

THE PENNSYLVANIA STATE UNIVERSITY
SCHREYER HONORS COLLEGE

DEPARTMENT OF AGRICULTURAL ECONOMICS, SOCIOLOGY, AND
EDUCATION

HOW PROFESSORS AT THE PENNSYLVANIA STATE UNIVERSITY'S COLLEGE
OF AGRICULTURAL SCIENCES ENGAGE IN THE SCHOLARSHIP OF
TEACHING AND LEARNING: A POST-HOC ANALYSIS

BRYANNA KENNO
SPRING 2015

A thesis
submitted in partial fulfillment
of the requirements
for a baccalaureate degree
in Agricultural and Extension Education
with honors in Agricultural and Extension Education

Reviewed and approved* by the following:

Daniel D. Foster
Assistant Professor of Agricultural and Extension Education
Honors Advisor, Thesis Supervisor

John Ewing
Associate Professor of Agricultural and Extension Education
Faculty Reader

* Signatures are on file in the Schreyer Honors College.

ABSTRACT

The call of ensuring the effectiveness of postsecondary education has been issued from all levels of society: from policymakers in Washington D.C. to parents in rural America to students currently enrolled in institution of higher learning. An undergraduate researcher in a college of agricultural sciences conducted a descriptive study with a purpose of determining how instructional faculty from the previous academic year in the Pennsylvania State University's College of Agricultural Sciences perceive their engagement in Scholarship of Teaching and Learning with an emphasis on instructional assessment. The study was guided by three research objectives: (1) identify agricultural sciences faculty sources of instructional assessment. (2) describe agricultural sciences faculty perceptions of effectiveness of instructional assessment to improve teaching practice and (3) describe other measures of scholarship of teaching and learning College of Agricultural Sciences faculty utilize. A valid and reliable quantitative survey was administered with accepted survey methods via an online survey tool. The response rate of 67% from the population of 168 individuals yielded 113 responses from the eight academic units in the college. The results indicate that faculty members engage in this form of scholarship and reflection due to mandates as opposed to desires for teaching and learning gains and perceive evaluations as being less than effective. These results confirm findings from previous studies that a majority of instructors engage in the Scholarship of Teaching and Learning, specifically instructional assessment; however, further investigation is needed to determine impact of the scholarship of teaching and on student learning outcomes.

TABLE OF CONTENTS

List of Figures.....	iii
List of Tables.....	iv
Acknowledgements.....	v
Chapter 1 Introduction.....	1
Purpose.....	2
Operational Definitions.....	3
Significance of the Study.....	3
Summary.....	4
Chapter 2 Review of Literature.....	5
Research in Agricultural Education.....	5
Student Evaluation of College Faculty.....	5
Peer Evaluation between College Faculty Members.....	6
Self-Evaluation of College Faculty.....	7
Student Perceptions of Effective Instructors.....	7
Teaching Behaviors of Successful Teachers.....	9
Grades and Student Evaluations.....	9
Hand Written versus Online Evaluations.....	10
Effects of Evaluation on Instruction.....	10
Evaluation for Promotion and Tenure.....	11
Summary.....	11
Chapter 3 Methods.....	12
Purpose.....	12
Theoretical Foundation.....	13
Conceptual Framework.....	15
Population.....	16
Non-Response Error.....	17
Data Collection.....	17
Instrumentation.....	19
Questions Content.....	20
Validity.....	22
Reliability.....	23
Data Analysis.....	23
Summary.....	24

Chapter 4 Results	25
Purpose	25
Findings for Objective 1- Sources of Instructional Assessment	25
Findings for Objective 2- Perceptions of Instructional Assessment to Improve Teaching.....	27
Findings for Objective 3- Measures of Scholarship of Teaching and Learning.....	35
Summary.....	40
Chapter 5 Discussion	41
Purpose	41
Conclusions for Objective One	42
Implications for Objective One.....	42
Recommendations for Practice	43
Conclusions for Objective Two	43
Implications for Objective Two	44
Recommendations for Practice	45
Conclusions for Objective Three.....	46
Implications for Objective Three	47
Recommendations for Practice	47
Recommendations for Research.....	48
Summary.....	48
Appendix A: Participant Email Transcripts	50
BIBLIOGRAPHY	58

LIST OF FIGURES

Figure 3.1: Danielson’s Framework of the FourDomains of Learning as it Relates to Teaching and Instruction.	15
--	----

LIST OF TABLES

Table 3-1 <i>Contact Outline to Potential Respondents</i>	18
Table 4.1 <i>Instructional Assessment in the College of Agricultural Sciences</i>	26
Table 4.2 <i>Student Rating of Teaching Effectiveness</i>	26
Table 4.3 <i>Student Rating of Teaching Effectiveness to inform Pedagogical Practice</i>	27
Table 4.4 <i>Student Rating of Teaching Effectiveness to inform Pedagogical Practice examples</i>	28
Table 4.5 <i>Student Rating of Teaching Effectiveness Representation of Student Perspectives</i>	28
Table 4.6 <i>Benefits of SRTEs</i>	29
Table 4.7 <i>Limitations of SRTEs</i>	29
Table 4.8 <i>Student Rating of Teaching Effectiveness Representation of Teaching Practices</i> ...	30
Table 4.9 <i>Student Rating of Teaching Effectiveness Course Improvement</i>	30
Table 4.10 <i>Student Evaluation Administration</i>	31
Table 4.11 <i>Peer Evaluation of Instruction</i>	32
Table 4.12 <i>Occurrence of Peer Evaluation</i>	32
Table 4.13 <i>Benefits of Peer Evaluation</i>	33
Table 4.15 <i>Limitations of Peer Evaluation</i>	33
Table 4.16 <i>Peer Evaluation Impact on Teaching Practice</i>	34
Table 4.17 <i>Peer Evaluation Impact on Teaching (Pedagogical) Practices</i>	34
Table 4.18 <i>Engagement in Scholarship of Teaching & Learning</i>	35
Table 4.19 <i>Teaching and Learning Conferences or Seminars</i>	36
Table 4.20 <i>Teaching and Learning Conference or Seminar Topics</i>	36
Table 4.21 <i>Teaching and Learning Scholarly Journals</i>	37
Table 4.22 <i>Support of Scholarship of Teaching & Learning</i>	38
Table 4.23 <i>Rank in the College of Agricultural Sciences</i>	38

Table 4.24 <i>Years of Prior Teaching Experience</i>	39
Table 4.25 <i>Ages of Participants</i>	39
Table 4.26 <i>Academic Departments</i>	40

ACKNOWLEDGEMENTS

With the completion of my honor thesis and my time as a Penn State undergraduate coming to a close, I would like to extend a gracious thank you to several individuals that have played an important role in my academic and personal development.

First I would like to thank my academic advisor and honors thesis supervisor Dr. Daniel Foster. Dr. Foster has served as a guide, supporter, and mentor during my four years at Penn State. You have always encouraged me to become more involved, engage in activities and experiences that will help me become a better agricultural educator, and participate in events that required me to step outside of my comfort zone. You have challenged me both academically and personally. Your continuous support and guidance have helped me become the young professional I am today. Thank you.

I would also like to thank Dr. John Ewing for the tremendous impact he has had during my undergraduate career. I am grateful for your help and involvement with my undergraduate research project but also your guidance and support of my time as Collegiate FFA president. It was an honor to work with you. You truly are an inspiration and I am glad I had the opportunity to work with you.

I am also thankful for the support and guidance of Mrs. Laura Rice. I met Laura as a sophomore and had the opportunity to serve as an undergraduate research assistant for her dissertation work in Sweden. You have provided me with continuous guidance, support, and advice. I am so grateful I had the chance to work with you for my undergraduate research project as well.

Finally, I owe a huge thank you to my family. Mom, you are my biggest supporter and I would be lost without your love, guidance, and advice. You know just what to say every time I call and seek your help. I am so thankful for everything you have done for me. You truly are the world's best mom and I am blessed to have you in my life. Dad, thank you for your continuous love and support as well. I cherish the memories of the days we spent out in the woods, along a creek bank, or out in the field. Thank you for all the weekends we spent hunting after a stressful week at school. Wyatt, I am so glad we have grown closer over the last few years. I know we don't see each other much but I value the time we spend together. You are an inspiration and you never cease to amaze me. Together, the three of you have had an impact on my success and love of agricultural education.

Chapter 1 Introduction

According to Garton, Spain, Lamberson, and Spiers, one of the biggest challenges facing agricultural education in higher institutes of learning is delivering instruction that meets the demands of students (Garton et al., 1999). One of the most popular ways to measure this need and determine if it is being met is through student evaluations (Cornell University Center for Teaching Excellence, 2013). Other evaluation methods include the use of peers (Orth et al., 2010) and self-evaluation methods (Center for Teaching and Learning, 1997).

The idea of using student feedback to evaluate the teaching of professors and their courses has been completed for decades. The first formal student evaluations were organized at Purdue University in the 1920's. Purdue University was being pushed, similar to other public universities, to further their scientific research following World War I (Calkins & Micari, 2010). After World War II, many other universities across the country had implemented their own student rating system. Faculty senates then began to require student evaluations, with little accountability however (Calkins & Micari, 2010).

Due to validity concerns regarding the use of student evaluations as determinants for learning, retention, tenure and promotion, peer and self-evaluations of faculty members are important factors to consider as well (Birnbaum, n.d.). Algozzine et al. determined that data collected from student evaluations is used to improve instructional practices (formative) and determine employment decisions (summative) (Algozzine et al. 2010).

Recently, at the Pennsylvania State University's University Park campus, a campus-wide study occurred to determine perceptions of both students and instructors. The study looked at factors that students and instructors viewed as important to quality instruction, quality of

instruction, factors that influence student rating of instructors, and how these perceptions have changed over time (Willits et al., 2011).

As many other publications suggest, Ballard and Bates recommend more than one form of evaluation of instructors occur in order to gain the most appropriate and informative data (2008). Paulsen (2002) explains that student, self, and peer evaluations measure different components of evaluation and offer various levels of reliability. Student evaluations offer more insight into the definition of what constitutes effective teaching. These evaluations are often criticized as unreliable. Peer evaluations provide expertise feedback that students cannot supply. Self-evaluations appear to lack validity for summative evaluation but are becoming more popular in teaching portfolios (Paulsen, 2002).

Researchers and educators have continuously struggled with how to effectively evaluate faculty at colleges and universities. Should the evaluations be used formatively or summatively? As roles of faculty and expectations change, researchers argue that multiple sources of faculty evaluation are needed in order to best evaluate teaching (Paulsen, 2002). The large base of resources indicating that evaluation of faculty is critical demonstrates the need for a concise, systematic method to effectively evaluate faculty teaching.

Purpose

The purpose of the descriptive research study was to determine how faculty in the Pennsylvania State University's College of Agricultural Sciences engage in the scholarship of teaching and learning. The study was guided by the following research objectives:

1. Identify Penn State College of Agricultural Sciences faculty sources of instructional assessment.

2. Describe Penn State College of Agricultural Sciences faculty perceptions of effectiveness of instructional assessment to improve teaching practice.
3. Describe other measures of scholarship of teaching and learning College of Agricultural Sciences faculty engage in.

Operational Definitions

Faculty- Any individual who has taught a class between January and December 2014 at Penn State University Park's College of Agricultural Sciences. This can consist of senior lecturer, lecturer, senior instructor, instructor, assistant professor, associate professors, or professors (Willits et al., 2011)

Scholarship of Teaching and Learning- Aside from engaging in research, functions include discovery, integration, application, and teaching in an applied setting (Boyer, 1990)

Instructional Assessment- Measures of learning used to evaluate the progress of students towards meeting established instructional standards or goals (Ohio Department of Education, n.d.)

Significance of the Study

The North American Colleges and Teachers of Agriculture (NACTA) Journal published an article in 2010 stating the importance of evaluation as a means of improving and assessing teaching and learning. The study recognizes that there are many factors of teaching and learning that need to be considered in evaluation (Orth et al., 2010). The research will contribute to the current base of how to effectively evaluate teaching of faculty across universities, as well as determining how faculty engage in the Scholarship of Teaching & Learning. Findings from the

research can help faculty in agricultural colleges, such as Penn State University, effectively evaluate their teaching to improve student learning.

Summary

The recognized importance of evaluations of teaching faculty across colleges and universities demonstrates the need for established criteria when evaluating faculty across agricultural campuses. Most colleges and universities nationwide mandate some variation of student evaluations while neglecting other forms including peer and self-evaluation. Determining other forms of scholarship of teaching and learning that faculty engage in can improve instruction and encourage self-evaluation while providing motivation for peer evaluation. Student learning and retention are vital components of the educational process and instructor evaluation must reflect this.

Chapter 2 -Review of Literature

Evaluation in education is a challenging and controversial topic. The use of these evaluations can impact the learning styles of teachers, the learning experience for students, and faculty promotion and tenure opportunities. Previous findings regarding perceptions of instructional assessment sources provide foundation for more current research on the subject. This chapter will focus on a review of literature regarding instructional assessment through student, peer, and self-evaluations.

Research in Agricultural Education

As stated in the Journal of Agricultural Education by Buriak and Shinn (1989), research in agricultural education is halted by up to thirty one obstacles. Several of these obstacles include the perception that agricultural education research does not have clearly defined objectives, limited funding, and inadequate qualifications. One other obstacle to research in agricultural education is the perception that the research does not have value; it is used simply for promotion and tenure.

Student Evaluation of College Faculty

Student evaluations of college professors are one of the most commonly used methods of evaluation throughout the country, as stated by the Stanford Center for Teaching and Learning (1997). Student evaluations of college instructors originated in the early 1900's and studying these evaluations in depth began with the innovative work of Remmers. Two major uses for data

collected from student evaluations exist: improvement of instructional practices (formative) and employment decisions (summative), according to Algozzine et al. (2004).

Student evaluations also provide insightful information that can be used to modify or change a course to tailor the needs of the students. Such evaluations can also bring forward issues preventing students from learning at their greatest potential. These evaluations can also measure teacher effectiveness, as described by Cornell's Center for Teaching Excellence (2014).

While student evaluations have proved to be very beneficial, there have also been criticisms regarding the validity of these evaluations. Reasons for validity concerns include student bias towards instructors, lack of representative response rates from students, fear of higher ratings of professors with less challenging course work, and bias based on class size, type, and expected letter grade, according to Calkins and Micari (2010). Paulsen found that elective courses often yield higher student ratings than required courses (2002).

Peer Evaluation between College Faculty Members

Peer evaluations are equally important in regards to teacher evaluation. While student evaluations provide vital feedback, students are not as qualified in some aspects when it comes to evaluation. Instructors have experience and expertise in areas of teaching in which students do not. These areas include mastery of subject content, course objectives and goals, and organization. Peer review should be also utilized to provide information in subject matter and discipline specific aspects of instruction, as stated by Paulsen (2002).

Other benefits of peer review, determined by Kumrow and Dahlen (2002), include learning from observation of peers, promotion of appropriate and effective teaching practices, and gaining a sense of trust between peer reviewers. Also, peer review encourages the collaboration

of ideas to improve teaching methods between instructors. Improved instruction overall is the major benefit of peer evaluations.

Self-Evaluation of College Faculty

Self-evaluations are also a necessary part of the evaluation process. Self-evaluations provide instructors with the chance to reflect on their teaching and are growing in use as a form of summative evaluation. Personal statements and other documented forms of instructional effectiveness allow instructors the opportunity to evaluate their own methods and objectives while providing department staff and faculty committees personal data of which tenure and promotion can be based off of, as determined by Paulsen (2002).

Student Perceptions of Effective Instructors

Content-related and construct-related validity of a Teaching Evaluation Form (TEF) was conducted in a study from the American Education Research Journal by Onwuegbuzie et al. (2007) in order to determine student perceptions of effective college instructors. A mixed methods analysis determined that four meta-themes (communicator, advocate, responsible, and empowering) and nine secondary themes (responsive, enthusiast, student centered, professional, expert, connector, transmitter, ethical, and director) were present. The purpose of TEF's is to evaluate the quality of faculty instruction by providing useful information to faculty and administration.

In the survey, students associated the following characteristics with positively evaluating college instructors: teaching style, presentation skills, enthusiasm, preparation and organization, and fairness in grading. Characteristics associated with unsatisfactory evaluation of college

instructors included the belief that content taught was insufficient for students to earn desired grade, the instructor asking embarrassing questions, and an inexperienced instructor, according to Onwuegbuzie et al. (2007).

In another study completed by Frick et al. (2007), an electronic survey was distributed to determine how students perceived the quality of instruction they received from college instructors. The study found that strong correlations existed between student self-reports on academic learning time (ATL), how much information they learned, satisfaction with the course, perceptions of their mastery of stated course objectives, First Principles of Instruction, and global course ratings. Findings from this study align with previously published studies.

At a recent study published at Penn State University, researchers determined eight overall characteristics of quality instructors, based on a survey completed by both students and instructors, according to Willits et al. (2011). The survey found that quality college instructors were knowledgeable and prepared, clear and understandable, fair, enthusiastic and interested in the subject they are teaching, promotes a positive classroom atmosphere, promotes critical thinking utilizes technology in the classroom, and uses collaborative learning techniques in the classroom.

Another study from the University of Missouri conducted by Garton et al. (1999) set out to describe relationships between students, learning styles, student achievement, and instructor's teaching performance. A Group Embedded Figures Test (GEFT) was used to determine student learning styles and instructor's teaching performance was determined using a standard university evaluation tool. Student achievement was found to have a low positive correlation with their preferred way of learning. The variety of learning styles by students was also found to have little or no influence on students, perceptions of the instructors' teaching performance, or achievement in a course.

Teaching Behaviors of Successful Teachers

Teaching behaviors of successful teachers in an agricultural and life science college were explored and determined in a study published in the North American Colleges and Teachers of Agriculture (NACTA) by Roberts et al. (2012). Teaching behaviors were evaluated to determine learning activities used, teacher rapport behaviors exhibited, and cognitive levels reached. These five teachers in the study most commonly lectured and frequently used questioning in their classes. Most teachers also used cooperative learning activities in their classroom.

It was found that all five teachers displayed a high level of sensitivity, used a variety of learning techniques, asked more questions in their classrooms, and reached high levels of engagement and cognition in their classrooms. These teachers also used cooperative learning activities which promoted higher cognition levels. These five teachers also created a positive learning environment by exhibiting frequent positive verbal and nonverbal behaviors in their classroom.

Grades and Student Evaluations

A study by Feldman (1976) published in the Research in Higher Education Journal found that similar to existing research, college students' anticipated and actual grades in a course are positively correlated to their evaluations of that course and instructor. There was also found to be a close correspondence between the anticipated grade a student believes they will receive and the actual grade that is received. Grade point average was found to have little or no relationship with evaluations of the course or instructor. Student interest in the course or instructor was also found to be positively associated with course evaluation.

Hand Written versus Online Evaluations

There is ongoing debate as to whether online evaluations are effective measures of quality instruction. Many websites allow students to provide ratings through open comments and numerical ratings in various categories, with Rate My Professor being one of the most popular, stated by Brown et al. (2009). As a result of this survey, Brown et al. found that more than half of students who participated are more likely to use online ratings when making academic decisions. More than half of students believed that students are more honest in online ratings than student evaluations of teaching (SET) provided by colleges and universities, as described by Brown et al. (2009).

Effects of Evaluation on Instruction

Collecting evaluations, specifically student evaluations, has many effects on instruction, most of which are beneficial to the instructor. Student evaluations can be useful to provide feedback to modify, alter, or re-design a course. Mid-semester evaluations allow instructors the chance to address issues surrounding student learning and make necessary changes for the rest of the semester. Student evaluations can be created to specifically address issues or topics instructors would like feedback on, according to Cornell's Center for Teaching Excellence (2014).

Stanford University's Center for Teaching and Learning (1997) determined that the focus of student evaluations should not be for the teacher to improve their performance but to make changes that allow students to learn more effectively. Instructors are encouraged to discuss results of student evaluations with knowledgeable personnel in their field to determine what changes should be made. The Center for Teaching and Learning determined four common areas of teaching that most ratings cover and areas that teachers need to focus on: state course objectives

clearly and follow them, present classroom material at the appropriate pace, develop students' critical thinking skills and conceptual understanding, and plan assignments that solidify understanding of material by students.

Evaluation for Promotion and Tenure

Promotion, tenure, and salary raises are often influenced by the responses of student evaluations of a professor and the courses they teach, according to Birnbaum (n.d.) of California State University. This often causes faculty members to change their courses in a way that will improve their evaluations. In a survey conducted at the university, many professors believed that the current use of evaluations for promotion and tenure encourages lowering standards in order to gain better evaluations and promotes “watering down” of course work. Both students and professors surveyed feel that students are motivated to earn good grades and professors are motivated to earn good student evaluations; the focus is not about learning and teaching.

Summary

The use of evaluation in education is important to provide feedback to instructors, faculty, and administrators. Student evaluations can provide information regarding raises, promotion, and tenure. These evaluations also allow instructors to modify courses and provide students with improved learning experiences (Center for Teaching and Learning, 2013). Other methods of evaluation, including self-evaluation and peer evaluation, are just as significant as student evaluation. In order to adequately evaluate teaching, clear expectations must be set by faculty, multiple sources and types of data should be utilized, and the purpose and use of collected data must be identified (Paulsen, 2002).

Chapter 3 Methods

Previous studies have laid the groundwork for this research to occur. Similar studies have occurred in Pennsylvania and throughout the United States but have not focused on an agricultural college. A method and corresponding procedures was developed in order to implement the study and collect effective data. This chapter describes the methods used to generate, collect, and analyze data for this research project. A post-hoc analysis occurred for this project in order to differentiate between means of participants' responses.

Purpose

The purpose of the descriptive research study was to determine how faculty in the Pennsylvania State University's College of Agricultural Sciences engage in the scholarship of teaching and learning. The study was guided by the following research objectives:

1. Identify Penn State College of Agricultural Sciences faculty sources of instructional assessment.
2. Describe Penn State College of Agricultural Sciences faculty perceptions of effectiveness of instructional assessment to improve teaching practice.
3. Describe other measures of scholarship of teaching and learning College of Agricultural Sciences faculty engage in.

Theoretical Foundation

Boyer (1990) has created conversation as to what constitutes scholarly teaching and work. His work has influenced how educators teach, evaluate teaching, and reward teaching across the educational spectrum. Enhancing knowledge of scholarship of teaching and learning has become more common in post-secondary settings; college and universities often hold workshops and seminars to provide faculty and students with a more in depth understanding (Lang et al., 2010).

In an agricultural setting, “assessment of faculty performance should recognize the importance of both teaching and research,” according to Lang et al., (2010). The use of evaluation should be about the assessment and improvement of teaching and learning, as it allows for development, accountability, and innovation. The process of assessment, utilization of the scholarship of teaching and learning, and evaluation should recognize and reward excellent teachers throughout, as determined by Lang et al., (2010).

Instructional assessment is one measure of accountability that is necessary for evaluation of student learning and progress. Instructional assessment includes varied measures to evaluate student progress in meeting instructional goals, objectives, or standards, which may be set in place by the instructor. Instructional assessment allows for a deeper understanding of how students are progressing towards meeting standards and objectives (Ohio Department of Education 2014).

The Danielson Group’s Framework provides the basis for effective instruction through four domains of teaching responsibility. This framework is used for teaching in the state of Pennsylvania. Each domain contains five to six different components that describe a different aspect of a domain. Overall, there are twenty two components that make up teaching

responsibility. The framework can be used in a variety of settings but provides the most value when used for teaching purposes, according to the Danielson Group (2013).

The first domain includes planning and preparation for instruction. As part of this domain of teaching, an instructor should be able to demonstrate knowledge of content, pedagogy, students, and resources. An instructor should be able to set instructional outcomes while designing coherent instruction and appropriate student assessments, according to the Danielson Group (2013). Planning and preparation is necessary for effective teaching and maximum student learning.

The second domain pertains to the classroom environment. An instructor must create an environment of respect and rapport while creating a culture for learning. An instructor must manage and implement classroom procedures and student behavior. Also, physical space must be organized and maintained, as determined by the Danielson Group (2013). This idea has been recognized and verified by previous research as well.

Instruction, the third domain, consists of actually teaching students. Under this domain, instructors must communicate with students, ask questions, and promote discussion among students to encourage learning. Instructors must actually engage students in learning. Instructors must use assessment to measure learning and also demonstrate flexibility, as acknowledged by the Danielson Group (2013).

The fourth and final domain pertains to professional responsibilities of instructors. These components include reflecting upon teaching, maintaining accurate records, and communicating with students' families. This domain also entails that instructors must participate professionally in their community, must strive to grow and develop professionally, and must demonstrate and exhibit professionalism, as determined by the Danielson Group (2013).

The Framework for Teaching developed by the Danielson Group is a research based teacher responsibility structure broken down into four main domains, each containing several of

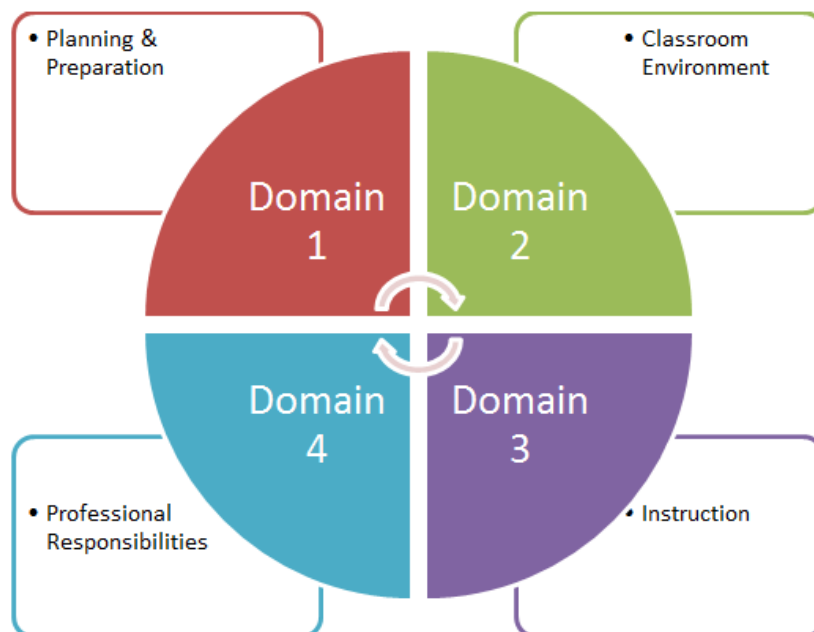
twenty two overall components of effective instruction. Each component describes a different aspect of one of the four domains and together, they make up what the Danielson Group views as the most effective means of instruction (The Danielson Group, 2013).

Conceptual Framework

As displayed in Figure 3.1, the four domains of teaching work together and influence instruction. As Danielson's Framework for Teaching illustrates, instruction and professional responsibilities are two major components of teaching. Under these domains include areas such as assessment, evaluation, and reflection. The factors under each domain are equally important and an effective teacher must strive to fulfill all domains.

Figure 3.1

Danielson's Framework of the Four Domains of Learning as it Relates to Teaching and Instruction.



Population

The population of the study included faculty and instructors in the College of Agricultural Sciences at the Pennsylvania State University who have taught an undergraduate course in 2014; spring, summer, or fall semester at the University Park campus. A frame of all individuals who have instructed a course during this time period was obtained from the department head of each of the nine departments in the College of Agricultural Sciences. An introductory email was sent to each of the department heads describing the research study and the need for names of instructors in that department that had taught a course in 2014. Several department heads met with the researcher to further discuss the study. The final population to meet the criteria of the study included 168 individuals. The population of 168 allowed for a census to be conducted.

Dillman, Smyth, and Christian (2009) determined that there are four types of survey error: coverage, measurement, sampling and nonresponse. Coverage error was not a concern because all individuals met the criteria needed to be included in the survey. Sampling error was not of concern because a census was conducted. Frame error was reduced because each name was checked to ensure that the individual was a teaching faculty member in the College of Agricultural Sciences. Each individual also had a Penn State University provided email address that was used in the survey, which also reduced frame error. (Dillman, Smyth, and Christian, 2009).

Non-Response Error

Non-response error is a primary source of error that can occur through surveys.

“Nonresponse error stems from not getting everyone who was sampled to respond to the survey request,” according to Dillman et al. (2009) (p.17). Nonresponse error is often a result of disinterest in the survey topic, length of the survey, and presentation of the survey questions. In order to minimize nonresponse error, an incentivized item, a magnet in this case, was sent to each potential survey recipient.

Of the 168 possible responses, 113 individuals completed the instrument for a response rate of 67%, well within acceptable ranges of social science research. However, to control for non-response error, a comparison of late to early respondents was conducted, which showed no distinguishable difference.

Data Collection

Data was collected between the months of November 2014 and December 2014. The study spanned over the course of four weeks during which the data was collected using an online survey tool, SurveyMonkey. Dillman’s Total Tailored Design Method was the basis for the research (Dillman et al., 2009). Mixed mode surveys provide many benefits including a lower cost, improved timeliness, and reducing nonresponse error (Dillman et al., 2009). A Type 1 of the mixed mode surveys according to Dillman et al. (2009) was chosen as the data collection outline for the study. This type was chosen based on its alignment with research objectives and benefits this type of survey offers.

A Type 1 mixed-mode survey uses one mode to contact the potential participants in the survey and encourages a response through a different mode (Dillman et al., 2009). In this

particular study, respondents were notified of the study using a mailed pre-survey notification letter that was sent to each of respondents' Penn State University Park mailing address on November 4th. Each letter contained an agriculturally oriented magnet customized and purchased as a research incentive. "Providing potential respondents with token financial incentives (ranging from \$1-\$10) with the survey request has been shown to significantly increase the number of people who respond" (p. 24), according to Dillman et al. (2009). The pre-survey notification letter described the survey and designated that the respondent would receive a survey link via email within the next couple of days.

The first email containing the survey link was sent to 168 potential respondents on November 12th. After this email, two additional reminder emails were sent to the respondents to prompt them to complete the survey and thank them for their support of the research project.

Table 3-1 shows the contact outline of the potential respondents.

Table 3-1 *Contact Outline to Potential Respondents*

Contact	Content	Beginning Date	Recipients
1	Pre-Survey Notification Letter sent by mail	11/05/14	168
2	Initial Contact Email: "Investigating Scholarship of Teaching and Learning"	11/12/14	168
3	1 st Reminder Email: "SoTL Survey"	11/20/14	111
4	Final Reminder Email: "Undergrad Research on SoTL"	12/02/14	69
5	Survey Closed	12/20/14	-

In the initial contact email and the reminder emails, a link to the online survey was provided via SurveyMonkey. The link was tied to each of the potential respondents' emails and allowed each individual to access the survey at their personal convenience. In case of problems, questions, or concerns, several phone numbers and emails of the researcher and the research advisor were posted in the emails and on the first page of the online questionnaire.

Instrumentation

An online survey tool, Survey Monkey, was utilized to create the research instrument and address the three research objectives. The survey can be characterized into four sections, as follows:

Section 1: Student Rating of Teaching Effectiveness (SRTEs)

Section 2: Evaluation of Teaching

Section 3: Scholarship of Teaching and Learning

Section 4: Demographics

The research instrument was developed with the assistance of a professional in the field of agricultural education who has experience with surveys and research. The questions were created in order to address the objectives of the study. The survey that was formulated as a result consisted of nominal and Likert-scale questions which addressed the three research objectives of the study.

The instrument contained two similar Likert-scales within the survey. A five point Likert-scale was used to gather data that the use of Student Ratings of Teacher Effectiveness (SRTEs) have been impactful on the instructor's pedagogical practice. The five point scale was designed as

1-Strongly Disagree, 2-Disagree, 3- Neutral, 4-Agree, and 5-Strongly Agree. The five-point scale questions were developed by the researcher to achieve a more affluent data collection.

Questions Content

The first section of the instrument attempted to determine the current use of SRTEs by instructors in the College of Agricultural Sciences at the Pennsylvania State University. This section was composed of three questions. The first question asked the participant how they evaluate their teaching performance. The participant could select personal reflection, peer evaluation, student evaluation, or list another form. The second question asked participants if they add or modify questions to the evaluation delivered at the end of their course. Participants could select yes or no. The next question was open ended and asked how information from the SRTE is used to inform their teaching or pedagogical practice. The next question, again open ended, asked respondents to provide an example of feedback from SRTEs that they have used to change or modify their teaching practice. A Likert Scale, 1-Strongly Disagree, 2-Disagree, 3- Neutral, 4-Agree, and 5-Strongly Agree, was used to answer the next question that SRTEs are extremely representative of student perspectives in the instructor's courses. The following two questions were open ended: what are the benefits of SRTEs and what are the limitations of SRTEs? The next two questions in this section both used Likert scales similar to scales used in earlier questions: 1-Strongly Disagree, 2-Disagree, 3- Neutral, 4-Agree, and 5-Strongly Agree. Instructors were asked to rate their beliefs that SRTEs are extremely impactful on their teaching practice and that they are always able to use SRTE comments to improve their courses. The last question in this section asked if other forms of student evaluation were administered throughout their courses in addition to the SRTE.

If respondents answered yes, they were taken to another question regarding student evaluations. Participants were asked how often they administer other forms of evaluation in their classes. Possible answer choices included once a semester, multiple times throughout a semester, and at the end of the semester. Participants were then directed to another question asking what format of evaluations they administer: online or in class, face to face. This section then transitioned into questions regarding peer evaluation. Participants were asked if they engage in peer evaluation of their instruction. Possible answer choices included yes-it is required, yes, I chose to engage in peer instruction, or no. If participants answered that they do participate in peer evaluation, they were directed to a question that asked how often. Possible answers included once a semester, more than once a semester, once a year, every other year, or respondents could specify another amount. The next question asked participants to write in an answer of how many times a semester they have their courses evaluated by a peer. The following open-ended questions asked participants to describe the benefits of peer evaluation as well as the limitations of peer evaluation. The following question again used a Likert scale and stated that peer evaluation has been impactful on their teaching practice. Respondents answered using the following scale: 1- Strongly Disagree, 2-Disagree, 3- Neutral, 4-Agree, and 5-Strongly Agree. The last question in this section asked participants to provide an example of how peer evaluation has changed their teaching practice.

The third section of questions pertained to the Scholarship of Teaching & Learning. The first question required participants to select yes or no as to whether they engage in other forms/methods of Scholarship of Teaching & Learning. If participants selected yes, they were directed to another question to describe how else they engage in the Scholarship of Teaching & Learning. The next question asked all participants whether they seek out professional development seminars or conferences focused on teaching and learning topics and could be answered yes or no. The following open-ended question asked when the last seminar or

conference within the last two years was attended by the instructor. A follow up open-ended question asked respondents to state the topic of the last seminar attended. The next question asked participants to identify their primary professional organization, also an open-ended question. The next question, a yes or no question, asked if the instructors' primary professional organization provided seminars or sessions on teaching and learning. The next two questions related to the North American Colleges and Teachers of Agriculture (NACTA) organization: if the instructor was a member and if they ever attended a NACTA conference. The following question asked if scholarly journals on teaching and learning topics were read; responses included yes-frequently, yes-seldom, and no. The next question was open-ended and asked how the Scholarship of Teaching & Learning is supported in the department, college, and university. The last question in the section asked participants to design their ideal teaching evaluation process, again open-ended.

The last section focused on demographics of the frame for the study. The first question asked participants to identify their rank in the College of Agricultural Sciences: instructor, assistant professor, associate professor, or full professor. The following open-ended question asked respondents to identify the number of years of prior-teaching experience (formal or non-formal) that they have. The next question asked participants to identify their gender. A similar question shadowed and asked respondents to provide their current age. The final question in the survey asked participants to identify which department in the College of Agricultural Sciences they instruct under.

Validity

Measurement error occurs when survey respondents provide answers that are inaccurate or imprecise (Dillman, Smyth, and Christian, 2009). Measurement error is often the result of survey questionnaire structure such as poor question wording or design. An attempt to

minimize measurement error occurred prior to the distribution of the actual survey was carried out with a panel of experts in agricultural education. This panel of experts was used to determine validity of the survey. According to Phelan and Wren (2005), validity refers to “how well a test measures what it is purported to measure.”

The panel consisted of three experts from The Pennsylvania State University. All experts were current professionals with experience in assessing and enhancing teaching and learning. The experts reviewed the survey and provided recommendations that would increase the validity of the questionnaire. The survey was improved based on the panel of experts’ recommendations before the survey was initially sent out to the study’s frame.

Reliability

According to Phelan and Wren (2005), reliability “is the degree to which an assessment tool produces stable and consistent results.” Reliability was checked with a post-hoc test utilizing Cronbach’s alpha which showed all questions to be reliable in response with a value over 70.

Data Analysis

The data collected from the study was downloaded into Microsoft Excel 2010 from SurveyMonkey in order to be coded. The Statistical Package for the Social Sciences was then used to analyze the data based on the three research objectives of the study. 113 out of the total 168 teaching faculty in the College of Agricultural Sciences responded to the survey, with the use of a research incentive and a well-structured survey. Data from 113 of the 168 participants was then coded, compiled, and analyzed.

Summary

The limited population of agricultural instructors who have taught a course in 2014 in the College of Agricultural Sciences allowed all 168 participants to be included in the study which 113 responded. A questionnaire was developed addressing the three research objectives of the study. All potential participants were initially contacted with a letter and research incentive, with several reminder emails to follow. A panel of experts reviewed all questions for reliability purposes while a post-hoc validity test was carried out. The actual survey was carried out, data was collected, and coded for use.

Chapter 4 Results

Previous research regarding effective evaluation was the basis for this study. Predetermined methods guided the study and data was collected to address research objectives. The following chapter outlines the results collected as part of the study. The results correspond to the research objectives of the study.

Purpose

The purpose of the descriptive research study was to determine how faculty in the Pennsylvania State University's College of Agricultural Sciences engage in the scholarship of teaching and learning. The study was guided by the following research objectives:

1. Identify Penn State College of Agricultural Sciences faculty sources of instructional assessment.
2. Describe Penn State College of Agricultural Sciences faculty perceptions of effectiveness of instructional assessment to improve teaching practice.
3. Describe other measures of scholarship of teaching and learning College of Agricultural Sciences faculty engage in.

Findings for Objective 1- Sources of Instructional Assessment

Objective one of the study was to identify sources of instructional assessment utilized by faculty in Penn State's College of Agricultural Sciences. As show in Table 4.1, 100% (n=113) of the 113 respondents indicated that they do participate in some form of instructional assessment.

94% (n=106) participate in self-evaluation, 96% (n=108) participate in student evaluation, and 78% (n=88) participate in peer-evaluation.

Table 4.1 *Instructional Assessment in the College of Agricultural Sciences*

Instructional Assessment	Frequency (f)	Percentage (%)
Self-Evaluation	106	93.81%
Student Evaluation	108	95.57%
Peer Evaluation	88	77.88%

Student Rating of Teaching Effectiveness (SRTEs)

The mandated student evaluation at the Pennsylvania State University is the SRTE. SRTEs are delivered online to students at the end of the semester. Within the mandated Penn State SRTEs, options are available to add or modify questions to the evaluation which is delivered at the end of the course. Of all 113 respondents to the survey, 83% do not add or modify the evaluation while 17% do. These findings can be viewed in Table 4.2

Table 4.2 *Student Rating of Teaching Effectiveness*

SRTEs	Frequency (f)	Percentage (%)
Modify/Add Questions	19	16.8
Do not Add/Modify Questions	94	83.2

Findings for Objective 2- Perceptions of Instructional Assessment to Improve Teaching

Objective two of the research study was to describe faculty perceptions of instructional assessment in order to improve teaching. When asked how the results of the SRTEs are used to inform their teaching or pedagogical practice, respondents answered with similar ideas. 101 out of 113 responses were collected for this question. These ideas included addressing student comments, making course adjustments, results were not useful, looking for trends in student responses, improve teaching and instruction, measuring student satisfaction, and changing materials used throughout class. These results can be found in table 4.3 below.

Table 4.3 *Student Rating of Teaching Effectiveness to inform Pedagogical Practice*

SRTE Results	Frequency (f)	Percentage (%)
Student Comments	31	30.69%
Course Adjustments	20	19.80%
Results Not Useful	20	19.80%
Look for Trends	15	10.89%
Improve Teaching and Instruction	10	9.90%
Measure Student Satisfaction	7	6.93%
Change Materials Used	2	1.98%

Participants in the survey were asked to provide an example of feedback from the SRTEs that was used to change their teaching practice. 91 out of 113 responses were recorded for this question. Participants' responses made up the following categories: changing the class planning and dynamics, altering classroom lectures, altering assignments, changing assessment measures, addition of field trips, or the information was not applicable. The results can be found in table 4.4 below.

Table 4.4 *Student Rating of Teaching Effectiveness to inform Pedagogical Practice**examples*

SRTE Results	Frequency (f)	Percentage (%)
Class Planning and Dynamics	29	31.87%
Altering Classroom Lectures	19	20.88%
Altering Assignments	14	15.38%
Information was Not Applicable	12	13.19%
Changing Assessment Measures	11	12.09%
Addition of Field Trips	6	6.59%

Participants were then asked to respond to a 5 point Likert-Scale question: I believe the SRTEs are extremely representative of student perspectives in my courses. Participants in the survey chose from the following options: strongly disagree, disagree, neutral, agree, and strongly agree. 108 responses were recorded. The results can be observed in Table 4.5 below.

Table 4.5 *Student Rating of Teaching Effectiveness Representation of Student**Perspectives*

SRTE Results	Frequency (f)	Percentage (%)
Strongly Disagree	12	11.11%
Disagree	24	22.22%
Neutral	40	37.04%
Agree	31	28.70%
Strongly Agree	1	.93%

Participants were asked to describe what they believe are benefits of the SRTEs. The question was open ended to allow respondents the opportunity to more easily express their beliefs. The 101 responses were categorized into 6 categories: feedback, attitudes, provision of

data, open ended responses, not beneficial, and course improvement. The results can be viewed in Table 4.6 below.

Table 4.6 *Benefits of SRTEs*

SRTE Results	Frequency (f)	Percentage (%)
Feedback	29	28.71%
Attitudes	20	19.80%
Provision of Data	15	14.85%
Open Ended Responses	14	13.86%
Not Beneficial	14	13.86%
Course Improvement	9	8.91%

Participants were asked to describe what they believe are the limitations of the SRTEs. The question was open ended to allow respondents the opportunity to more easily express their beliefs. The 101 responses were categorized into 6 categories: low student participation, bias, unconstructive feedback, unrealistic responses, no incentive to complete, or SRTEs were not applicable. The results can be viewed in Table 4.7 below.

Table 4.7 *Limitations of SRTEs*

SRTE Results	Frequency (f)	Percentage (%)
Low Student Participation	35	34.65%
Bias	28	27.72%
Unconstructive Feedback	19	18.81%
Unrealistic Responses	9	8.91%
No Incentive to Complete	7	6.93%
Not Applicable	3	2.97%

The following question used a 5-point Likert-Scale for participants to select their responses. Participants were asked to rate the following question: I believe the SRTEs are extremely impactful on my teaching (or pedagogical) practice. Participants were able to select from the following options: strongly disagree, disagree, neutral, agree, and strongly agree. The 106 respondents' responses are found in Table 4.8 below.

Table 4.8 *Student Rating of Teaching Effectiveness Representation of Teaching Practices*

SRTE Representation	Frequency (f)	Percentage (%)
Strongly Disagree	6	5.66%
Disagree	29	27.36%
Neutral	39	36.79%
Agree	32	30.19%
Strongly Agree	0	0%

The following question was similar to the previous one. A 5-point Likert Scale was used for participants to respond to the following statement: I am always able to use SRTE comments to improve my course. Respondents used the same answer scale as in previous questions: strongly disagree, disagree, neutral, agree, and strongly agree. Results can be viewed in Table 4.9 below.

Table 4.9 *Student Rating of Teaching Effectiveness Course Improvement*

SRTE Course Improvement	Frequency (f)	Percentage (%)
Strongly Disagree	5	4.72%
Disagree	29	27.36%
Neutral	37	34.91%
Agree	33	31.13%
Strongly Agree	2	1.89%

The following question asked survey participants if they administer any other forms of student evaluations in addition to SRTEs. Of the 109 respondents who answered the question, 58 or 54.72% answered yes. The remaining 48 or 45.28%, answered no. For the 58 participants who answered yes to the question, they were then prompted to another question that asked how often other forms of student evaluations are administered in classes. Respondents had the option to choose once a semester, multiple times throughout a semester, or at the end of the semester. Results can be viewed in Table 4.10 below.

Table 4.10 *Student Evaluation Administration*

SRTE Course Improvement	Frequency (f)	Percentage (%)
Once a Semester	29	50.00%
Multiple Times a Semester	17	29.31%
End of the Semester	12	20.69%

The same 58 participants who do administer additional student evaluations were then asked what form the evaluations were administered in: online or face to face. 11 survey participants, or 29.73%, administered forms online while the remaining 26, or 70.27%, administered in class, face to face evaluations.

The next section of the survey shifted to peer evaluation of instruction. Participants were first asked if they engage in peer evaluation of their instruction. Possible answers included yes-it is required, yes-I choose to engage in it, or no. Results can be viewed in Table 4.11 below.

Table 4.11 *Peer Evaluation of Instruction*

Peer Evaluation of Instruction	Frequency (f)	Percentage (%)
Yes- It Is Required	65	61.32%
Yes- I Choose to Engage	21	19.81%
No	20	18.87%

Participants were then asked how often they participate in peer evaluation of their instruction. Answer choices included once a semester, more than once a semester, once a year, every other year, or other in which participants were asked to specify. Of the 10 respondents who chose other and were asked to specify, 3 responded that it was required per department request, 3 responded that it was dependent upon the course, 2 responded peer evaluation occurs with every course, 1 responded with every few years, and 1 responded that it is dependent upon rank. Full results can be viewed in Table 4.12 below.

Table 4.12 *Occurrence of Peer Evaluation*

Occurrence of Peer Evaluation	Frequency (f)	Percentage (%)
Once a Semester	40	46.51%
More than Once a Semester	4	4.65%
Once a Year	18	20.93%
Every Other Year	14	16.28%
Other (Specified)	10	11.63%

For the 4 participants who responded that they have peer evaluation more than once a semester, each individual had a different response: 2, 3, 4, or 10 times a semester.

Participants were asked to describe what they believe are benefits of the peer evaluation. The question was open ended to allow respondents the opportunity to more easily express their

beliefs. The 99 responses were categorized into 5 categories: positive feedback, constructive criticism, more reliability, no benefits, and evaluation not available. The results can be viewed in Table 4.13 below.

Table 4.13 *Benefits of Peer Evaluation*

Peer Evaluation Benefits	Frequency (f)	Percentage (%)
Positive Feedback	34	34.34%
Constructive Criticism	30	30.30%
More Reliability	17	17.17%
Not Beneficial	15	15.15%
Evaluation Not Available	3	3.03%

Participants were asked to describe what they believe are the limitations of peer evaluations. The question was open ended to allow respondents the opportunity to more easily express their beliefs. The 94 responses were categorized into 5 categories: bias, poor timing, limited depth, no limitations, and not provided feedback. The results can be viewed in Table 4.14 below.

Table 4.15 *Limitations of Peer Evaluation*

Peer Evaluation Limitation	Frequency (f)	Percentage (%)
Bias	39	41.49%
Poor Timing	25	26.60%
Limited Depth	19	20.21%
No Limitations	8	8.51%
Not Provided Feedback	3	3.19%

The following question used a 5-point Likert-Scale for participants to select their responses. Participants were asked to rate the following question: Peer evaluation has been very

impactful on my teaching (or pedagogical) practice. Participants were able to select from the following options: strongly disagree, disagree, neutral, agree, and strongly agree. The 106 respondents' responses are found in Table 4.16 below.

Table 4.16 *Peer Evaluation Impact on Teaching Practice*

Peer Evaluation Impact	Frequency (f)	Percentage (%)
Strongly Disagree	8	7.55%
Disagree	17	16.04%
Neutral	43	40.57%
Agree	37	34.91%
Strongly Agree	1	0.94%

The following question was open ended and allowed participants to type their own response. The question asked if participants could provide an example of how peer evaluation has changed their teaching (or pedagogical) practice. Responses were categorized into the 6 following categories: improve instruction, not applicable, increase student engagement, haven't received feedback, more eye contact with students, and to receive tenure. Full results can be viewed in Table 4.17 below.

Table 4.17 *Peer Evaluation Impact on Teaching (Pedagogical) Practices*

Peer Evaluation on Teaching	Frequency (f)	Percentage (%)
Improve Instruction	32	44.44%
Not Applicable	22	30.56%
Increase Student Engagement	8	11.11%
Haven't Received Feedback	5	6.94%
More Eye Contact with Students	4	5.56%
Receive Tenure	1	1.39%

Findings for Objective 3- Measures of Scholarship of Teaching and Learning

Objective three of the study was to describe other measures of Scholarship of Teaching & Learning that faculty at Penn State's College of Agricultural Sciences engage in. Of the 106 respondents who answered the question as to whether they participate in other forms or methods of teaching and learning, 62 or 58.49% answered yes while 44 or 41.51% answered no. Of the participants who answered that they do participate in other forms, the results were categorized into 6 categories: conferences/seminars, events through the Schreyer Institute, instructing classes on S&T, reading material, not applicable, and measuring student learning. Results can be found in Table 4.18 below.

Table 4.18 *Engagement in Scholarship of Teaching & Learning*

Scholarship of Teaching & Learning	Frequency (f)	Percentage (%)
Conferences/Seminars	18	28.57%
Schreyer Institute	14	19.05%
Teach Classes on S&T	12	22.22%
Reading Material	9	14.29%
Not Applicable	6	9.52%
Measure Student Learning	4	6.35%

The following question asked survey participants if they seek out professional development seminars or conferences focused on teaching and learning topics. Of the 106 individuals who responded to the question, 48 or 45.25% responded yes while 58 or 54.72% responded no.

The next question was open-ended in format. The question asked survey participants to state the date of the last seminar or conference they attended regarding teaching and learning in

the last two years. Data from the 70 respondents was divided into four categories. The results can be viewed in Table 4.19 below.

Table 4.19 *Teaching and Learning Conferences or Seminars*

Conferences or Seminars	Frequency (f)	Percentage (%)
2014	31	44.29%
2013	6	8.57%
2012	5	7.14%
Not Applicable	28	40.00%

The following question asked respondents to identify the topic of the last seminar they attended. 62 responses were collected. The question was open-ended and responses were categorized into six categories: instruction, not applicable, within field of study, technology, assessment, and evaluation. Results can be viewed in table 4.20 below.

Table 4.20 *Teaching and Learning Conference or Seminar Topics*

Conference or Seminars Topics	Frequency (f)	Percentage (%)
Instruction	21	33.87%
Within Field of Study	12	19.35%
Technology	11	17.74%
Assessment	4	6.45%
Evaluation	3	4.84%
Not Applicable	11	17.74%

Participants were then asked to provide their primary professional organization. Within the 99 responses, participants were then asked if the primary professional organization of which they belong provides seminars/sessions on teaching and learning. 106 responses were collected.

73 or 68.87% answered yes while 33 or 31.13% answered no. Survey participants were then asked if they are a member of the North American Colleges and Teachers of Agriculture (NACTA) organization. 106 responses were collected for this question. 15 or 14.15% of respondents answered yes while 91 or 85.95% answered no.

These same 106 individuals also responded to the following question: have you ever attended a NACTA conference? 8 or 7.55% responded yes while 98 or 92.45% responded no. The same 106 participants responded to the following question which asked if scholarly journals on teaching and learning topics were read. Three possible answer choices were given: yes-frequently, yes-seldom, and no. Responses can be viewed in Table 4.21.

Table 4.21 *Teaching and Learning Scholarly Journals*

Scholarly Journals	Frequency (f)	Percentage (%)
Yes-Frequently	9	8.49%
Yes-Seldom	58	54.72%
No	39	36.79%

The following question asked participants to explain how the Scholarship of Teaching & Learning is supported in their department, college, and the entire university. The question was open-ended to allow for more detail responses. 91 responses were collected. The responses were categorized into six categories: through Schreyer Institute, minimally supported, funding, seminars and workshops, not supported, and not applicable. The results can be viewed in Table 4.22 below.

Table 4.22 *Support of Scholarship of Teaching & Learning*

Teaching & Learning Support	Frequency (f)	Percentage (%)
Through Schreyer Institute	22	24.18%
Minimally Supported	19	20.88%
Funding	13	14.29%
Seminars and Workshops	13	14.29%
Not Supported	7	7.69%
Not Applicable	17	18.68%

The last several questions pertained to the demographics of the population. The first question asked participants to select their rank in the College of Agricultural Sciences from four provided choices: instructor, assistant professor, associate professor, or full professor. The responses of the 99 participants who answered the question can be viewed in Table 4.23 below.

Table 4.23 *Rank in the College of Agricultural Sciences*

Rank	Frequency (f)	Percentage (%)
Instructor	11	11.11%
Assistant Professor	12	12.12%
Associate Professor	29	29.29%
Full Professor	47	47.47%

The next question asked participants to state how many years of prior teaching experience (formal or non-formal of any age group) they have. The question was open-ended and yielded 105 responses. Responses ranged from 1 year to 48 years. Responses were broken down into 7 categories. The results can be viewed in Table 4.24.

Table 4.24 *Years of Prior Teaching Experience*

Years of Experience	Frequency (f)	Percentage (%)
1-3	7	6.67%
4-6	6	5.71%
7-9	9	8.57%
10-12	10	9.52%
13-15	12	11.43%
16-18	12	11.43%
19+	49	46.67%

Survey participants were then asked to identify their gender. 105 responses were obtained. 73 or 69.52% identified themselves as male while 32 or 30.48% identified themselves as female. The following question asked respondents to identify their current age. Ages were grouped into 7 categories which are identified in Table 4.25 below.

Table 4.25 *Ages of Participants*

Age	Frequency (f)	Percentage (%)
26-30	2	1.90%
31-35	4	3.81%
36-40	6	5.71%
41-45	16	15.24%
46-50	10	9.52%
51-55	22	20.95%
56+	41	39.05%

The final question in the survey asked participants to select the academic department in the College of Agricultural Sciences that they instruct in. The College of Agricultural Sciences houses nine academic departments. 100 responses were collected for this question and can be viewed in Table 4.26 below.

Table 4.26 *Academic Departments*

Academic Departments	Frequency (f)	Percentage (%)
Agricultural and Biological Engineering	0	0.0%
Agricultural Economics, Sociology, & Education	24	24.00%
Animal Science	13	13.00%
Ecosystem Science and Management	16	16.00%
Entomology	5	5.00%
Food Science	8	8.00%
Plant Pathology & Environmental Microbiology	2	2.00%
Plant Science	17	17.00%
Veterinary and Biomedical Sciences	15	15.00%

Summary

The results of the study indicated that the engagement in the Scholarship of Teaching & Learning by professors in Penn State's College of Agricultural Sciences is consistent with prior research conducted throughout the entire country (Orth et al., 2010). The sources of instructional assessment, self, peer, and student evaluations were also identified as a result of this study. Perceptions of instructional assessment, especially regarding the Penn State mandated SRTE, were also collected from the study. Lastly, other ways that Penn State College of Agricultural Sciences teaching faculty engage in the Scholarship of Teaching & Learning were determined.

Chapter 5 Discussion

Prior research of instructional assessment and evaluation indicate that various forms are used between faculty members. With minimal research studies focusing on faculty of agricultural colleges throughout the United States, little is known about instructional assessment of faculty members at Penn State's College of Agricultural Sciences. This study focused on gathering explicit data in order to gain a better understanding of instructional assessment at the specific institution.

Purpose

The purpose of the descriptive research study was to determine how faculty in the Pennsylvania State University's College of Agricultural Sciences engage in the scholarship of teaching and learning. The study was guided by the following research objectives:

1. Identify Penn State College of Agricultural Sciences faculty sources of instructional assessment.
2. Describe Penn State College of Agricultural Sciences faculty perceptions of effectiveness of instructional assessment to improve teaching practice.
3. Describe other measures of scholarship of teaching and learning College of Agricultural Sciences faculty engage in.

Conclusions for Objective One

The current sources of instructional assessment among teaching faculty in the College of Agricultural Sciences at Penn State University were consistent with Paulsen's (2002) findings: peer evaluation, self-evaluation, and student evaluation. 77.88% partake in peer evaluation, 93.81% of teaching faculty partake in personal evaluation, and 95.58% partake in student evaluation. These three forms of instructional assessment are components of the Scholarship of Teaching & Learning.

Implications for Objective One

The data from the survey is consistent with previous research that effective teachers participate in peer evaluation, self-evaluation, and student evaluation (Paulsen, 2002). The barriers from the study show that the top reason for teaching faculty in the College of Agricultural Sciences not engaging in instructional assessment is that the evaluations are not viewed as beneficial. Teaching faculty feel that these evaluations are not beneficial due for various reasons, a common reason being bias.

The lack of peer evaluation is somewhat of a concern. Teaching faculty seem to neglect peer evaluation because of the time required to complete it and the stigma of bias surrounding it. Teaching faculty in the college rely on self and student evaluation. The idea that teaching faculty do not participate in peer evaluation as much as other forms of evaluation raises the question of how effective peer evaluation is and whether it should be mandated by all departments in the college.

Recommendations for Practice

The importance of participation in instructional assessment must be articulated to teaching faculty in the College of Agricultural Sciences. Teaching faculty who do not currently engage in instructional assessment, or do not engage in more than one form, will be given the opportunity to gain insight into the value and importance. For those who do participate in instructional assessment, an enhancement in the type and scope of assessment will be provided. Providing data on instructional assessment and educating teaching faculty that instructional assessment is beneficial will help increase utilization.

Conclusions for Objective Two

A variety of data was collected regarding the perceptions of teaching faculty in the College of Agricultural Sciences regarding instructional assessment. A large quantity of data was gathered regarding student evaluations, specifically the mandated Penn State Student Rating of Teaching Effectiveness (SRTE). Professors in the college feel neutral that the SRTEs are extremely representative of student perspectives in their courses. 37.04% (n=40) feel neutral while 22.22% (n=24) disagree and 28.70% (n=31) agree. Professors in the college feel neutral in that they are always able to use SRTE comments to improve their courses. 34.91% (n=37) feel neutral while 27.36% (n=29) disagree and 31.13% (n=33) agree.

Benefits of SRTEs provided by participants in the survey were categorized into six categories. The benefits of SRTEs included use for course improvement, the provision of feedback, provision of data and trends, student attitudes towards the course, the opportunity for students to expand on their beliefs through open-ended questions, or not beneficial. Limitations of SRTEs were also collected and categorized into six categories. The limitations included low

student participation, no incentive for students to complete the evaluations, a sense of bias from the evaluations, unconstructive feedback provided by students, unrealistic responses provided by students, or there were no limitations.

Of the 61.32% (n=65) participants who engage in peer evaluation because it is required and the 19.81% (n=21) participants who engage in peer evaluation because they choose to do so, frequencies ranged from every other year to more than once a semester. For those who do participate in peer evaluation of their course, respondents participate two, three, four, or ten times a semester. When asked to rate how impactful peer evaluation has been on teaching (pedagogical) practice, participants responded in the following way: 16.04% (n=17) disagree, 40.57% (n=43) feel neutral, and 34.91% (n=37) agree.

The survey asked participants to provide benefits of peer evaluation which were categorized into five categories. These categories included positive feedback, more reliable feedback than from SRTEs, constructive criticism offered, peer evaluation was not available, or no benefits were identified. Limitations of peer evaluation were also collected and categorized into five categories. These limitations included a sense of bias, evaluations were not in depth, evaluations occurred at inconvenient times throughout the semester, feedback was not given to professors after evaluations, and there were no identified limitations.

Implications for Objective Two

Faculty perceptions of instructional assessment generally include a sense of bias from peer and student evaluations. This sense of bias can determine if a teaching faculty member participates in one form of evaluation as well as how seriously the results will be taken. Faculty perceptions of instructional assessment also include an overall agreement that student and peer evaluations do provide adequate feedback, constructive criticism, and course improvements. It is

important that evaluations be monitored and adjusted in order to make necessary strides towards course and instructional improvement to promote student learning.

A lack of response for the survey question regarding how many times peer evaluation occurs throughout a semester does not make this data reliable. Four responses out of 113 participants is not significant and should therefore not be considered. Peer evaluation requirements depend greatly on the department within the college, which can also skew data. The survey did not have any questions on self-evaluation/reflection, other than if participants partake in this form of evaluation. It is unknown how this occurs, as well as how often, and if this form of evaluation is useful.

Recommendations for Practice

The importance of evaluation must be recognized and understood by all teaching faculty in the College of Agricultural Science. The sense of bias surrounding peer and student evaluation must be decreased, if not eliminated, in order to ensure teaching faculty that feedback and data is reliable. Evaluations should be mandated and regulated in each department as part of a college wide effort to improve instruction. Peer evaluation can be equally important and must not be ignored or neglected. Clear standards for peer evaluation should be made available by the College.

Results must also be shared with teaching faculty in order to ensure that feedback and suggestions can be taken into consideration and necessary changes can be made. 3.19% (n=3) participants in the survey declared that peer evaluation results were never shared with them. This brings up the point that changes cannot be made if feedback and results are never shared. Also, a survey to this degree should consist of more questions on self-evaluation and reflection. More data is needed on this form of evaluation in order to form adequate conclusions.

Conclusions for Objective Three

Data from the third objective of the study determined that teaching faculty in the College of Agricultural Science at Penn State do participate in other forms or methods of the Scholarship of Teaching & Learning. The Scholarship of Teaching & Learning is the engagement in research, functions include discovery, integration, application, and teaching in an applied setting (Boyer 1990).

Of the 93.8% of participants in the survey who do engage in other forms or methods of the Scholarship of Teaching & Learning, 58.49% (n=62) do engage in other forms or methods of Scholarship of Teaching & Learning while 41.51% (n=44) do not. These other forms or methods of engagement, aside from evaluation, were categorized into six categories. These categories include attendance of conferences/seminars, measuring student learning, through the use of reading material, involvement with the Schreyer Institute, teaching classes on Scholarship & Teaching, and not applicable.

One of the other forms of the Scholarship of Teaching & Learning as identified by Boyer (1990) is discovery. One identified way that teaching faculty engage in discovery is attending professional development seminars and conferences on teaching and learning topics. 45.28% (n=48) of participants do seek out and attend these conferences while 54.72% (n=58) do not. Of these conferences and seminars attended, six common topics were identified. These topics include assessment, evaluation, instruction, technology, within field of study, or not applicable. Participants in the study were also members of over 75 professional organizations, depending on their field of study.

Implications for Objective Three

The fact that teaching faculty in the College of Agricultural Sciences seek out Teaching and Learning opportunities implies that their importance is understood. Participants in the survey indicated the primary professional organization of which they belong. Data from over 50 primary professional organization was collected as a result of the survey.

However, teaching faculty do not seek out these opportunities as much as they should. This raises the question if departments within the college, and the college itself, should provide more opportunities for its faculty and professors to engage in Teaching and Learning seminars/workshops. Based on these lower participation rates, it also implies that participation in Teaching and Learning activities would increase if it was required by the department or the college. A common open-ended response in the survey was that the Schreyer Institute offers opportunities for engagement in Teaching & Learning activities but these often go unannounced.

Recommendations for Practice

With only about half of teaching faculty in the College of Agricultural Sciences actively seeking out and participating in Teaching & Learning opportunities, it is recommended that each of the nine departments, as well as the college as a whole, offer more opportunities for teaching faculty to attend and engage in. It is also recommended that opportunities offered through other parts of the university are passed on. In addition, teaching faculty must also have a thorough understanding of what the Scholarship of Teaching & Learning is as well as how they can participate in it.

Recommendations for Research

The findings from this study have paved the way for future research regarding the Scholarship of Teaching & Learning, specifically instructional assessment. First, research must be done to determine why teaching faculty use the methods of instructional assessment that they do while disregarding the use of others. Instructional assessment allows courses to be modified, personal growth and enhancement to occur, while also allowing student learning to occur. Also, research as to the requirements for instructional assessment by each department, and the college as a whole, must be completed. Barriers can be identified and overcome.

A second area of future study should entail further investigation into teaching faculty's perceptions of the Scholarship of Teaching & Learning overall. While many participants identified ways that they participate, many other participants did not understand the definition or context. If teaching personnel do not know or understand the Scholarship of Teaching & Learning, the question is raised of how can we expect them to participate in it? Further investigation should be completed to identify the reason for this trend.

Summary

Participation in the Scholarship of Teaching & Learning, specifically instructional assessment, is crucial to enhance personal growth and promote student learning. While colleges and universities across the country are utilizing and promoting involvement in Teaching & Learning activities, more faculty and professors at Penn State University must continue to become involved to their full potential. While this study has provided a clear outline of the status of Teaching & Learning perceptions and involvement in Penn State's College of Agricultural Sciences, further research must be completed to address other key questions that arose from the

results. Once further research has been completed about Teaching & Learning opportunities through the college can all issues surrounding Teaching & Learning in the College of Agricultural Sciences be addressed.

Appendix A: Participant Email Transcripts

First Email: Sent 11/12/14 to 165 participants

To: [Email]
From: "bxk5123@psu.edu via surveymonkey.com" <member@surveymonkey.com>
Subject: Investigating Scholarship of Teaching & Learning
Body: [CustomValue] [LastName],

Thank you so much for assisting with my Schreyer's Honors Undergraduate Research Project. I am very hopeful that it will allow me to become a better agricultural educator in the future and that it will potentially yield interesting findings for the College of Agricultural Sciences as a contribution to the scholarship of teaching and learning here!

As mentioned in the letter you hopefully received in your interoffice mail with our token of appreciation, here is your individual link:
<https://www.surveymonkey.com/s.aspx>

This link is uniquely tied to this survey and your email address. Please do not forward this message.

Please do not hesitate to contact at bxk5123@psu.edu if I can be of assistance or if you have questions!

Thank you again,

Bryanna
Schreyer's Honors Student
AEE Major

Please note: If you do not wish to receive further emails from us, please click the link below, and you will be automatically removed from our mailing list.
<https://www.surveymonkey.com/optout.aspx>

Second Email: Sent 11/20/14 to remaining 111 participants who did not respond

To: [Email]
From: "bxk5123@psu.edu via surveymonkey.com" <member@surveymonkey.com>
Subject: Reminder: SoTL Survey
Body: [CustomValue] [LastName],

Thank you so much for assisting with my Schreyer's Honors Undergraduate Research Project.

I know that it is a busy time of year (it certainly is for me as well!), so I thought I would send this friendly reminder. I really appreciate you taking 10 minutes to help with my data collection.

As mentioned in the letter you received in interoffice mail with our token of appreciation, here is your individual link:
<https://www.surveymonkey.com/s.aspx>

This link is uniquely tied to your account

Please do not hesitate to contact at bxk5123@psu.edu if I can be of assistance or if you have questions!

Thank you again,

Bryanna

Please note: If you do not wish to receive further emails from us, please click the link below, and you will be automatically removed from our mailing list.
<https://www.surveymonkey.com/optout.aspx>

Final Email: Sent 12/2/14 to remaining 69 individuals who did not complete the survey

To: [Email]

From: "bxk5123@psu.edu via surveymonkey.com" <member@surveymonkey.com>

Subject: Final Reminder: Undergrad Research on SoTL

Body: [CustomValue] [LastName],

Just a final reminder hoping that you can find 10 minutes to help me in my data collection for my Schreyer's Thesis.

As mentioned in the letter you received in interoffice mail with our token of appreciation, here is your individual link:

<https://www.surveymonkey.com/s.aspx>

This link is uniquely tied to your account.

Please do not hesitate to contact at bxk5123@psu.edu if I can be of assistance or if you have questions!

Thank you again,

Bryanna

Appendix B: Instrument

Date

Dear Dr. _____:

Due to your instructional responsibilities with undergraduates in the College of Agricultural Sciences in 2014, you have been selected as a critical partner in a study regarding the scholarship of teaching and learning, specifically assessment of instruction. The questions are intended to provide more knowledge regarding the scholarship of teaching and learning about faculty in the College of Agricultural Sciences. We need your help!

The purpose of the descriptive study is to determine how faculty in The Pennsylvania State University's College of Agricultural Sciences engage in the scholarship of teaching and learning, specifically instructional assessment. The study is guided by the following research objectives:

- 1. Identify Penn State College of Agricultural Sciences faculty sources of instructional assessment.*
- 2. Describe Penn State College of Agricultural Sciences faculty perceptions of effectiveness of instructional assessment to improve teaching practice.*
- 3. Describe other measures of scholarship of teaching and learning College of Agricultural Sciences faculty engage in.*

In order to improve instructional assessment in the College of Agricultural Sciences, we are asking you to complete a questionnaire that will be emailed in the next 7-10 days. The questionnaire will provide valuable information to contribute to our understanding of scholarship of teaching and learning. Participation in this research study will consist of 10-15 minutes of your time. There are no known risks associated with your participation. For your time and input, we have provided a small token of appreciation with the enclosed magnet. For any questions, concerns, or complaints involving the study, please contact Ms. Bryanna Kenno, AEE undergraduate and 2015 student teacher candidate via email at bxk5123@psu.edu or (717) 307-0307 or Dr. Daniel Foster, 211 Ferguson Building, University Park, PA 16802, (814) 863-0192 or email foster@psu.edu.

Completing this electronic survey indicates that you are giving the researcher permission to use the data collected for research purposes. Your participation in this study is confidential. No guarantees can be made regarding an interception of data sent electronically by any third parties. Please print this form for your records.

Thank you in advance for your time and input. We look forward to receiving your response!

Sincerely,

Bryanna Kenno
Schreyer Honors Student
Agricultural Extension and Education Major
2015 Student Teacher

cc: Dr. Daniel Foster, Undergrad Research Advisor

Introduction

Thank you for your participation in this survey regarding the Scholarship of Teaching & Learning and Instructional Assessment among faculty in Penn State University's College of Agricultural Sciences. Your participation in this brief, 10 minute survey provides valuable feedback for the College.

1. How do you evaluate your teaching performance? Please check all that apply.

Personal Reflection

Peer Evaluation

Student Evaluation

Other (Please specify)

2. Within the PSU mandated SRTEs (Student Rating of Teaching Effectiveness), do you add or modify questions to the evaluation delivered at the end of the course?

Yes

No

If yes, could you please provide examples of your modification?

3. How do you use the SRTE information to inform your pedagogical practice?

4. Could you provide an example of feedback from SRTEs that you used to change your practice?

5. I believe the SRTEs are extremely representative of student perspectives in my courses.

Strongly Disagree Disagree Neutral Agree Strongly Agree

6. What do you find to be the benefit of SRTE's?

7. What are the limitations of SRTE's?

8. I believe the SRTEs are extremely impactful on my pedagogical practice.

Strongly Disagree Disagree Neutral Agree Strongly Agree

9. I am always able to use SRTE comments to improve my courses.

Strongly Disagree Disagree Neutral Agree Strongly Agree

10. Do you administer any other forms of student evaluation in addition to the SRTE's?

Yes

No

11. If you answered yes, you do administer other forms of student evaluation, how often do you administer other forms in your classes?

Once a semester

Multiple times throughout a semester

At the end of the semester

12. If you answered yes, you do administer other forms of student evaluation, what format of evaluation do you administer?

Online

In class, face to face

Other (please specify)

13. Do you engage in peer evaluation of your instruction?

Yes It is required

Yes I choose to engage in peer evaluation

No

14. If you do engage in peer evaluation, how often do you participate?

Once a semester

More than once a semester

Once a year

Every other year

15. What do you find to be the benefits of peer evaluation?

16. What do you believe are the limitations of peer evaluation?

17. Peer evaluation has been very impactful on my pedagogical practice.

18. Could you provide an example of how peer evaluation has changed your pedagogical practice?

Strongly Disagree Disagree Neutral Agree Strongly Agree

19. Do you engage in other forms or methods of Scholarship of Teaching & Learning?

20. If yes, can you please describe how else you engage in the Scholarship of Teaching & Learning?

21. Do you seek out professional development seminars or conferences focused on teaching and learning topics?

Yes

No

22. When was the last seminar or conference you attended regarding teaching and learning in the last two years?

23. What was the topic of the last seminar you attended?

24. Do you read scholarly journals on teaching and learning topics?

Yes frequently

Yes seldom

No

25. If you could design your ideal teaching evaluation process, what would it be like?

26. Are you a member of the North American Colleges and Teachers of Agriculture? (NACTA)

27. Have you attended a NACTA conference?

Yes

No

28. How is your Scholarship of Teaching & Learning supported in the department, the college, and the university?

29. What is your rank in the College of Agricultural Sciences?

Instructor

Assistant Professor

Associate Professor

Full Professor

Other (please specify)

30. How many years of prior teaching experience do you have at the collegiate level?

31. Which academic department in the College of Agricultural Sciences do you instruct in?

Agricultural and Biological Engineering

Agricultural Economics, Sociology, and Education

Animal Science

Ecosystem Science and Management

Entomology

Food Science

Plant Pathology and Environmental Microbiology

Plant Science

Veterinary and Biomedical Sciences

Conclusion

This concludes the short survey. Thank you again for your participation and contribution!

BIBLIOGRAPHY

- Algozzine, B., Gretes, J., Flowers, C., Howley, L., Beattie, J., Spooner, F., Mohanty, G., & Bray, M. (2004). *Student Evaluation of College Teaching: A Practice in Search of Principles*. *College Teaching*, 52(4), 131-141. Retrieved September 24, 2013 from <http://www.tandfonline.com/doi/abs/10.3200/CTCH.52.4.134-141#.UHLFyb7D9Mt>
- Ballard, K., & Bates, A. (2008). *Making a Connection between Student Achievement, Teacher Accountability, and Quality Classroom Instruction*. *The Qualitative Report*, 13(4), 560-580.
- Birnbaum, M. H. (n.d.). *A Survey of Faculty Opinions Concerning Student Evaluations of Teaching*. Retrieved September 24, 2013 from <http://psych.fullerton.edu/mbirnbaum/faculty3.htm>
- Boyer, E. (1990). *Scholarship reconsidered: Priorities of the professoriate*. Princeton, N.J.: Carnegie Foundation for the Advancement of Teaching.
- Brown, M., Baillie, M., & Fraser, S. (2009). *Rating Ratemyprofessors.com: A Comparison of Online and Official Student Evaluations of Teaching*, *College Teaching*, 57:2. 89-92. Retrieved November 20, 2013 from <http://www.tandfonline.com/loi/vcol20>
- Buriak, P. & Shinn, G. (1989). *Mission, Initiatives, and Obstacles to Research in Agricultural Education: A National Delphi Using External Decision-Makers*. *Journal of Agricultural Education*, Winter 1989, 14-23. Retrieved September 24, 2013 from <http://pubs.aged.tamu.edu/jae/pdf/vol30/30-04-14.pdf>
- Calkins, S., & Micari, M. (2010). *Less-Than-Perfect Judges: Evaluating Student Evaluations*. *The NEA Higher Education Journal*, Fall 2010, 7-22.

- Center for Teaching and Learning. (1997). *Using Student Evaluations to Improve Teaching*.
Speaking of Teaching: Stanford University Newsletter on Teaching, 9(1), 1-4. Retrieved
from http://www.stanford.edu/dept/CTL/Newsletter/student_evaluations.pdf
- Cornell University Center for Teaching Excellence. (2013, August 20). *Student Evaluations*.
Retrieved September 24, 2013 from
<http://www.cte.cornell.edu/teaching-ideas/designing-your-course/student-evaluations.html>
- The Danielson Group. (2013). *Promoting Effective Teaching and Professional Learning*.
Retrieved March 23 2014 from <http://danielsongroup.org>
- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, mail, and mixed-mode surveys: the tailored design method*. (3rd ed.). Hoboken, N.J.: Wiley & Sons. Retrieved October 15, 2013.
- Feldman, K. A. (1976). *Grades and College Students' Evaluations of their Courses and Teachers*. *Research in Higher Education*, 4(1), 69-11. Retrieved September 24, 2013
from <http://link.springer.com/article/10.1007/BF00991462>
- Frick, T., Chadha, R., Watson, C., Wang, Y., & Green, P. (2009). *College Student Perceptions of Teaching and Learning, Quality*. *Education Tech Reserach Development*, 57, 705-720.
- Garton, B., Spain, J., Lamberson, W., & Spiers, D. (1999). *Learning Styles, Teaching Performance, and Student Achievement: A Relational Study*. *Journal of Agricultural Education*, 40(3), 11-20. Retrieved September 23, 2013 from
<http://bern.library.nenu.edu.cn/upload/soft/0-a/40-03-11.pdf>
- Kumrow, D., & Dahlen, B. (2002). *Is Peer Review an Effective Approach for Evaluating Teachers?* *Peer Review*, 75(5), 238-241.

Ohio Department of Education. (n.d.). *Using Effective Instructional Strategies: Instructional Assessment*. Retrieved April 29, 2014, from

<http://ims.ode.state.oh.us/ode/ims/rrt/research/>

Onwuegbuzie, A., Witcher, A., Collins, K., Filer, J., Wiedmaier, C., & Moore, C. (2007).

Students' Perceptions of Characteristics of Effective College Teachers: A Validity Study of a Teaching Evaluation Form Using a Mixed-Methods Analysis. *American Educational Research Journal*, 44(1), 113-160. Retrieved from

<http://aer.sagepub.com/content/44/1/113.abstract#cited-by>

Orth, M., Lang, N., Crawford, P., Habron, G., Holmes, V., & Johnson, S. (2010). *Evaluating Teaching Excellence across Diverse Disciplinary Units within Agriculture Higher Education*. *NACTA Journal*, March 2010, 10-16.

Paulsen, M. (2002). *Evaluating Teaching Performance*. *New Directions for Institutional Research*, 114, 5-18.

Roberts, T., Conner, N., Estep, C., Giorgi, A., & Stripling, C. (2012). *Examining the Teaching Behaviors of Successful Teachers in a College of Agricultural and Life Sciences*. *NACTA Journal*, 21-28.

Willits, F., Beierlein, J., Wade, B., Brennan, M., Ragan, L., Dillon, J., Waggett, N. (2011). *Perceptions of Students and Instructors at Penn State's University Park Campus*. Schreyer Institute for Teaching Excellence, 2010, 1-33.

ACADEMIC VITA

Bryanna T. Kenno
115 Mohr Road
Millersburg, PA 17061
bkenno4@gmail.com

Education

Bachelor of Science in Agricultural and Extension Education
Production Option
Minors: International Agriculture and Wildlife & Fisheries Science
The Pennsylvania State University Spring 2015
Honors in Agricultural and Extension Education
Thesis Title: How Professors at the Pennsylvania State University's College of
Agricultural Science Engage in the Scholarship of Teaching and Learning: A
Post-Hoc Analysis
Thesis Supervisor: Dr. Daniel D. Foster

Related Experience

Undergraduate Research Assistant
Ph.D. Candidate: Mrs. Laura Rice
Supervisor: Dr. Daniel D. Foster
Summer 2013-Spring 2014

Student Teaching Internship at Elizabethtown Area High School
Cooperating Teacher: Mr. Mark Anderson
University Supervisor: Dr. John Ewing

Awards and Achievements

Dean's List Every Semester
Collegiate FFA President, Treasurer
Alpha Tau Alpha
Gamma Sigma Delta

Activities

Short Term Study Abroad Experience in Germany
Undergraduate Research Assistant in Sweden
Domestic Study Away Trip to Colorado