Effective Teaching, 25; Ineffective Teaching, 23; Active Learning Methods, 25; Traits of Effective Teachers, 23.

Interviewees rated the collated examples in the four categories, using a ten-point scale range to characterize how well the examples fit the category in which they were placed: 1 = Strongly Agree, 5 = Neutral and 10 = Strongly Disagree. The researcher subsequently contacted interviewees and completed a short phone interview to clarify any questions. All data were completed and compiled prior to the beginning of phase two.

The raters’ rankings of the examples varied extensively. Panelists were least variable in their ratings for examples of traits of effective teachers, with the standard deviation of ratings for the individual examples ranging from 0.000 to 0.823. Variability in the other categories was much greater: Effective Active Learning Methods, \( SD \) 0.699 - 2.300; Effective Teaching Methods, \( SD \) 0.316 - 1.900; and Ineffective Teaching Methods, \( SD \) 0.316 - 2.331. Applicable information and innovative ideas were incorporated into the Teaching Methods Course.

**Presentation of Results and Findings Phase Two**

**Sample Demographics**

The Teaching Methods Course was designed to include twelve participants composed of six pharmacy faculty members and six nursing faculty members. Scheduling difficulties limited recruitment of College of Nursing faculty; three (25%) nursing faculty members participated in this study. The College of Pharmacy was more successful in recruitment with 9 (75%) faculty members participating in the project.
Table 10 summarizes the demographic quantitative data for the participants. As compared to the interviewee cohort in phase one, the participants in phase two were clearly younger ($M = 35.4$), had less training (58% had not received training prior to this project), earned few teaching recognitions (17% received one award only), and earned fewer degrees (75% earned only one degree).
Twelve individuals participated in the present study. Of these individuals, three (25%) were male and nine (75%) were female; 3 (25%) were educators in nursing and nine (75%) were pharmacy educators. The mean age of participants was 35.4 (Range: 24
to 62 years; $SD = 10.66$) years and these individuals held an average of 5.7 (Range: 0.5 to 30 years, $SD = 8.07$) years of teaching experience.

**Research Question One**

To evaluate the first research question, whether an effective teaching methods course improved teaching capabilities of faculty members in health professions education, a pre-and post-course analysis was completed. The pre- and post-course scores of the participant’s presentations and pre- and post-course perception scores were used as the dependent variable for three assessment instruments: Formal Observation Summary, Presentation Self-Evaluation, and Perception Survey.

**Pre- and Post-Course Assessment Comparisons**

To determine if there were significant differences between teaching groups (pharmacy and nursing) and gender of participant on all pre- and post-course assessments, non-parametric examination of median scores was conducted. Fisher’s exact test analysis of sample independence revealed no significant differences between groups (teaching group and participant gender) on any assessment. These variables, therefore, are not considered in any of the following analyses.

Examination of items within pre- and post-course assessment on all measures revealed a significant lack of homogeneity of variance between many study assessment item pairs. Because of this, and recognition that the sample size was relatively small, nonparametric analyses were conducted to determine changes from pre- to post-course assessment for all individual study questions. In particular, given the related nature of pre- and post-course responses, a sign test procedure was utilized. These analyses determined statistically significant changes from pre- to post-course assessment by
examining the number of individual responses that improved, decreased, or remained the same between assessment periods. Following are the results of these analyses by assessment instrument.

In regard to the summation of scores on the objective performance measure, a significant improvement was found between pre-course \( (M = 23.77) \) and post-course \( (27.49) \) assessments \( (p [2\text{-tailed}] = .006) \). Following are analyses of each item within all pre- and post-course assessments.

**Pre- and post-course comparisons: Objective assessment by panelist evaluators of participant performance.** The sign test procedure was utilized to determine significant changes from pre- to post-course assessment. The paired sample correlations showed significance \( (p \leq 0.05) \) for seven of ten performance descriptions assessed by the panelist evaluators using the Formal Observation Summary tool. Scores were determined using a scaled format with a four-choice rating: 1 = Unsatisfactory, 2 = Basic, 3 = Proficient and 4 = Distinguished. The data shows participants scored higher, for example *proficient* rather than *unsatisfactory* for Coherent Instruction, post-course in seven of ten (70%) performance descriptions representing three domains. The details, including the assessment descriptions, are provided in Table 11. Table 12 provides only the statistically significant pre- and post-course performance assessment measures in order of significance.
Table 11

Pre- and Post-Course using the Formal Observation Summary Instrument

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Means</th>
<th>SD</th>
<th>Differences</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning and Preparation: Knowledge of Content</td>
<td>Pre: 2.93</td>
<td>Post: 3.25</td>
<td>Pre: .48</td>
<td>Post: .35</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning and Preparation: Knowledge of Students</td>
<td>Pre: 2.19</td>
<td>Post: 2.42</td>
<td>Pre: .58</td>
<td>Post: .52</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning and Preparation: Instructional Outcomes</td>
<td>Pre: 2.08</td>
<td>Post: 2.94</td>
<td>Pre: .71</td>
<td>Post: .60</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning and Preparation: Knowledge of Resources</td>
<td>Pre: 2.28</td>
<td>Post: 2.70</td>
<td>Pre: .47</td>
<td>Post: .55</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning and Preparation: Coherent Instruction</td>
<td>Pre: 2.57</td>
<td>Post: 3.00</td>
<td>Pre: .50</td>
<td>Post: .54</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning and Preparation: Student Assessment</td>
<td>Pre: 1.50</td>
<td>Post: 1.94</td>
<td>Pre: .88</td>
<td>Post: .73</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom Environment: Respect and Rapport Instruction: Communicating with Students</td>
<td>Pre: 2.71</td>
<td>Post: 3.08</td>
<td>Pre: .49</td>
<td>Post: .41</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instruction: Questioning and Discussion Techniques</td>
<td>Pre: 2.90</td>
<td>Post: 3.08</td>
<td>Pre: .60</td>
<td>Post: .53</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instruction: Flexibility and Responsiveness</td>
<td>Pre: 1.92</td>
<td>Post: 2.28</td>
<td>Pre: .87</td>
<td>Post: .93</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instruction: Flexibility and Responsiveness</td>
<td>Pre: 2.69</td>
<td>Post: 2.79</td>
<td>Pre: .60</td>
<td>Post: .49</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. *Indicates significance at the .05 level.
Table 12

**Pre- and Post-Course Assessments using the Formal Observation Summary Instrument:**

**Order of Significance**

<table>
<thead>
<tr>
<th>Description</th>
<th>Means</th>
<th>Differences</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coherent Instruction</td>
<td>Pre: 2.57 Post: 3.00</td>
<td>Negative 0 Positive 10 Ties 2</td>
<td>.002*</td>
</tr>
<tr>
<td>Knowledge of Resources</td>
<td>Pre: 2.28 Post: 2.70</td>
<td>Negative 0 Positive 10 Ties 2</td>
<td>.002*</td>
</tr>
<tr>
<td>Instructional Outcomes</td>
<td>Pre: 2.08 Post: 2.94</td>
<td>Negative 1 Positive 10 Ties 1</td>
<td>.012*</td>
</tr>
<tr>
<td>Student Assessment</td>
<td>Pre: 1.50 Post: 1.94</td>
<td>Negative 1 Positive 9 Ties 2</td>
<td>.021*</td>
</tr>
<tr>
<td>Respect and Rapport</td>
<td>Pre: 2.71 Post: 3.08</td>
<td>Negative 1 Positive 9 Ties 2</td>
<td>.021*</td>
</tr>
<tr>
<td>Knowledge of Content</td>
<td>Pre: 2.93 Post: 3.25</td>
<td>Negative 1 Positive 8 Ties 3</td>
<td>.039*</td>
</tr>
<tr>
<td>Questioning and</td>
<td>Pre: 1.92 Post: 2.28</td>
<td>Negative 1 Positive 8 Ties 3</td>
<td>.039*</td>
</tr>
<tr>
<td>Discussion Techniques</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* *Indicates significance at the .05 level.

Inter-rater agreement analysis of the three panelist evaluators was completed using the intra-class correlation coefficient (ICC) approach. The intra-class correlation coefficient was deemed more appropriate than use of the Kappa coefficient in that the Kappa coefficient is used for inter-rater reliability if there are just two raters. The project involved three raters so the intra-class correlation coefficient was used. The determinations in Table 6 were based on published standards for inter-rater agreement (Altman, 1991). The standards were described using a five-level determination: Poor
agreement = < 0.20, Fair agreement = ICC 0.20 – 0.40, Moderate agreement = ICC 0.41 – 0.60, Good agreement = ICC 0.61 – 0.80, Very Good agreement = ICC 0.81 – 1.00.

The data showed high agreement among raters, including Good and Very Good, pre- and post-course in 13 of 20 (65%) and moderate agreement in four of 20 (20%) performance descriptions representing three domains. Only three of 20 (15%) were considered poor agreement. The details, including the assessment descriptions, are provided in Table 13.
Table 13  
*Intraclass Correlation Approach between Panelist Evaluators*

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Intra-class Correlation Coefficient <em>(ICC)</em></th>
<th>Agreement Among Raters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Course Planning and Preparation:</td>
<td>.621</td>
<td>Good</td>
</tr>
<tr>
<td>Knowledge of Content</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Course Planning and Preparation:</td>
<td>.504</td>
<td>Moderate</td>
</tr>
<tr>
<td>Knowledge of Students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Course Planning and Preparation:</td>
<td>.729</td>
<td>Good</td>
</tr>
<tr>
<td>Instructional Outcomes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Course Planning and Preparation:</td>
<td>.081</td>
<td>Poor</td>
</tr>
<tr>
<td>Knowledge of Resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Course Planning and Preparation:</td>
<td>.609</td>
<td>Good</td>
</tr>
<tr>
<td>Coherent Instruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Course Planning and Preparation:</td>
<td>.706</td>
<td>Good</td>
</tr>
<tr>
<td>Student Assessment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Course Classroom Environment:</td>
<td>.822</td>
<td>Very Good</td>
</tr>
<tr>
<td>Respect and Rapport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Course Instruction: Communicating with Students</td>
<td>.738</td>
<td>Good</td>
</tr>
<tr>
<td>Pre-Course Planning and Preparation:</td>
<td>.846</td>
<td>Very Good</td>
</tr>
<tr>
<td>Questioning and Discussion Techniques</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Course Planning and Preparation:</td>
<td>.875</td>
<td>Very Good</td>
</tr>
<tr>
<td>Flexibility and Responsiveness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Course Planning and Preparation:</td>
<td>.128</td>
<td>Poor</td>
</tr>
<tr>
<td>Knowledge of Content</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Course Planning and Preparation:</td>
<td>.771</td>
<td>Good</td>
</tr>
<tr>
<td>Knowledge of Students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Course Planning and Preparation:</td>
<td>.405</td>
<td>Moderate</td>
</tr>
<tr>
<td>Instructional Outcomes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Course Planning and Preparation:</td>
<td>.153</td>
<td>Poor</td>
</tr>
<tr>
<td>Knowledge of Resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Course Planning and Preparation:</td>
<td>.711</td>
<td>Good</td>
</tr>
<tr>
<td>Coherent Instruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Course Planning and Preparation:</td>
<td>.608</td>
<td>Good</td>
</tr>
<tr>
<td>Student Assessment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Course Classroom Environment:</td>
<td>.523</td>
<td>Moderate</td>
</tr>
<tr>
<td>Respect and Rapport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Course Instruction: Communicating with Students</td>
<td>.673</td>
<td>Good</td>
</tr>
<tr>
<td>Pre-Course Planning and Preparation:</td>
<td>.877</td>
<td>Very Good</td>
</tr>
<tr>
<td>Questioning and Discussion Techniques</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Course Planning and Preparation:</td>
<td>.584</td>
<td>Moderate</td>
</tr>
<tr>
<td>Flexibility and Responsiveness</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Pre- and post-course comparisons: Subjective assessment of participant perception of teaching efficacy. The pre- and post-course Perceptions Survey provided additional information regarding the change in faculty perceptions of effective teaching pre- and post-course. The sign test procedure was utilized to determine significant changes from pre- to post-course assessment by examining the number of individual responses that improved, decreased, or remained the same between assessment periods.

The pre- and post-course Perception Survey was designed to evaluate the participants’ perceptions of teaching efficacy and measure any change after the course completed. The survey contained the same seven demographic questions queried of the interviewee cohort in phase one. The remaining statements of the survey were developed using perceptions accumulated from the phase one interviews. Five domains were created: identification of problem, effective teaching methods, ineffective teaching methods, active learning techniques and effective teacher traits. The survey requested participants respond to a five-choice rating: 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree and 1 = Strongly Disagree.

Using data collected in phase one from the Exemplary Educator interviews, analysis revealed some participant perceptions changed after the course and aligned with the current perceptions of effective teaching. Participants’ perceptions significantly ($p \leq 0.05$) moved from non-alignment with those of exemplary educators to alignment on 6 of 14 (43%) statements related to effective teaching. The differences were shown as negative, positive or tied. The data suggests that participants, as expected, would show improvement in their perceptions of teaching efficacy as a result of the course and would
more readily adopt the perceptions of experienced educators. The means, standard
deviation, differences and significance are presented in Table 14.
Table 14

Pre- and Post-Course Assessments using the Perceptions Survey Instrument

<table>
<thead>
<tr>
<th>Assessment Question</th>
<th>Means</th>
<th>SD</th>
<th>Differences</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall: Most teachers teach effectively</td>
<td>Pre: 3.42</td>
<td>Post: 3.58</td>
<td>Pre: .79</td>
<td>Post: .79</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall: Teachers are provided adequate training</td>
<td>Pre: 3.50</td>
<td>Post: 2.25</td>
<td>Pre: .80</td>
<td>Post: .45</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall: Educators are NOT provided sufficient training</td>
<td>Pre: 3.58</td>
<td>Post: 4.08</td>
<td>Pre: .67</td>
<td>Post: .52</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective: Case studies are NOT effective teaching</td>
<td>Pre: 4.17</td>
<td>Post: 1.67</td>
<td>Pre: .84</td>
<td>Post: .65</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective: Effective teachers are always prepared</td>
<td>Pre: 3.75</td>
<td>Post: 3.58</td>
<td>Pre: .87</td>
<td>Post: 1.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective: Asking challenging questions is effective teaching</td>
<td>Pre: 3.83</td>
<td>Post: 3.67</td>
<td>Pre: 1.03</td>
<td>Post: .89</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ineffective: Lecturing is NOT effective</td>
<td>Pre: 2.42</td>
<td>Post: 2.33</td>
<td>Pre: .90</td>
<td>Post: .65</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ineffective: Restating information is effective</td>
<td>Pre: 3.17</td>
<td>Post: 2.33</td>
<td>Pre: .72</td>
<td>Post: .99</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ineffective: Do NOT answer questions unless certain</td>
<td>Pre: 2.92</td>
<td>Post: 3.00</td>
<td>Pre: 1.31</td>
<td>Post: 1.38</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ineffective: Answer questions even if uncertain</td>
<td>Pre: 2.25</td>
<td>Post: 2.92</td>
<td>Pre: 1.14</td>
<td>Post: 1.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active Learning: Minute Paper is active learning</td>
<td>Pre: 3.17</td>
<td>Post: 3.58</td>
<td>Pre: .39</td>
<td>Post: .52</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active Learning: Active learning is consuming</td>
<td>Pre: 3.58</td>
<td>Post: 2.08</td>
<td>Pre: .90</td>
<td>Post: .90</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active Learning: Students do NOT like active learning</td>
<td>Pre: 3.67</td>
<td>Post: 1.75</td>
<td>Pre: .79</td>
<td>Post: .45</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Active Learning: Apply active learning to most environments

<table>
<thead>
<tr>
<th>Traits: Teachers can NOT be trained to be effective</th>
<th>Pre: 4.33</th>
<th>Post: 1.92</th>
<th>Pre: .65</th>
<th>Post: .67</th>
<th>Negative 11</th>
<th>Positive 0</th>
<th>Ties 1</th>
<th>.001*</th>
</tr>
</thead>
</table>

| Traits: Teachers can be trained to be effective | Pre: 4.33 | Post: 4.25 | Pre: .65 | Post: .62 | Negative 1 | Positive 0 | Ties 11 | 1.0 |

Note. *Indicates significance at the .05 level.

Pre- and post-test comparisons: Subjective self-assessment of performance by participants. Data from the pre and post course Presentation Self-Evaluations were analyzed to determine the presence of a statistically significant difference in the participants’ perception of their teaching capabilities before and after the course. The sign test procedure was utilized to determine significant changes from pre- to post-course assessment by examining the number of individual responses that improved, decreased, or remained the same between assessment periods. The Presentation Self-Evaluation was adapted from the panelist evaluators’ Formal Observation Summary. The tool contained statements based on the three domains and subsections for a total of 19 performance descriptions on a five-point scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. Unlike the panelist evaluators’ instrument, the Presentation Self-Evaluation retained all 19 performance descriptions. Interestingly, the participants avoided the minimum and maximum of the scale (N = 12, Range: 2 – 4). The sign test showed statistical significance (p ≤ 0.05) in 7 of 19 (37%) performance descriptions in the Presentation Self-Evaluation Instrument. The means, standard deviation, differences and significance are presented in Table 15.
<table>
<thead>
<tr>
<th>Assessment Question</th>
<th>Means</th>
<th>SD</th>
<th>Differences</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning and Preparation: Knowledge of Content</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre: 3.33  Post: 4.08</td>
<td>Pre: .78  Post: .67</td>
<td>Negative Ties</td>
<td>0  .016*</td>
<td></td>
</tr>
<tr>
<td>Planning and Preparation: Knowledge of Students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre: 3.33  Post: 4.25</td>
<td>Pre: .49  Post: .45</td>
<td>Negative Ties</td>
<td>0  .002*</td>
<td></td>
</tr>
<tr>
<td>Planning and Preparation: Instructional Outcomes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre: 3.58  Post: 4.25</td>
<td>Pre: .90  Post: .75</td>
<td>Negative Ties</td>
<td>1  .070</td>
<td></td>
</tr>
<tr>
<td>Planning and Preparation: Knowledge of Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre: 3.58  Post: 3.75</td>
<td>Pre: .79  Post: .75</td>
<td>Negative Ties</td>
<td>2  1.0</td>
<td></td>
</tr>
<tr>
<td>Planning and Preparation: Coherent Instruction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre: 3.83  Post: 4.00</td>
<td>Pre: .58  Post: .43</td>
<td>Negative Ties</td>
<td>1  1.0</td>
<td></td>
</tr>
<tr>
<td>Planning and Preparation: Student Assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre: 2.92  Post: 3.67</td>
<td>Pre: .90  Post: .99</td>
<td>Negative Ties</td>
<td>2  .453</td>
<td></td>
</tr>
<tr>
<td>Classroom Environment: Respect and Rapport</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre: 4.17  Post: 4.42</td>
<td>Pre: .58  Post: .52</td>
<td>Negative Ties</td>
<td>0  .250</td>
<td></td>
</tr>
<tr>
<td>Classroom Environment: Culture of Learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre: 3.83  Post: 4.33</td>
<td>Pre: .84  Post: .49</td>
<td>Negative Ties</td>
<td>0  .125</td>
<td></td>
</tr>
<tr>
<td>Classroom Environment: Managed Classroom Procedures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre: 3.58  Post: 4.08</td>
<td>Pre: .67  Post: .90</td>
<td>Negative Ties</td>
<td>1  .125</td>
<td></td>
</tr>
<tr>
<td>Classroom Environment:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre: 3.67  Post: 4.00</td>
<td>Pre: .65  Post: 1.04</td>
<td>Negative Ties</td>
<td>2  .687</td>
<td></td>
</tr>
</tbody>
</table>
Managed Student Behavior

Classroom Environment:
Organized Physical Space

Instruction:
Communicating with Students
Questioning and Discussion Techniques
Engaging Students in Learning
Using Assessment in Instruction
Flexibility and Responsiveness

Overall:
Planning and Preparation
Classroom Environment
Instruction

Ties

Pre: 3.33  
Post: 3.83

Pre: .78  
Post: 1.03

Pre: 4.08  
Post: 4.08

Pre: .52  
Post: .79

Pre: 3.08  
Post: 3.92

Pre: 2.92  
Post: 3.83

Pre: 3.83  
Post: 4.00

Pre: 3.33  
Post: 3.92

Pre: 3.33  
Post: 4.00

Negative 3  .508
Positive 6  
Ties 3
d

Negative 3  1.0
Positive 4  
Ties 5
d

Negative 3  .508
Positive 6  
Ties 3
d

Negative 2  .453
Positive 5  
Ties 5
d

Negative 1  .125
Positive 6  
Ties 5
d

Negative 2  .687
Positive 4  
Ties 6
d

Negative 2  .289
Positive 6  
Ties 4
d

Negative 1  .070
Positive 7  
Ties 4
d

Negative 0  .016*
Positive 7  
Ties 5
d

Note. *Indicates significance at the .05 level.

Research Question Two

To examine research question two, to evaluate whether there is a statistically significant difference of teaching capability as measured on the Formal Observation Summary in relation to the participant’s age, analysis was completed with the panelist evaluation score as the dependent variable and age as the independent variable.
Comparing across non-grouped ages, the results showed significance of increased performance with age, or more senior faculty members, correlated with improved score on the Formal Observation Summary. More senior teachers were evaluated as performing significantly better on the Formal Observation Summary, particularly the pre-course presentation. The published literature shows either a slight decline (Davidovitch & Soen, 2006) or neutral (Marsh, 2007) performance of teaching in older teachers. Unfortunately, this data is difficult to correlate because most studies have used student evaluation of teaching effectiveness (SETs) to evaluate teaching effectiveness.

**Correlational analyses.** A single score consisting of the sum of objective pre- and post-course performance measures was created for each participant, and this measure was correlated with age. The Pearson’s r showed a significant positive correlation between age and performance for both the pre-course ($r [12] = .73, p = .007$) and post-course ($r [12] = .65, p = .022$).

**Research Question Three**

To examine research question three, whether there is a statistically significant difference of teaching capability as measured on the Formal Observation Summary in relation to the participant’s background including academic rank, years teaching and training, analysis was completed with the panelist evaluation score as the dependent variable and years teaching as the independent variable. Years of teaching was self-reported by participants. Training received during graduate school or since graduation and rank was collected yet revealed a significant lack of homogeneity of variance in the relatively small sample size within the present study. As a result, only years teaching was analyzed. A positive relationship between years teaching and student performance has
been displayed in some studies (Carlson, 2004) while others show lack of correlation (Wayne & Youngs, 2003).

**Correlational Analyses**

A single score consisting of the sum of objective pre- and post-course performance measures was created for each participant, and this measure was correlated with years teaching. The Pearson’s r showed a significant positive correlation between years teaching and performance for both the pre-course ($r_{12} = .73, p = .007$) and the post-course ($r_{12} = .58, p = .049$).

**Interpretation of Findings**

**Phase one.** Phase one of this qualitative study revealed that perceptions of teaching efficacy are broad and diverse among exemplary educators yet express common themes. While many different examples of effective teaching methods may exist, once the examples were listed the exemplary educators reached consensus quickly and consistently. Each interviewee was enthusiastic to participate in the project, which was reflective of their interest as educators. Interviewees demonstrated a shared passion with the interviewer, such that discussions often expanded beyond the specific boundaries of the project.

The demographic data showed the propensity of these educators to obtain ongoing teaching training after graduate education was completed. Despite the literature showing the lack of availability of teaching training (Trautmann, 2008), it appears individuals who desire additional training are locating training in some form. An additional question addressing the potential desire for additional training may have illuminated satisfaction with current offerings. As expected, interviewees were older, taught longer and had
advanced degrees. The challenges experienced in recruiting nursing faculty were unexpected. Additionally, nursing faculty members received fewer teaching recognitions, possibly indicative of the educational culture rather than reflective of the individual’s performance. Less recognition may have also been related to the challenge in recruiting nursing educators: if recognition is not provided, effective nursing educators may not seek participation in a study of this nature.

The researcher expected more commonality in the original examples yet was delighted with the variation of responses. The perceptions ratings produced a plethora of useful concepts and examples that were incorporated into the Teaching Methods Course. Although active learning is not a new concept, the number and creative nature of the examples were surprising. Interviewees struggled with identifying examples of teaching efficacy and often emphasized there were exceptions to each example provided, supporting the concept of individuality and innovation in teaching.

**Phase two.** The quest to improve teacher capabilities of faculty members in health professions education at WSU yielded consistent results, as measured by improvement in objectively measured presentations and collected via overwhelmingly positive anecdotal input from the participants. When trying new approaches, time investment may be necessary to refine performance to display proficiency. The need for time to practice and perfect performance was not designed within the project. The self-evaluations were quite critical as a whole yet showed slight improvements. Possibly, individuals who seek teacher-training opportunities are more critical of their techniques.

The panelist’s assessments showed significant improvement in seven of 10 domains in the evaluations. Comments such as: “Refined and improved what was good
before” and “Very responsive” and “A noticeable improvement” were documented on post-course evaluations completed by the panelist evaluators. The quantitative and qualitative results indicate value for improved teaching efficacy for the cohort examined. The panelist evaluators were acknowledged exemplary educators and may have been overly critical of the participants. Conversely, the one-day course may not have provided enough material or time for the participants to implement, practice and master improvements in their teaching.

The panelist evaluator assessments showed improvements that were statistically significant and inter-rater variability of the panelists appeared minimal. An analysis of inter-rater reliability displayed high agreement in more than half of the evaluations and poor agreement in only three areas.

The presentation self-evaluations were conducted immediately prior to and after the course. It may have been helpful to complete a follow up evaluation of a presentation at a point in the future, such as three months. The data may have been helpful to evaluate retention and application of the effective teaching techniques introduced in the course.

Combining objective and subjective presentation evaluation was intentional, as few previous studies evaluated training programs objectively. Using panelists to evaluate the pre and post course presentations provided an emphasis of objective evaluation. Data analysis revealed some inter-rater variability, despite the training provided. The panelists represented three different fields of study (education, nursing and pharmacy) and may be expected to have different perceptions of teaching effectiveness. The panel could have been provided a follow up training after the presentations had been recorded to improve evaluation consistency.
Participants were not surveyed about the course at the conclusion: if they enjoyed the format, what they learned, what they still didn’t understand and any suggestions to improve the course in the future. The researcher intentionally avoided this technique of evaluation (often referred to as The Minute Paper) to avoid overwhelming the participants with surveys. The course was a one-day program and the information would not have been applied to a second course. In retrospect, the data may have been useful for future studies in this area.

Participants did provide anecdotal feedback to the researcher after the project was completed. Emails and verbal communication from the participants revealed the course was received very positively. One stated the course “resulted in a significant improvement on my teaching reviews this year.” Another chose to create a poster for a national meeting, stating how the teaching methods course improved her teaching effectiveness, as measured through student surveys and subjective input.

**Limitations**

There were several limitations to this study. The course was taught to a small sample of faculty members in health profession education and the findings may not be indicative of effects of a teaching methods course with a different population. The cohort self-selected and represents a purposeful or convenience sample. As a result, the course was shown to be effective for faculty members who sought to improve their performance but other techniques may be necessary for less motivated faculty members. Additional limitations include limited availability of faculty members to participate in the course due to scheduling conflicts with current teaching responsibilities. As noted earlier, in phase one, an equal number of nursing faculty members and pharmacy faculty members were
not obtained. In phase two, a larger imbalance of pharmacy faculty members to nursing faculty members were recruited. Though the scheduling was challenging for many of the faculty members, the noted decrease in recognition for effective teaching in nursing may influence interest for participation in teaching training outside of regular duties. Workload in nursing and pharmacy education may also be an imbalance yet the trend was noted on a national basis in public and private universities.

The cohorts for the project were small. The phase one cohort of ten interviewees was selected due to time limitations. The phase two cohort of twelve participants was increased from ten to provide additional power in analysis of the teaching course implications. The panelist cohort of three was selected to represent health professions education programs, pharmacy and nursing, as well as the field of study exclusively trained to teach, education. The small study sample size may not be representative of the broad academic health professions population.

The use of student evaluations to assess improved teaching capabilities was not employed to avoid potential personal bias. The literature has widely debated whether student evaluations truly identify teaching effectiveness. The data have been inconclusive and the profession is looking for an alternative evaluation system for teaching effectiveness (Edstrom, 2008). The project utilized panelists to evaluate each participant’s teaching effectiveness before and after the methods course. The panelist evaluation system also contains limitations because student perspective is removed. The Danielson evaluation tool had been validated and used in other studies assessing teacher performance. Thus, the application of a validated tool by knowledgeable educators may be viewed as an asset to the project.
Others limitations of this project include length of course and limited teaching opportunity to improve and evaluate. Conversely, the short length of the course is also a benefit in that it explored the potential benefit from a modest time-intensive training model. Most faculty development programs are challenged with the limitation of time investment and release time for the participants (Muller & Irby, 2006).

Although this study used nursing and pharmacy faculty members, they were primarily from one institution. While the nursing faculty members were from different departments, the pharmacy faculty members were from a single department. There was significant encouragement from the pharmacy department chair to provide support and release time for the participating pharmacy faculty. The nursing college dean likewise encouraged the faculty members’ participation. These environmental factors may affect reproducibility.

Lastly, a control group was not utilized when examining the possible effect of the teaching methods course on the teaching effectiveness of the cohort. A control group was not incorporated due to limited time release for additional participants and the panel of educators. Also, the project was designed to treat each participant as their own control, in the pre and post course presentations.

**Future Implications**

More research needs to be completed to support providing training to improve teaching capability in health professions education. Potential solutions should be examined to further identify minimal length of training repeated more often and provided more broadly. Although small improvements were expected, the minor investment required could be an incentive for using this model in future faculty development
techniques. Although this project was completed at a public university with two health professions education departments, the literature reveals similar challenges exist in other programs. Future analysis and research should be completed to confirm the trends noted in this project and explore other opportunities to provide effective teaching training.

Repetition of training must be incorporated, as the literature clearly identifies repetition as vital to learning and application of concepts. This research attempted to show a minimum investment could provide improvement in teaching performance. The possibility of examining an ongoing, regularly scheduled, brief workshop for faculty members may reveal the value of repetition and evaluation. Educational literature has displayed the value of repetition in action for learning clinical skills. The same concept could be applied to teaching skills with perhaps remarkably rewarding results.

Faculty members seeking improvement in teaching skill should be encouraged. The limited resources available in most institutions should not be significant barriers to development opportunities. The cost of this project was significantly less than expected, in time and other resources. Future research in the area of cost-benefit analysis of teaching training programs could encourage provision in more higher learning institutes.

The project evaluated faculty member performance utilizing panelist evaluators. This method of object evaluation should be future explored, as it may provide an alternative to the ongoing controversy of student evaluation of teacher (SETs) and peer evaluations. The panelist system may be able to bridge the culture of threatening input and provide an environment of support and nurturing.

Providing an audience could have supported reconstructing an applicable environment. A different approach may have required participants to select a presentation
to video-record in a limited time period prior to the course. The participant could have been evaluated in a traditional environment with students. The stipulations of the presentation could have been something recently prepared and presented less than twice prior. In addition, a post-course presentation could have been recorded in a similar manner. The participants could have had more flexibility and, perhaps, provided a more accurate representation of their teaching ability.

**Conclusion**

Health profession education is an invaluable component of development and growth in society. Effective teaching is positively correlated to students’ learning. Ineffective teaching is prevalent in the current health profession education system. Many faculty members desire to improve teaching effectiveness but the resources are limited, incentives are lacking, and research is insufficient to display the relationship between teacher training and improved teaching performance.

Characteristics of effective teachers include knowledge and competency as well as passion, effective communication, and innovation. Formal training programs exist in limited venue with insufficient evidence and evaluation of merit. The Teaching Methods Course project attempted to evaluate the result of a one-day course on the teaching performance of twelve faculty member participants. The evaluation process included objective evaluation by panelist evaluators, who had been determined to be exemplary educators. The results showed statistical significance in some areas of teaching performance pre- and post-course in the panelist evaluations and the participants’ self-evaluations. In addition, a perceptions survey showed statistical significant improvement in aligning teaching efficacy perceptions with a collated group of exemplary educators.
The Teaching Method Course project had multiple limitations but provides pilot data for pursuing the concept of one-day teaching training. In addition, the ability to raise awareness of the value of teaching effectiveness through evaluation may future support the scholarship of teaching. Future research may help society’s expectation of ubiquitous effective teaching to be better aligned with the aspirations of faculty members to meet that expectation.
References


Levinson, W. & Rubenstein, A. (2000). Integrative clinician-educators into academic
medical centers: Challenges and potential solutions. *Academic Medicine, 75*(9), 906-912.


Muller, J. H. & Irby, D. M. (2006). Developing educational leaders: the teaching scholars program at the University of California, San Francisco, School of Medicine. *Academic Medicine, 81*(11), 959-964.


XI. Human Research Protocol for IRB Review

(Copies of this protocol form are available in the IRB office)

Principal Investigator: Susan M. Stein

Title of Investigator: Student

Department: Doctor of Health Education

Address: 1907 NE Multnomah St, Portland, Oregon, 97232

Telephone Number(s): 503-352-7285 (work), 503-335-5995 (home)

TITLE OF PROJECT

Creating a Teaching Excellence Module for Faculty with a Focus on Health Profession Education

Funding Source: applied for NEA Foundation grant, self

Number Assigned:

Signatures of

Principal Investigator

Department Chairman or Advisor

Date

Date

The policies of KCOM and the assurances provided by the College to the DHHS require the Institutional Review Board to review all research proposals involving human subjects. No research involving humans can be initiated prior to approval from the IRB. In order to
comply with these regulations, the IRB requests that you provide the information requested on this page and in the following questions.
ABSTRACT OF PROTOCOL

(1) Purpose and hypotheses
Teachers in health professions education currently receive little formal training in improving teaching capabilities and effective teaching techniques. Faculty development and faculty teaching performance are areas of increasing interest by faculty and administrators (Jones, 2008; Markowitz, 2008; Trautmann, 2008). Several programs exist which appear to improve teaching effectiveness, as determined by the participants, but the programs lack resources, availability and flexibility (Muller, 2006). This program will focus on promoting effective teaching skill development by delivering a teaching methods course in teaching effectiveness for faculty in health professions education. The study is designed to examine the value of modest resource investment (a one-day teaching course) and the effect on teaching capabilities (by measuring pre and post teaching effectiveness).

(2) Where research will occur

This study will evaluate a teaching methods course taught to faculty members at Washington State University (WSU), a public university. The course and presentations will occur in classrooms in the College of Pharmacy on the Spokane campus. Pre-course interviews will occur via telephone with exemplary educators.

(3) Types of subjects involved and recruitment

The researcher will conduct pre-course interviews with ten identified exemplary educators. Interviewees will be identified by national or local recognition of teaching skill (awards, administrator identification, publications, etc.) and participate voluntarily. The course participants are all university faculty members and comprise multiple health
professions programs including colleges of pharmacy and nursing on multiple campuses. Twelve participants will be recruited via college announcements from supervisors and self-identification. A purposeful or convenience sample will be utilized. Ideally, even distribution from pharmacy and nursing will be represented. Participation is voluntary and participants may withdraw at any time without penalty.

(4) Role of the subjects

Interview participants will share demographic and short answer questions providing their perspective regarding teaching efficacy. Course participants will complete a pre-course survey regarding knowledge of teaching effectiveness. They will present a 30-minute lecture evaluated by a panel of educators using a standardized rubric tool. The teaching methods course will follow. Participants will update their presentations and present again to the panel of educators. In this process, they will display the potential value of the course in their teaching efficacy.

(5) Parameters to be investigated

Using the Delphi method to evaluate the interviewee responses, collation of effective teaching methods and teacher traits, experience in teaching development, background, and demographics will be completed. Semi-quantitative methods of grouping like-responses will be employed. A follow-up interview will provide an opportunity for interviewees to rank top responses. The information gained will be applied to the teaching methods course to reflect expert opinion. Data analysis of course participants will include participants’ knowledge of teaching effectiveness (pre and post course surveys), self-evaluation of presentations (pre and post course) and panel of educators’ evaluations of presentations (pre and post course). The surveys will be
analyzed for knowledge contribution provided by the course. The presentations
evaluations will be analyzed for improvement in teaching efficacy performance via self-
reflection and panel of educators.

(6) Risks and benefits to the subjects and society

No risk has been identified to the subjects or society as a result of the study. The
potential benefits include education, self-reflection and performance evaluation. Studies
have shown scholars who choose academe as a career in higher education receive little to
no formal training in the actual process of teaching (Jones, 2008; Trautmann, 2008).

According to the literature, faculty members desire more training. There is little
documentation evaluating teaching effectiveness prior to training and after training. By
evaluating performance pre and post course, participants may gain insight into skills and
areas of improvement. Society may gain from a short-term, economical training
opportunity and students gain learning from educators who have received more training
in teaching.

(7) Confidentiality and anonymity

The identification of all interviewers and participants in the project will be
protected. Results will be collated in the interview data analysis. Course participant data
will also be reported group. The researcher will maintain all data collections in a secured
environment. Any communication shared via email will be encoded to ensure security.

Within the above space, give a brief synopsis of the research project, describing (1)
the purposes and hypotheses, (2) where the research is to be done, (3) the types of
subjects involved and how they will be recruited, (4) the role of the subjects (clinical
trials, questionnaires, interviews, observation, use of tissues or body fluids, etc.), (5)
the parameters to be investigated, (6) the risks and benefits to the subject and
society, and (7) how confidentiality will be maintained or anonymity assured.
<table>
<thead>
<tr>
<th>Names of Other Investigators</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linda Garrelts MacLean</td>
<td>Washington State University</td>
</tr>
</tbody>
</table>

Indicate expected site of investigation (community / city, state):
A.T. Still University
Pacific University, School of Pharmacy, Hillsboro, Oregon
Washington State University, College of Pharmacy, Spokane Campus, Spokane, Washington

If the investigation is to be conducted at multiple sites, enter the names of each:

Institution Name (s):

Pacific University, School of Pharmacy, Hillsboro, Oregon
Washington State University, College of Pharmacy, Spokane Campus, Spokane, Washington
Letters confirming cooperation from the appropriate official of each outside institution must be appended
1. Does the research involve using an investigational drug or medical device?
   _X_ NO
   _YES_ If so, enter the:
   Name of the Drug/Device:
   FDA Study Phase of Drug:
   IND/IDE Number of Drug/Device:

2. Does the research involve using an FDA approved drug or medical device in an unapproved capacity?
   _X_ NO
   _YES_ If so, enter the:
   Name of the Drug Device:
   IND/IDE Number for this use:

3. Does the research involve use of radioactive materials in normal subjects, or use in patients in an uncommon way?
   _X_ NO
   _YES_ If so, a copy of the Letter of Approval from the Radioactive Drug Research Committee must be appended.

4. Does the research involve using a new medical or surgical procedure?
   _X_ NO
   _YES_ If so, enter the:
   Name of Procedure:

5. Does the research involve using an accepted medical or surgical procedure in a new capacity?
   _X_ NO
   _YES_ If so, enter the:
   Name of Procedure:

6. Might the research involve subjects from any of the special groups listed below?
   _X_ NO
   _YES_ If YES, check the appropriate categories.
   _ Children (subjects of less than legal age)
   _ Children who are wards of the state, or any other entity
   _ Adults who are wards of the state, or any other entity
   _ Pregnant subjects
   _ Fetuses in utero
   _ Fetuses ex utero, viable or non-viable
   _ Prisoners
   _ Terminally-ill patients
   _ Handicapped or mentally disabled persons
Economically or educationally disadvantaged persons
7. Does the research involve more frequent or greater risks to the subject than the risks ordinarily encountered in daily life or during the performance of routine physical or psychological examination or tests?
   _X_NO
   _YES

8. Will research data from any surveys, interviews, and/or observations:
   a. Allow subject identification directly or through identifiers
      AND
   b. Have the potential of placing the subject at risk of criminal or civil liability or of damaging the subject’s financial standing, employability, insurability, reputation, or be stigmatizing in any way,
      AND
   c. Have the potential of revealing sensitive aspects of the subject’s behavior, such as illegal conduct, drug use, sexual behavior, or use of alcohol?
      _X_NO
      _YES  (Do not answer YES unless all above answers (a, b, and c) are "yes".)

9. Will identifiers be maintained, directly or indirectly, on data to be collected?
   _NO
   _X_YES

If you have answered NO to all the above nine questions or if you have answered YES to questions 6 and/or 9 only, and if your answers are satisfactorily substantiated in the Abstract of Protocol, your proposal may be found exempt from continued IRB review. If you are requesting exemption from continued review, complete the appropriate sections below and submit the first 5 pages of this Protocol and your informed consent and study tools (survey instruments) to the IRB.

If you are not requesting exemption from continued IRB review, complete the Protocol by answering questions 10 through 30. If you answered YES to questions 6, and/or 8, and/or 9, you may request an expedited review by so signifying below, but questions 10 through 30 must be answered and submitted with material requested as Appendices.

EXEMPTION REQUESTED    EXPEDITED REVIEW REQUESTED

_________________________  ________________________
Signature of Investigator   Signature of Investigator
FOR DEPARTMENTAL IRB SUBCOMMITTEES
The IRB Subcommittee has reviewed the above responses, the details of the proposal, and any appended materials. We recommend to the IRB that (check one):

___ The proposal is exempt from continued IRB review.
___ The proposal may be reviewed expeditiously, but requires continued review.
___ The proposal requires full IRB review

_________________________  ______________________________
Date                          Signature of Subcommittee Chairman

_________________________  ______________________________
Date                          Signature of IRB Chairman
Appendix B

Exemplary Educators Interview Survey

1. Demographic questions
   a. Name, title and degree(s):
   b. Background in education and years teaching: please indicate
   c. List any specific training completed related to improving teaching
   d. Educational awards or acknowledgement of success:
   e. Average class size when teaching: please indicate
   f. Location (university, city, state):
   g. Gender and age: please indicate

2. Please state three examples of effective teaching methods

3. Please state three examples of ineffective teaching methods

4. Please state three examples of effective active learning techniques, including time requirement

5. Please state three examples of effective teacher traits/characteristics

Second Exemplary Educators Interview Survey

1. Collate the top three answers for examples of short answer questions and confirm choices with Exemplary Educators in second round of phone calls (Delphi Method)
Appendix C

Teaching Methods Course Survey

Please complete the following demographic information

Name, title and degree(s)  
Background in education and years teaching  
Training completed to improve teaching  
Awards or acknowledgement of teaching success  
Average class size when teaching  
Location (university, city, state)  
Gender and age

Read each statement about effective teaching methodology and techniques. Please rate your responses accordingly.

<table>
<thead>
<tr>
<th>Teaching Effectiveness Training</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most teachers in health profession education teach effectively</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers in health profession education are provided adequate training in effective teaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educators in health profession education are NOT provided sufficient training to teach effectively</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using case studies is NOT an effective teaching method</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective teachers are always prepared and organized</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asking challenging questions is an effective teaching method</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lecturing is NOT applicable to effective teaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restating information in the text book is an effective teaching method</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective teachers do NOT answer questions unless they are certain of the answer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective teaching occurs when teachers answer questions even if they</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
are uncertain

| The Minute Paper is a broadly applicable active learning technique |
|-------------------------|------------------|
| Active learning techniques are time consuming and NOT possible in all teaching environments |
| Students do NOT like to participate in active learning |
| Teachers are able to apply active learning techniques to most teaching environments |
| Teachers can NOT be trained to be effective teachers |
| Teachers can be trained to be effective teachers |
Appendix D

Formal Observation Summary

Content from the following text has been redacted from this online version due to copyright:

Content from the following text has been redacted from this online version due to copyright:

Content from the following text has been redacted from this online version due to copyright:

Content from the following text has been redacted from this online version due to copyright:

Content from the following text has been redacted from this online version due to copyright:

Content from the following text has been redacted from this online version due to copyright:

## Appendix E

### Presentation Self-Evaluation

Please complete the following information

**Name**

**Date**

Please rate your presentation performance in the following areas:

<table>
<thead>
<tr>
<th>Planning and Preparation</th>
<th>Very Strong</th>
<th>Somewhat Strong</th>
<th>Neutral</th>
<th>Needs Improvement</th>
<th>Needs Extensive Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrated knowledge of pedagogy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrated knowledge of students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Established instructional outcomes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrated knowledge of resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Designed coherent instruction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Designed student assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Classroom Environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Created an environment of respect and rapport</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Established a culture of learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managed classroom procedures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managed student behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organized physical space</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instruction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communicating with students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using questioning and discussion techniques</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engaging students in learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using assessment in instruction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrating flexibility and responsiveness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall impression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Planning and presentation

Classroom environment

Instruction
Appendix F

Consent Form

A.T. Still University
Washington State University, Spokane Campus
Pacific University

CONSENT FOR PARTICIPATION IN RESEARCH ACTIVITIES
Susan M. Stein, M.S., B.S.Pharm, Investigator from the School of Health Management at A.T. Still University

You agree to participate in a research study at this institution. The title of the research is Creating a Teaching Excellence Module for Faculty with a Focus on Health Profession Education. The results of this study was used to complete an applied dissertation for the requirement for the Doctor of Health Education (D.H.Ed.) degree. You are eligible to participate in this study because you are a faculty member of Washington State University College of Nursing or College of Pharmacy.

Purpose of the Study
The study will teach and assess a teaching course on how to teach better. The goal of the course is to improve teaching skills of members in health profession education. The course will include members from the colleges of pharmacy and nursing who teach on different campuses. The study will recruit twelve individuals. The course was taught at Washington State University on the Spokane campus. (Flesch-Kincaid = 7.7)

Participation in the Study
A member will give a short talk to a panel, complete in a one-day course, and give an updated talk to the panel after the course. An interviewer will answer two 15-minute telephone interviews. A panelist will evaluate talks on two separate days.

<table>
<thead>
<tr>
<th>Daily Schedule</th>
<th>Daily Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before class</td>
<td>Interview educators</td>
</tr>
<tr>
<td></td>
<td>Syllabus emailed to members</td>
</tr>
<tr>
<td></td>
<td>Topic assigned for a 30-minute lecture</td>
</tr>
<tr>
<td></td>
<td>Members prepare lecture</td>
</tr>
<tr>
<td>Day 1 Wednesday, December 16, 2009</td>
<td>Members give 30-minute lecture to a panel</td>
</tr>
<tr>
<td>Day 2 Thursday, December 17, 2009</td>
<td>Members submit a pre-course survey</td>
</tr>
<tr>
<td></td>
<td>The teaching course is taught</td>
</tr>
<tr>
<td></td>
<td>Members submit a post-course survey</td>
</tr>
<tr>
<td>Day 3 Friday, December 18, 2009</td>
<td>Members give updated 30-minute lecture to a panel</td>
</tr>
<tr>
<td>February 8 – 10, 2010</td>
<td>A teleconference to share the results and valuable</td>
</tr>
</tbody>
</table>
Time commitment for members:
- Two hours to prepare a 30-minute lecture
- Three days on Spokane campus (Day 1 and Day 3 = 30 minutes, Day 2 = 6 hours)

Time commitment for panel:
- One hour to train to use evaluation tool
- Seven hours to evaluate the 30-minute lectures given by the members Day 1 and 3

Teaching Methods Course schedule:

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00am – 12:00 noon (Breaks included)</td>
<td>Introductions, lecture, discussions</td>
</tr>
<tr>
<td>12noon – 1:00pm</td>
<td>Lunch and discussion (lunch provided)</td>
</tr>
<tr>
<td>1:00pm - 4:00pm (Breaks included)</td>
<td>Lecture, discussions, activities</td>
</tr>
</tbody>
</table>

(Flesch-Kincaid = 8.8)

Potential Risks and Discomforts
There are no physical or psychological risks inherent in the participation of this study.

Confidentiality
The results of the research study may be published but that your name or identity will not be revealed and that your records will remain confidential. In order that confidentiality can be maintained, Susan M. Stein will maintain confidentiality of participants by assigning a random number to each participant. The random number will identify the participant to the panel of educators. Data was maintained on a secure network with encrypted password access. The researcher alone will have access to your records.

Potential Benefits to Participants and/or to Society
To our knowledge, a training methods course like this has not been taught with an evaluation component. The possible benefits of your participation in the research study are exploring improving training for fellow academicians. Effective teachers are essential to facilitating student learning. Without sufficient training and development, educators may lack the skills to maximize the intended objective of teaching. The benefits of this study may be applied to educators in health professions education and beyond for generations to come.

Payment for Participation
Participants will not be paid for volunteering to assist with this research study.

Participation and Withdrawal
If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don’t want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.
Rights of Research Participants
Participation in the research project is voluntary and participants may withdraw from the research study at any time without penalty. You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study.

Identification of Investigator
If you have any questions or concerns about the research, please feel free to contact:
Susan M. Stein, M.S., B.S.Pharm
1907 NE Multnomah Street
Portland, Oregon 97232
steins@pacificu.edu; 503-352-7285

Institutional Review Board Questions
If you have any questions about your rights as a research subject or in the event you believe you have suffered any injury as a result of participation in the research project, you may contact, Robert Theobald, Ph.D., the Chairman of KCOM Institutional Review Board (660-626-2316), who will discuss your questions or was able to refer you to the individual who will review the matter with you, identify other resources that may be available, and provide further information as to how to proceed.

Signature of the Research Participant
I have read the above statement and have been able to ask questions and express concerns, which have been satisfactorily responded to by the investigator. I believe I understand the purpose of the study as well as the potential benefits and risks that are involved. I hereby give my informed and free consent to be a participant in this study.

___________________________
Date      Signature of Subject

___________________________
Print Name of Subject

Signature of the Investigator
I certify that I have explained to the above individual the nature and purpose, the potential benefits and possible risks associated with participation in this research study, have answered any questions that have been raised, and have witnessed the above signature. These elements of Informed Consent conform to the assurance given by KCOM to the DHHS to protect the rights of human subjects. I have provided the subject/patient a copy of this signed consent document.

___________________________
Date      Signature of Investigator