

Thinking About Teaching: Does Mentoring a Student Teacher Cause a Cooperating Teacher to be More Reflective?

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## ABSTRACT

With increased standards and updated teacher evaluation procedures, in-service teachers have expressed concern about working with student teachers. Using Rodgers (2002) framework for reflection, two research questions were developed to measure the impact of student teachers on the reflective practices of cooperating teachers: *Does a student teacher cause a cooperating teacher to be more reflective?* and *Does a student teacher cause the cooperating teacher to have a greater amount of reflective moments?* Data from five teachers who completed surveys and 4 who completed interviews were used to answer the research questions in a qualitative study. The results indicated an inconclusive result in addressing *Does a student teacher cause a cooperating teacher to be more reflective?* In addition, the second question, *Does a student teacher cause the cooperating teacher to have a greater amount of reflective moments?*, was answered with a negative response. However, there were two unintended findings. The findings showed in-service teachers, who participated in the study, do not understand the meaning and process of reflection. Also, the in-service teachers repeatedly referred to metacognitive practices rather than reflective practices while evaluating their personal teaching. An argument was established to educate in-service teachers on the effective practice and process of reflection for improved teacher performance. Also, a link was made between metacognition and reflection and how the two processes used in tandem can inform the other.

## DEDICATION

This dissertation is dedicated to my wife, Erin, and three kids: Lucianna, Samuel, and Leo. Without their understanding, patience, and encouragement, the work and time needed to complete this project would never have been possible.

I would also like to dedicate this dissertation to my parents, Lynn and George, for teaching me the importance of hard work and dedication to a project once it is begun.

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## TABLE OF CONTENTS

	Page
CHAPTER I: INTRODUCTION.....	1
Background of the Problem .....	1
Rationale & Significance of the Study.....	4
Purpose of the Study .....	5
Theoretical Framework.....	6
Research Questions.....	8
Definition of Terms.....	8
Delimitations.....	9
Limitations .....	11
Researcher Bias.....	12
CHAPTER II. LITERATURE REVIEW .....	14
Reflection.....	15
Metacognition.....	18
Role of student teacher and cooperating teacher .....	22
Increase in performance .....	26
Summary.....	29
CHAPTER III. METHODOLOGY .....	30
Research Design.....	30
Participants.....	30
Instrumentation & Data Sources.....	32
Data Collection Procedures.....	33

Research Questions.....	33
Data Analysis .....	33
Assumptions.....	35
CHAPTER IV. RESULTS.....	36
Characteristics of the Sample.....	36
Instrument Validity and Reliability .....	37
Research Question 1 .....	38
Research Question 2 .....	60
Unintended Findings.....	73
Summary .....	85
CHAPTER V. CONCLUSIONS AND RECOMMENDATIONS .....	87
Review of the Study.....	88
Discussion.....	88
Does a student teacher cause a cooperating teacher to be more reflective? ..	88
Does a student teacher cause the cooperating teacher to have a greater number of reflective moments? .....	94
Definition of reflection .....	95
Metacognition .....	97
Conclusion .....	102
Recommendations.....	102
Future Research Opportunities .....	104
REFERENCES .....	100
APPENDIX A. IRB APPROVAL.....	113

APPENDIX B. INVITATION TO PARTICIPATE IN THE STUDY .....	115
APPENDIX C. SURVEY.....	117
APPENDIX D. INTERVIEW QUESTIONS .....	120
APPENDIX E. TEACHER A TRANSCRIBED INTERVIEW .....	121
APPENDIX F. TEACHER B TRANSCRIBED INTERVIEW .....	125
APPENDIX G. TEACHER C TRANSCRIBED INTERVIEW .....	130
APPENDIX H. TEACHER D TRANSCRIBED INTERVIEW .....	136
APPENDIX I. SURVEY DECEMBER/JANUARY.....	140
APPENDIX J. SURVEY MAY .....	141



## LIST OF TABLES

Table		Page
1	Research questions.....	35
2	Number of Reflective Moments in an Average School Day .....	71
3	Length of an Average Reflective Period.....	72

## CHAPTER I. INTRODUCTION

### Background of the Problem

Teachers have long been credited with working to improve their practice and efficiency in educating others. In addition, teachers have long been reflecting on their practices and searching for methods to become more effective educators. Changes in the process of evaluating teachers in Ohio have led to a renewed interest in methods and procedures to become a more effective educator.

In 2009, the Ohio legislature asked the Educator Standards Board to recommend a new set of evaluations for teachers and administrators to be adopted by the State Board of Education. The resulting evaluation system was the Ohio Teacher Evaluation System (OTES) (Ohio Department of Education, 2014b). Along with the development of OTES, the Ohio legislature enacted the State Board Policy on the Evaluation of Teachers. The State Board Policy on the Evaluation of Teachers was created to address the problem of overly successful performance ratings given to teachers statewide by their administrators. In 2011, "...99.7 percent of teachers around the country earned a 'satisfactory' evaluation, yet many students didn't make a year's worth of progress in reading and are not reading at grade level" (Ohio Department of Education, 2012, para. 12). In addition, the Ohio Board of Regents found in a recent study 39% of college or university students in Ohio under 20 years of age were enrolled in remedial math or English (Ohio Board of Regents, 2011). With nearly 40% of students needing remedial services to be successful at the university or college level, one obvious issue was a disconnect between the perceived 'satisfactory' rating of teachers and the data verifying success of students as they leave the K-12 school setting.

The connection between teacher evaluations and student growth measures is currently addressed as 50% of the teacher evaluation in the state of Ohio. The student growth measures can be comprised of three options depending on grade level, test availability, and local education association agreements. Option one of value-added exclusively is used when the teacher instructs only value-added courses. Value added is defined as, "... a statistical method that helps educators measure the impact schools and teachers have on students' academic progress rates from year to year" (Ohio Department of Education, 2014c, para 4). Option one may be modified if the teacher instructs value-added courses but not exclusively. The value-added portion is assessed at 10-40% with the remaining portion developed from local education association negotiated agreements. Option two is used when a teacher has access to a state approved vendor assessment. Option two uses 10-50% of the approved assessment score, and the remainder is developed by the local education association negotiated agreement. Finally, if no state approved vendor assessment or teacher level value-added measures are available, the instructor will be measured by local education association guidelines (Ohio Department of Education, 2013).

In June 2014, the Ohio legislature passed House Bill (HB) 362, which allowed for an alternative framework for teacher evaluation as a second option for educators. The change reduced the teacher evaluation by an administrator and student growth measures from 50% to 42.5% respectively of the evaluation. The remaining 15% will be composed of any of the following components: student survey, teacher self-evaluation, peer review evaluation, or student portfolios (Ohio Department of Education, 2014a).

To complicate the teacher evaluation process more, issues with validity for some state assessments in 2014-15, have allowed safe harbor provisions to be enacted and teachers will not

be required to use value added from 2014-5 and 2015-6 in their evaluation when the evaluation used state assessments as part of the process or in decisions regarding tenure, dismissal, and compensation (Ohio Department of Education, 2015a). This further delays the full implementation of the evaluation process statewide among all teachers until the 2016-17 school year.

Ultimately, the OTES guarantees teachers will be evaluated, in some part, based on the performance of their students' performance on future assessments. Teachers are now more aware of student performance on these assessments as their personal teacher evaluation will reflect the student growth on the assessments. Under the premise of a reflective teacher is a more effective educator (Dewey, 1910; Schon, 1983; Schon, 1987; Adler, 1990; Mezirow, 1990; Hargreaves & Shirley, 2012), a presumption can be made that OTES should cause teachers to examine methods to improve their teaching ability and practices. With the presumed impact on teacher desired improvement due to OTES, the opportunity preservice teachers provide, and the benefits of reflection in mind, this dissertation examined the impact a student teacher has on the reflective practices of a cooperating teacher.

### **Researcher's experiences**

Previously, one of the researcher's professional roles is as a university mentor for a large, public university in Northwest Ohio. In this role, the researcher visited the placements of student teachers. While visiting, the researcher observed student teachers, conducted meetings between student teacher and cooperating teacher, and ultimately evaluated the success of the student teacher in his/her placement. In the spring of 2014, when concluding the final evaluations with the student and cooperating teachers, the researcher thanked the cooperating teachers for all their hard work over the past nine months in the development of the student teacher. In the

conversation, the researcher also mentioned the continual need for student teacher placements at the university. Five of the six cooperating teachers worked with immediately said they would not be accepting student teachers for a few years as they had to focus on their OTES evaluation. Each mentioned, in differing forms, the concern of having a student teacher teach their classes for a great deal of time within the semester. This concern was compounded by the concern of their evaluation partially consisting of student performance on some sort of assessment: state assessment, student learning objectives (SLO's), or other state recognized assessment.

Upon further discussion, each of the five teachers mentioned the fear of having a young, unproven educator directly impacting his/her professional evaluation to be located in his/her personnel file which is public domain. In addition, each educator discussed the possible long-term impact to his/her career due to a poor evaluation. It was through these informal conversations with cooperating teachers the researcher realized a need to explore and evaluate the possible effects of a cooperating teacher working with a student teacher as it pertains to the career and professional growth of the cooperating teacher. From the researcher's own experiences, the presence of a student teacher in the researcher's classroom provided numerous opportunities for growth through reflection on the researcher's educational practices. It is from the idea and focus of examining a possible effect of a student teacher on a cooperating teacher a decision was made to examine the impact a student teacher has on the reflective practices of a cooperating teacher.

### **Rationale & Significance of the Study**

Upon the researcher's discussions with the five cooperating teachers who were not likely to accept another student teacher for a while due to the implementation of OTES, the researcher began to be concerned pre-service teachers would not receive the appropriate opportunity to

work within a classroom. Hertzog and O'Rode (2011) pointed out, "The student teacher experience has been identified as one of the most influential factors in preparing beginning teachers" (p. 90). Without current teachers working with student teachers, the student teachers will have limited opportunities for individual growth as they prepare to enter the field as professionals after graduation. With the expected growth and measurable effectiveness of educators due to OTES, there seemed to be an opportunity for student teachers to impact the reflective practices of practicing teachers. In addition, the premise of a reflective teacher is a more effective educator (Dewey, 1910; Schon, 1983; Schon, 1987; Adler, 1990; Mezirow, 1990; Hargreaves & Shirley, 2012) provided a great opportunity to examine if the student teacher impacts the reflective capabilities of a cooperating teacher.

### **Purpose of Study**

This study examined the effect a student teacher has on the reflective practices of a cooperating teacher. The intent is to examine if, for the cooperating teacher, there were indirect benefits of the student teacher and cooperating teacher relationship which goes beyond the direct impact of student test scores and impact the overall reflectiveness and number of reflective moments a cooperating teacher participates in on a daily and long term basis. This study, derived from the implementation of OTES' focus on teacher performance, highlighted a reason, or lack thereof, for cooperating teachers to continue to accept student teachers in future educational years. If student teachers improve the reflective opportunities and number of reflective opportunities for cooperating teachers, there should be a desire for veteran teachers to again accept student teachers in their classroom.

As this dissertation was a pilot study using five participants, the goal was to research the connection of reflection and reflective opportunities being influenced by student teachers in the

classrooms of cooperating teachers. This should provide a framework for further research and study in the area of the reflective practices of cooperating teachers with student teachers in their classrooms.

### **Theoretical Framework**

In order to understand the effect a student teacher has on the reflective practices of a cooperating teacher and the number of reflective opportunities, it is first important to understand the theoretical basis for reflection being used for this study. After examining Dewey's *How We Think* (1910) and its foundation of reflection focusing on what reflective thought is and how it should be fostered, the researcher moved to Schon's (1983, 1987) focus on methods in which professionals could learn from reflecting on their experiences. The academic discussion then moves to Zeichner and Liston (1996) in their focus on the five levels of reflection during teaching. All of these aspects will be covered in more length in chapter 2.

In the examination of the above texts, a decision was made by the researcher to utilize Carol Rodgers' (2002) definition of reflection as a theoretical framework for the study. She delineates the criteria of reflection into four distinct areas:

1. Reflection is a meaning-making process that moves a learner from one experience into the next with deeper understanding of its relationships with and connections to other experiences and ideas. It is the thread that makes continuity of learning possible, and ensures the progress of the individual and, ultimately, society. It is a means to essentially moral ends.
2. Reflection is a systematic, rigorous, disciplined way of thinking, with its roots in scientific inquiry.
3. Reflection needs to happen in community, in interaction with others.

4. Reflection requires attitudes that value the personal and intellectual growth of oneself and of others. (p. 845)

Here, the four pillars of reflection were defined and broken into four parts: meaning making, scientific inquiry, community, and growth of self and others. When understanding the meaning making aspect, the key item is the experience or problem that occurs is analyzed in relation to previous experiences or problems. This continual analysis allows the individual to form his/her own working theory that is carried forward and is always used to understand occurrences and is always subject to change. Scientific inquiry is from where the individual pulls the meaning making into hypotheses to be tested. The tests will provide data to inform the working theory even more in depth. The next aspect is community where the learner interacts with others when understanding his/her interpretation of the data or events that occurred. This provides for a fairer and more adequate understanding of the events or data as the reflecting individual will better see what actually happened rather than what he/she wanted to see. The input or analysis with another person should provide a more accurate portrayal. Finally, the growth of self and others relates to the underlying element of growth desired by all involved. If the individual is not willing or interested in growth, the previous three elements will be ineffective. Likewise, if the individual helping the reflecting person is not interested in his/her growth, the process will not be as beneficial.

Generally, most articles concerning reflection derive from John Dewey and his theories concerning reflection and personal growth (Dewey, 1910). The text, *How We Think*, by Dewey, is widely accepted as the broad framework for all reflective studies from which researchers challenge or enhance Dewey's beliefs. All of which will be further depicted in chapter 2. With



this idea in mind, Rodgers' article essentially is modernizing and simplifying many of Dewey's ideas into a concise and easy to understand model of Dewey's theories.

Rodgers' theoretical approach allowed for a framework to understand what reflection will be referred to throughout the study. In addition, the above definition was not only the theoretical foundational for this dissertation but also the framework from which the collected qualitative data was coded.

### **Research Questions**

The theoretical framework for reflection as explained by Rodgers above was the basis for analyzing the results. As a key aspect of the study was the reflective practices and changes by the cooperating teacher, the following questions were developed:

1. Does a student teacher cause a cooperating teacher to be more reflective?
2. Does a student teacher cause the cooperating teacher to have a greater number of reflective moments?

Beyond the immediate answers to the questions, the researcher attempted to ascertain how, if at all, the student teacher causes the cooperating teacher to be more reflective. In addition, the researcher examined how a student teacher does or does not cause a greater number of reflective moments.

### **Definition of Terms**

In this study, there were three key terms used. The definitions for the first two terms and definitions were developed by the researcher based on nearly two decades in the educational field. The final term was redefined in this section but also used in the theoretical framework. The intent was to establish a clear understanding for the reader as these terms are used numerous times throughout this dissertation.

Cooperating teacher. An experienced school teacher who allows a student teacher to work in his/her classroom for a minimum of a twelve-week period for the purpose of learning from their classroom practices and pedagogy (Jones, Kelsey, & Brown, 2014; Ohio Higher Ed, 2015).

Student teacher. This term is defined as a teacher candidate by the Ohio Board of Regents (Ohio.gov, 2015). A university student in senior standing or graduate student at his/her institution participating in a semester long placement at a K-12 school setting under the instruction of a cooperating teacher with the purpose of preparing to have a classroom of his/her own after completion of the placement with the cooperating teacher (Svatos, 2013). In the state of Ohio, the student teacher must complete a minimum of a twelve-week assignment in his/her school placement (Ohio Higher Ed, 2015).

#### Reflection-

1. Reflection is a meaning-making process that moves a learner from one experience into the next with deeper understanding of its relationships with and connections to other experiences and ideas. It is the thread that makes continuity of learning possible, and ensures the progress of the individual and, ultimately, society. It is a means to essentially moral ends.
2. Reflection is a systematic, rigorous, disciplined way of thinking, with its roots in scientific inquiry.
3. Reflection needs to happen in community, in interaction with others.
4. Reflection requires attitudes that value the personal and intellectual growth of oneself and of others. (Rodgers, 2002, p. 845)

#### **Delimitations**

When examining the scope and focus of this study, there were many delimitations. First of all, the sample size was a delimitation. The goal of five participants limits the ability to analyze the results over a large sample size. This decision placed a larger focus and implication on each cooperating teacher's response. Each response provided by the cooperating teachers was more impactful on the findings than if a larger sample size was chosen. The decision limited the ability to effectively use the findings over a larger demographic area and limited the findings to a small area.

In addition, the convenience sample used for the study was composed of cooperating teachers accepting student teachers from a small university in Northwest Ohio. This choice was made due to ease of access to the possible participants. In addition, the sample size eased the travel requirements to interview all study participants. However, it impacted the study as results were parochial in nature and opportunities to incorporate participants from different geographic regions or school settings were limited.

Lastly, the method of conducting the research was a delimitation of the study. The study incorporated a pre and post student teacher survey as well as an interview with each cooperating teacher. As a pre-interview with cooperating teachers would likely yield more accurate and qualitative data, the fear of participants refusing to participate due to the high volume of time demanded required the study to be completed with surveys as well as a post interview.

In addition, the questioning in the survey provided to the cooperating teachers prior to the student teachers arriving and immediately after the student teachers leave is a delimitation. In an effort to preserve anonymity, the researcher did not include any questions to allow recognition of individual cooperating teachers. All questions either relate directly to the study or are categorical in nature. This choice by the researcher was a delimitation as it did not allow for a

comparison of each participant's survey response before and after the experience with the student teacher. This required generalities to be reported about the participant group and no specific information as it related to the individual cooperating teacher.

### **Limitations**

In addition to the delimitations, there were several limitations present in this study. First, the cooperating teacher participated with full knowledge of the focus of the study. With the focus in mind, each participant completed two surveys and participated in an interview. This may have led to the halo effect as participants possibly provided information that made them look more reflective or provided information that the researcher would want to hear. An effort was made by the researcher to eliminate the halo effect by using a scripted survey and interview.

As the cooperating teacher was asked the types of reflective practices he/she uses in a day-to-day teaching environment, the teacher may have tried to bring out items which may have taken place but were not completely reflective. An example would be a teacher talking about a particular student being absent in a teachers' lounge at lunch. The comment is valid but not reflective in nature. The teacher may count this as a reflective moment despite it not reaching the definition and theoretical framework used in this study. Using Rodgers' (2002) framework, the comment does not address the first element in reflection of being part of a meaning making process. Also, the comment does not address any aspects of scientific inquiry. Lastly, the comment does not address any attitudes of value for intellectual growth in self or others. The comment, however, does happen in the community of others. As only one of the four aspects of Rodgers' (2002) reflection definition was met, the comment clearly does not count as reflection.

Along with the participant limitation, the study was limited on time. As student teachers only work with a cooperating teacher for the duration of their school semester, the influence of the student teacher on the reflective practices of the cooperating teachers is limited to around five months in duration. The reflective practices may still be developing and on-going after the student teacher leaves the placement. This study accessed the time immediately prior to the student teacher's arrival and immediately after the student teacher completed his/her placement.

Finally, a limitation of the study was the lack of a control group. As this is a pilot study, if there were findings of an increase of reflection quality, time, and moments among teachers with a student teacher than without, further research will be conducted at a later time using a control group.

### **Researcher Bias**

It is understood there were several elements of researcher bias in this study. As an employee of a large, public state university who worked with student teachers as a university mentor, the researcher had a vested interest in the results of this study. The results may complicate or facilitate the placement of student teachers with cooperating teachers. In addition, the researcher had observed many of the positive aspects of student teacher and cooperating teacher relationships while observing student teachers. However, was no collection or analyzing of any data within these observations.

In addition, the researcher spent twelve years as an English teacher in a middle and high school setting. During this time, the researcher personally worked with a student teacher, several methods students, and numerous sophomore block students from a variety of universities in Northwest Ohio. In the researcher's experiences with all of these pre-service teachers, the researcher felt he learned as much as the pre-service teacher in regard to the field and teaching

pedagogy. After many lessons and assessments the researcher would sit with the student teacher to try and make meaning of what happened in the experience. Then the researcher and his student teacher would derive methods to move forward with this information in an effort to effectively examine if it was possible could create another method to better educate our students. Much of this personal development came as a result of conferences and reflective periods with the researcher's pre-service teachers. There were no data collected and analyzed.

Both the researcher's experiences within the educational field at the university level and K-12 setting have created biases within the researcher in this study. Care was taken to word the survey and interview questions in a fashion to avoid researcher bias. The development of the survey and interview questions was grounded in Rodgers' (2002) framework of reflection. This allowed for a focus on the reflection of the teacher and ideally limits researcher bias.

## CHAPTER II. LITERATURE REVIEW

As described in chapter 1 of this dissertation, this qualitative study examined the effect a student teacher has on the reflective practices of a cooperating teacher. The intent was to examine if, for the cooperating teacher, there were indirect benefits of the student teacher and cooperating teacher relationship which goes beyond the direct impact of student test scores and impact the overall reflectiveness and number of reflective moments a cooperating teacher participates in on a daily and long term basis.

Under the premise a reflective educator is a more effective educator (Dewey, 1933; Schon, 1983; Schon, 1987; Adler, 1990; Mezirow, 1990; Hargreaves & Shirley, 2012), the hypothesis developed was whether or not a student teacher causes a cooperating teacher to be more reflective and in turn improves the teaching ability of the cooperating teacher. The findings of this study will be valuable to school districts, teachers, student teachers, teacher preparation programs, students, and parents. School districts and teachers may be more willing to accept student teachers while student teachers and teacher education programs may find more options with placements if a connection between student teacher placement and cooperating teacher reflection is established. Parents and students may be interested if an increase in reflective practices by a cooperating teacher with a student teacher can be established as it should show the possibility of improved teaching.

In reviewing the appropriate literature for this topic, it was important to examine the research and information relating to reflection, metacognition, the role of student teachers and cooperating teachers, and the increase of performance. The understanding of reflection was important to understand how the researcher arrives at using the foundation of Rodgers' (2002) reflection theory and definition. Also, as metacognition is essentially thinking about thinking, it

was important to explore and understand its impact on reflection. In addition, the role of student and cooperating teachers was examined to better comprehend their unique abilities and responsibilities in the pre-service teacher education process. Lastly, the increase of performance was needed to establish possible a relationship between increased teacher performance and the reflective process.

## **Reflection**

As a key premise in this study, reflection must be addressed and understood. Reflection became an important part of the thinking process with Dewey's *How We Think* (1910). In the text, Dewey defined reflective thought as "Active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds that support it, and the further conclusions to which it tends" (1910, p. 6). In addition, Dewey continued to depict two clear elements of reflective thinking: 1. There has to be some problem or issue at hand and 2. There has to be an investigation or evaluation to uncover facts to support or nullify the belief (Dewey, 1910). In addition, Dewey distinguished from reflective thought and uncontrolled stream of thought. He felt the former was the only appropriate method for reflective thought to lead to an understanding of the problem. Unfortunately, the success of Dewey's ideas of reflection caused it to be overused and often misunderstood and/or practiced incorrectly (Kompf & Bond, 1995). This caused a large misunderstanding by educators and theorists of how to apply these theories over the years. From this point, Schon (1983, 1987) entered the conversation concerning reflection. It is from Dewey's definition on reflection and elements, the current use of reflection in education has been discussed.

Dewey's foundation of reflection was a point from which Schon (1983) moved forward and pointed out ways in which professionals could become aware of their implicit knowledge



and learn from their experiences. Schon pointed out two types of reflection: reflection-on-action and reflection-in-action (Schon, 1983; Finley, 2008).

In Schon's (1987) reflection-on-action, the individual comes across an unexpected outcome. The individual thinks back upon what he or she did in order to determine how his/her knowing-in-action, "...the sorts of knowhow we reveal in our intelligent action- publicly observable, physical performances like riding a bicycle and private operations like instant analysis of a balance sheet" (p. 25), affected the outcome to provide an unexpected result (Schon, 1987). The key aspect is the fact the situation or unexpected outcome happened in the past and the individual is revisiting it in the present and the reflection has no bearing or direct connection to present actions.

Reflection-in-action occurs in the present or a time close to present where the reflection is able to affect the situation at hand. The thinking and reflecting effectively affects what the individual is doing at a time when he/she is able to make a difference in the outcome (Schon, 1987). The idea of reflection-in-action was difficult to evaluate within the context of this study. Due to the student teacher's experience being completed at the time of the final survey and interview, the likelihood of reflection still taking place on items that still can be affected is negligible. However, the reflection-on-action and the impact a student teacher has on this aspect was examined to determine if it increases the amount of reflection-on-action and reflective moments a cooperating teacher undertakes in a specified time.

Building upon Schon's ideas, Zeichner and Liston (1996) delineated five levels of reflection taking place during teaching. First is rapid reflection which is instantaneous and automatic action by the instructor. Second is repair where a teacher makes adjustments and decisions in response to cues from the students. Third is review where a teacher thinks about,

discusses, or writes about some aspect of his/her teaching. In essence, teaching and learning at this level is driven by justice and equity. The teacher puts thoughts to the written word to examine the fairness of what he/she is producing, exhibiting, teaching, and demonstrating (Adler, 1990). Fourth is research where a teacher engages in a systematic and sustained thinking over time typically by collecting data or analyzing research. Last is retheorizing and reformulating where a teacher critically examines his or her own theories and practice in regard to academic theories (Zeichner & Liston, 1996). The key aspect being related is reflection can occur in the subconscious but in realizing the thought or action needs to be consciously evaluated so the thinker can decide what he or she will or will not do (Boyd, Keogh, & Walker, 1985).

One issue with reflection is the inability of individuals to remove their own personal bias when examining events, thoughts, and practices (Mezirow, 1990). It is for this reason Rodgers (2002) required reflection to be done in community of others and following scientific inquiry. By adding others in the reflection process it is easier to lessen the individual bias. Ultimately, collaboration or a learning community will allow others to help the individual critically analyze his/her own behavior (Osterman & Kottkamp, 1993; Van den Bossche & Beausaert, 2011). Also, the scientific inquiry's reliance on data to inform the accuracy, or lack thereof, of the hypothesis will address the personal bias. In addition, the use of a hypothesis and testing the hypothesis should be ongoing (Schon, 1987). Also, the use of a classroom for the acquisition of data is ideal as the researcher and reflective educator is able to control many variables: time, random assignment of participants, lesson content, and evaluation criteria (Cruickshank, 1985). This is an important aspect of reflection but was not examined in this study. Ultimately, the focus was on the effect a student teacher has on the quality and length of reflective moments a cooperating teacher has while working with a student teacher. The examination of the student

teacher's ability to remove or help remove bias as depicted by Mazirow (1990) from the reflection of a cooperating teacher is likely an area of future research.

Another concern with the reflective process as noted by Johns (2009) was the issue that just because an individual is able to understand the meaning of data does not mean he or she can easily change his/her practices. From the lack of ease in ability to change practices, Johns (2009) described three basic inhibitors to use of the reflective practice due to culture: tradition, force, and embodiment. Tradition is adhering to predetermined customs, norms, and prejudices that existed prior to the reflection process. Force is the way normal relationships are maintained and created through force or power. Embodiment is the way people normally think about the world prior to the reflective process (Fay, 1987). This was not a focus of the study and it did not appear as an unintended finding.

Collier (1999) found in her study with student teachers, the importance of the individual in the process. The individual's constantly changing world view and beliefs on teaching and learning will directly affect the level at which the individual will be able to reflect (Collier, 1999). This leads directly to the understanding of metacognition in the process of reflection.

### **Metacognition**

After the review of the findings as delineated in chapter 4, it became apparent the examination of metacognition was needed as it is never specifically mentioned in the reflective research. Upon reviewing the findings in chapter 4, metacognition appeared as an unintended finding; however the two are different but not completely remote from each other. Rodgers' (2002) definition used even referred to reflection as a "...disciplined way of thinking" (p. 845). As metacognition was typically defined as "a conscious and deliberate mental activity" (Martinez, 2006, p. 697) there was a clear relationship between the two ideas. Metacognition is

traditionally broken down into two distinct areas: monitoring/self-regulation and metacognitive knowledge (Flavell, Miller, & Miller, 2002; Zonar & David, 2009). Metacognitive knowledge is then further broken down into two sub groups: persons and tasks/strategies (Flavell et al., 2002; Zonar & David, 2009). Finally, successfully mastering tasks and strategies leads to meta-strategic knowledge which is the when and how of thinking (Flavell et al., 2002; Zonar & David, 2009). In essence, metacognition begins with individuals being able to monitor themselves and regulate their learning. Also, there is a base knowledge for metacognition that requires an understanding of people and tasks/strategies. As an understanding of people is self-explanatory, the understanding of tasks and strategies refers to the thinking process. Does an individual have or possess the mental ability to solve a problem in front of him/her and know the tasks or strategies to accomplish the tasks to solve the problem? Having mastered the tasks/strategies will allow the learner to know when and how to solve particular problems. This area was evaluated within this study as cooperating teachers were required to demonstrate their meta-strategic knowledge as they participate in reflection and collaboration with student teachers (Flavell et al., 2002; Zonar & David, 2009; Zull, 2004) concerning teaching practices and pedagogical choices within the classroom. The reflection period was qualitatively evaluated to measure meta-strategic knowledge and its appearance within these reflection and collaboration periods.

As metacognition is applied to the educational setting, it takes on three clear areas of focus. First, educators need to understand students arrive with a preconceived notion based on previous experiences. Educators must to draw upon the previous experiences to connect the education to the material the student must learn. Without a clear connection, the student will not learn the material or will learn the material for the assessment and then discard the information

(Bransford, 2000). This directly applied to the focus of this study. As cooperating teachers are seeking to develop meaningful reflection and mentoring opportunities, it was important the cooperating teacher knew and understood the preconceived educational components the student teacher was bringing to the relationship. This meaningful reflection as described by Pella (2014) previously allowed for growth on the part of the learner as well as the teacher. However, without understanding these preconceived notions, the teachers will not be able to fully experience the personal benefits of the cooperating teacher-student teacher relationship.

The second aspect of metacognition as it applies to the educational setting is students need a base of knowledge, understand facts and figures, and organize material in their brains to develop skills in a particular area (Bransford, 2000). Efklides (2014) called this aspect the control which is general task rules that keep processing from interference. The importance of student teachers having a base of information to draw upon may be a large task for cooperating teachers. If the student teacher does not have this base from the undergraduate experience, it may be complicated for the cooperating teacher to build this knowledge base quickly in the student teaching experience.

As Bambrick-Santoyo (2010) explained previously, the ability to use and understand data is paramount in improving student achievement. The student teacher's ability to understand and use the data provided by the cooperating teacher will be essential in his/her success. Also, Richardson, Kalvaitis, & Delparte's (2014) description of reflection among professionals providing significant teacher improvement depends on both participants knowing and understanding the content and pedagogy behind its delivery. This aspect will not be a large aspect of this study as it will be assumed student teachers will arrive with the base of knowledge to allow for metacognition to exist between the cooperating teacher and student teacher.

The third aspect of metacognition as it applies to education is the ability for students to be more active in their own learning. Students will be able to define personal educational goals and monitor their own progress in achievement of the specified goals (Bransford, 2000). Students learn best when they are interested in the material being taught (Zull, 2004). In addition, metacognition rests on the belief that if a student does not know something, he/she will proactively prepare to understand the lacking element (Pintrich, 2002). The idea of a cooperating teacher being active in his/her own learning will be a key area of interest in this study. This will require a cooperating teacher to vacillate between the role of the educator and that of a student when meeting with a student teacher. As a cooperating teacher participates in a reflection period within 24 hours based on an activity led by the student teacher or cooperating teacher (Al-Issa & Al-Bulushi, 2010), he/she will be required to define educational goals not only for him/her but also for the students. In addition, as a cooperating teacher engages in the reflection process, the cooperating teacher will be monitoring his/her goals and progress toward the specified goals (Richardson et al., 2014).

Interestingly, there is a key area which may cause a failure for metacognition to effectively exist. The aspect is lack of base knowledge. Students who are incapable of providing correct answers in a specified area do not have the ability to participate in metacognition (Dunning, Johnson, Ehrlinger, & Kruger, 2003). This requires a need for basic educational foundations for student teachers and cooperating teachers. In addition, Efklides (2014) found a lack of basic knowledge causes metacognition to fail. The surprising element was overconfidence of correctness which caused individuals to believe their answer was correct and they were not able to identify the actual correct answer even when provided. Since the students had a firm belief their answer was correct, they were unable to see the correct answer despite it

being provided. This area was not be a major focus of the study, but it was monitored to see if this creates a breakdown in the metacognitive approach of the cooperating teacher.

Despite the possibility of failure for metacognition to fully develop, there seemed to be a constant benefit of using metacognition. Most importantly, metacognition improves the role of the individuals in the classroom as that of the learner and as a teacher (Liu, 2014). Interestingly, the most successful setting for metacognition to improve and develop was in one-on-one situations rather than large group settings (Alder, 2013). Importantly, the student teacher/cooperating teacher relationship should provide for continual one-on-one situations to maximize the ability for growth in both individuals. This study sought to evaluate only the reflective growth of the cooperating teacher due to the presence of a student teacher in the classroom and the continual opportunities for one-to-one situations.

An area important to note is the lack of research studies involving metacognition in the field of teacher education. Most articles and textbooks are explanatory and theoretical in nature and do not provide research data to support the stated theories and ideas on metacognition. In addition, many articles are a review of the literature currently existing concerning metacognition. This lack of research provides a unique opportunity to qualitatively measure metacognition within the student teacher cooperating teacher relationship and present it as an aspect of this study.

### **Role of student teachers and cooperating teachers**

After examining reflection and metacognition, there was a need to better understand the opportunities a student teacher and cooperating teacher relationship provides, and it is essential to understand their specific roles as viewed in this dissertation. The student teaching experience sets and develops the student teacher's foundation from which he/she will build upon as a

professional. The key aspects of the student teacher experience are to develop a belief in the student teacher to create positive change in the students for which he/she is responsible, improve critical thinking skills, and increase sociopolitical awareness (Izadinia, 2012). Importantly, Hertzog and O'Rode (2011) found the success of a student teacher is largely related to student teachers which were mentored by subject area specialists. Both these studies showed the largely vague and ambitious goals for student teachers to develop prior to leaving for their professional teaching experience.

Furthermore, the cooperating teacher is seen as a support system and socializing agent for the student teacher (Butler & Cuenca, 2012). The support system is further detailed by Cuenca (2011) as he delineated the support system with clear expectations- the cooperating teacher provides notes, guides, and rituals. The student teacher has come to expect the cooperating teacher to provide copies of previous activities and taught material. In addition, the student teacher desires the cooperating teacher to provide access to prepared units and tests (Cuenca, 2011). Along with the physical material, the research shows how cooperating teachers need to be the socializing agents for the student teacher. This will allow the student teacher to learn how to communicate with other professionals to better prepare for a professional life in education. Finally, the rituals of the profession can and are viewed in many ways. First of all, it can be the simple rituals within a classroom: attendance, passing back papers, communicating with students. However, these rituals may go beyond again moving to the reflective practices of educators after lessons or formative and summative assessments.

A key area of this study was the practice of cooperating teachers describing these rituals to the student teacher and then in effect challenging their own rituals to see if they are truly the best methods for the education of the student. This self-analysis was examined qualitatively



through a survey and interview as published research was not evident depicting the student teacher as a means to create change in the cooperating teacher for the improvement of teaching practices. This study examined if collaboration and reflection between the student teacher and cooperating teacher caused the cooperating teacher to improve as a byproduct.

In addition to rituals and support materials, a level of trust is required between student teacher and cooperating teacher (Stanilus & Russell, 2000). By building a level of trust between cooperating teacher and student teacher through the sharing of teaching materials and knowledge of the social aspect of the profession, there will obviously be a clear emotional connection between the student teacher and cooperating teacher. Interestingly, cooperating teachers elicit the most negative emotions in pre-service teachers. These emotions had a much more powerful influence than any positive emotions (Timoštšuk & Ugaste, 2012). This demonstrates the importance of the cooperating teacher developing a welcoming and safe environment based on trust between the student teacher and cooperating teacher.

The trust developed in the student teacher/cooperating teacher relationship allows for reflection to take place between the two individuals. As pointed out earlier, reflection is a key aspect of increasing student and teacher effectiveness. However, the roles for both the student teacher and cooperating teacher allow for the reflection to take place. Importantly, reflection typically takes place by the student teacher within a 24-hour period with the cooperating teacher (Al-Issa & Al-Bulushi, 2010). The reflection's purpose is to solve problems as seen in the classroom and is typically led by the cooperating teacher (Butler & Cuenca, 2012). The reflection period allows for growth of the student teacher within the profession. Sexton (2008) found student teachers arrive with a preconceived notion of education and leave the experience with a more balanced view of profession and professional life. As reflection is important for

development of the learner and the teacher, this study examined the effect the reflection period has upon the cooperating teacher. Research examined for Sexton's (2008) study only described the impact the reflection has upon the student teacher and not the cooperating teacher. This dissertation built upon the idea that the student teacher provided a reflective opportunity for the cooperating teacher. Thus, this study was a step in a new direction as it applies to the student teacher and cooperating teacher relationship.

In addition to the reflection, there needs to be a desire for the student teacher to be mentored to allow for the reflection to be fully appreciated. The student teacher must be receptive and open to receiving reflective advice. Bullough, Young, Hall, Draper, & Smith (2008) found the openness is required for success of the student teacher and it allows both teacher and student teacher to gain from the experience. The key aspect of receptiveness builds upon the previous aspects of the benefits of reflection but also the main point of the student teacher being receptive to the reflection process. Without these areas, the student teacher and cooperating teacher benefits will not be realized. It was important for this study to examine if there was receptiveness between cooperating and student teachers. A lack of receptiveness on the part of a student teacher in this study will negatively impact the ability for collaboration and reflection to impact both the student teacher and the cooperating teacher. While not an area of focus for the study, lack of receptiveness occurred and was reported in the findings section.

Beyond the desire of a student teacher to be mentored, Bullough et al. (2008) found in their study another key role of the cooperating teacher: cognitive complexity. Cognitive complexity means the cooperating teacher must have a deep knowledge of the profession from prior experience and be able to draw upon that knowledge to notice and act appropriately to items within the profession. Bullough et al.'s (2008) results showed the importance of the

cooperating teacher possessing a higher level of cognitive complexity than the student teacher. The cognitive complexity must also be shared with the student teacher in a fashion which allows the student teacher to learn as well. This may be in many of the forms previously discussed: reflection, materials, social support, etc. This is not an area of focus for this study. However, researcher receptiveness to lack of cognitive complexity on the part of the cooperating teacher may have an impact on the reflective abilities of the cooperating teacher and needs to be recognized.

### **Increase of performance**

Standardized assessment is increasing and a means to assess standardized test scores is becoming an important topic in all levels of education currently. Students in Ohio are assessed in multiple grades during their formal schooling. Students take Ohio Achievement Assessments in math (grades 3-8), reading (grades 3-8), science (grades 5 and 8), social studies (grades 5 and 8), and writing (grades 4 and 7) (Ohio Department of Education, 2014e). Beginning in fall of 2014, Ohio students completed the Partner for Assessment of Readiness for College and Careers (PARCC) in lieu of the OAT test in mathematics and English language arts in grades 3-12 (Ohio Department of Education, 2014a). After complications in the administration of the PARCC test in 2014-5, the state of Ohio has decided to utilize the American Institutes for Research (AIR) assessments for math, English, science, and social studies moving forward in 2015-6 (Ohio Department of Education, 2015b).

For high school students in Ohio to graduate, they are required to complete required units in specified areas of study. Currently, high school students are required to complete four units of language arts, four units of mathematics, three units of science and social studies, a half unit of health and physical education, five units of electives including a unit in fine arts and economics

and financial literacy (2014d). In addition, students are required to pass all sections of the Ohio Graduation Test prior to graduation with assessments in reading, writing, mathematics, science, and social studies (Ohio Department of Education, 2011). The Ohio Achievement Test and Ohio Graduation Test also have importance for the teachers of Ohio as they are also assessed on their teacher evaluation based on student growth on these particular assessments. The connection between teacher evaluations and student growth measures as evidenced in student performance on the state assessment is addressed as 50 percent of the teacher evaluation (Ohio Department of Education, 2013). However, in June 2014, the Ohio legislature passed HB 362 which allowed for an alternative framework as a second option for educators to lessen the amount of the teacher evaluation based on student growth measures. The change reduced the teacher evaluation by an administrator and student growth measures to 42.5% respectively of the evaluation. The remaining 15% will be composed of any of the following components: student survey, teacher self-evaluation, peer review evaluation, or student portfolios (Ohio Department of Education, 2014b).

With high stakes testing in mind, Bambrick-Santoyo (2010) believed the use and understanding of student data is the most important element of student test score improvement. Her belief is that educators working together in small and/or large groups and role playing help develop action plans for student success. Like Bambrick-Santoyo, Hargreaves and Shirley (2012) studied the educational programs of school systems in the United States of America as well as the school systems of multiple countries around the world and found a commonality of teachers having time for collaboration having a direct link to improved education and learning of students. Hargreaves and Shirley (2012) provided an example with Singapore's school teachers not teaching as many courses but having the expectation to collaborate and innovate directly

improving the level of instruction and ability of students as Singapore scored as "...the top achiever in both mathematics and science for 13-year old students..." (p.71). In addition, Pella (2012) found collaboration between teachers promoted positive pedagogical changes due to collaborative analysis between teachers of effectiveness of lessons. Furthermore, Holmgren (2005) pointed out the collaborative structure of the participants in a Teaching Partners Program at Allegheny College "...indicate that they are more aware of the different learning styles of students and as a result more likely to incorporate a mix of active learning strategies in their courses" (p. 215). The key finding in the three bodies of research is the collaboration between teachers improves teacher ability as well as student performance. Interestingly enough, there was no literature discussing the collaboration between a cooperating teacher and student teacher. Instead, all research discussed collaboration between educators.

In addition to collaboration, educators having time for reflection positively impacts achievement for both student and teacher. The first finding is teachers having time for reflection improves student achievement (Hargreaves & Shirley, 2012). In addition, Richardson et al. (2014) found reflection of a taught lesson or activity with other educators positively impacted teacher improvement. Also, Tagawa and Imanaka (2010) found a direct link to reflection on learned material increased ability in the area learned. These studies clearly show a common thread of teacher and student improvement when provided time for reflection on the taught material. It is easy to visualize the student teacher and cooperating teacher relationship facilitating the collaboration and reflection required to provide the student and teacher improvement as it pertains to test scores. Again, since this area lacks academic research, this study qualitatively examined the increase or lack thereof of reflective practices of a cooperating teacher due to the student teacher presence and attempted to begin to address the current gap in

literature. In order to better conceptualize the reflection and collaboration between a student teacher and cooperating teacher, an important element is to understand the role of the student teacher and cooperating teacher.

### **Summary**

Overall, the findings of this study will be valuable to school districts, teachers, student teachers, teacher preparation programs, students, and parents. School districts and teachers may be more willing to accept student teachers while student teachers and teacher education programs may find more options with placements if a connection between student teacher placement and cooperating teacher reflection is established. Parents and students may be interested if an increase in reflective practices by a cooperating teacher with a student teacher can be established as it should show the possibility of improved teaching.

Indeed, the key aspects of reflection, metacognition, the role of student teachers and cooperating teachers, and an increase in performance shape the direction and scope of this study. All four components were important in the design of this study and will be examined and explained further in chapter three of this dissertation.

### **CHAPTER III. METHODOLOGY**

As explained in chapter two, reflection, metacognition, the role of a student teacher and the cooperating teacher, and the increase of performance were examined in this study. While evaluating these items, an examination of their effect on the reflective practices of a cooperating teacher who currently has as student teacher was evaluated. Through a qualitative approach, the research questions were answered by surveying and interviewing cooperating teachers.

#### **Research Design**

The study was developed as a qualitative design to analyze the reflective practices of cooperating teachers and how the presence of a student teacher affects these reflective practices. Again, the theoretical foundation utilized is Rodgers' (2002) definition of reflection. Grounded Theory (Corbin & Strauss, 1990) was utilized to deduce meaning from the surveys and interviews.

#### **Participants**

Subjects had a student teacher in their classrooms from a small, private institution from Northwest Ohio for the spring 2015 semester. The subjects were part of a convenience sample as their proximity allowed the researcher to interview them easily in a short time period of a couple weeks due to the student teacher leaving the placement and the end of school. Subjects were then further restricted based on teaching grades 6-12 in a school from a radius of 40 miles from the small, private institution in Northwest Ohio. Thirty teachers met the criteria for inclusion in the study. From the thirty possible educators, seven teachers were selected randomly via a letter to keep this a pilot study (Appendix B). Upon response to the researcher indicating a lack of interest in participation or failure to respond after a two-week period, another teacher from the list was randomly selected to participate in the study. The convenience sample

of teachers responding to the letter was used for the study. Of the thirty contacted teachers in the end, only five completed the survey and four cooperating teachers agreed to participate in the interview process after the surveys. It is important to note the four cooperating teachers who participated in the interview were part of the same group of individuals who completed both the pre and post surveys through Google Drive.

As the survey participants were not asked to complete or provide any identifiable information, the participants of the survey will be reported in one large group. Data were analyzed for tendencies over the large group. Within the group, one teacher has been teaching 1-5 years, one 6-10 years, two 11-15 years, and one 25 or more years. Four of the five teachers self-reported as working in rural school districts. The fifth teacher reported working in a suburban school district. Two of the cooperating teachers were employed in middle schools while the other three reported working in a high school setting. The teaching experience in terms of years of the five teachers involved in the survey varies as well. Lastly, one teacher self-reported having earned an undergraduate degree, three teachers earned a master's degree, and one has earned a master's degree plus additional graduate credits.

As the interview of the participants allowed for a more detailed description of the participants, each participating teaching was assigned a letter and he/she will be referred to as Teacher A, Teacher B, Teacher C, or Teacher D.

Teacher A was a male history teacher of 11 years employed at a rural high school. Teacher B was a male history teacher of 6 years in a rural middle school setting. Teacher C was a male history teacher of 16 years in a split middle school and high school rural setting. Lastly, Teacher D was a female science teacher of 4 years in a rural middle school setting.

### **Instrumentation & Data Sources**



There were three instruments used to gather data: an initial survey, a survey after the student teacher has left, and an interview after the student teacher has completed his/her placement. All instruments were vetted and analyzed by two experts in the field. The first expert was a professor at a small university in Northwest Ohio. The individual specialized in teaching methods and was the instructor for the teaching methods course on the campus. The individual was also the director of the Center for Teaching Excellence on the campus. The other expert was an associate professor in the doctoral program of a small university in Northwest Ohio. The individual was an expert in interview and survey mechanics. In addition, the questions in the surveys and the interview are grounded in Rodgers' (2002) foundation and definition of reflection. Lastly, questions 1-7 of the survey were used for categorical purposes of the participants.

### **Qualitative**

Participants were asked to complete an initial survey (Appendix C). The set of questions was completed through a Google Survey which allowed the participants to complete the survey on a computer and eliminated the requirement of mailing the completed survey back. The initial survey was sent to the cooperating teachers in December prior to their student teachers arriving in January. Two questions in the survey required extended responses which were analyzed qualitatively.

The teachers were again sent the same survey (Appendix C) in May when the student teachers were finished in the placement with the cooperating teacher. Also in May, each cooperating teacher was contacted to arrange an interview. The interview questions are located in Appendix D.

### **Data Collection Procedures**

Participants were emailed the survey through Google Survey to their professional email address. Google Survey compiled the responses in a spreadsheet based on each individual question and response as each participant completed the survey. The survey contained both multiple choice as well as extended responses. The final survey in May was completed in the same format as the initial December survey. In addition, the May survey is identical to the December survey.

The interview was arranged at the participant's school at a time convenient for the participant. The interview was conducted in a semi-structured interview process to allow for follow-up questions to be asked and ideas further explain by the participants (Drever, 1995; Fraenkel, Wallen, & Hyun, 2014). The interview was taped and recorded. The interviews lasted approximately 20 minutes. Upon completion of the interview, the responses of the participants were transcribed by the researcher.

### **Research Questions**

1. Does a student teacher cause a cooperating teacher to be more reflective?
2. Does a student teacher cause the cooperating teacher to have a greater number of reflective moments?

Beyond the immediate answers to the questions, the researcher attempted to ascertain how, if at all, the student teacher caused the cooperating teacher to be more reflective. In addition, the researcher examined how a student teacher does or does not cause a greater number of reflective moments.

### **Data Analysis**

#### **Research Question 1**

In evaluating research question 1, the results in the survey were analyzed qualitatively. Responses to the survey were coded and triangulated using Grounded Theory (Corbin & Strauss, 1990) to determine if there were any common themes in the impact of student teachers on the reflective practices of cooperating teachers. Specifically, question #9 in the survey was examined to address research question #1.

In addition, the responses of the interview were coded and triangulated to determine if there were any common themes in the impact of student teachers on the reflective practices of cooperating teachers. Questions 2, 4, 5, 8, 12, and 13 of the interview were the most helpful in identifying the effect of the student teacher on the reflective practices of the cooperating teacher.

Themes appearing in the coding of the data fell into two categories: reflection and metacognition. The metacognition aspect was an unintended finding in the research. Using these two categories, many subcategories from within these categories appeared.

### **Research Question 2**

In analyzing research question 2, the results in the survey were analyzed qualitatively. Responses to the survey were coded and triangulated using Grounded Theory (Corbin & Strauss, 1990) to determine if there were any common themes in the impact of student teachers on the reflective practices of cooperating teachers. Specifically, questions #8 and 10 in the survey were examined to address research question #2.

In addition, the responses of the interview were coded and triangulated to determine if there were any common themes in the impact of student teachers on the reflective practices of cooperating teachers. Questions 3, 4, 6, 7, 9, and 10 of the interview were the most helpful in identifying the effect of the student teacher on the reflective practices of the cooperating teacher.

As with research question #1, themes appearing in the coding of the data fell into two categories: reflection and metacognition. Using these two categories, many subcategories from within these categories appeared.

Table 1

Research questions		Survey 1 (Dec.)	Survey 2 (May)	Interview (May)
Research Question #1	#9	#9	#2, 4, 5, 8, 12, & 13	
Research Question #2	#8 & 10	#8 & 10	#3, 4, 6, 7, 9, 10	

### Assumptions

There were a few assumptions concerning the participants in this study. First of all, the participants were assumed to be in good mental and physical health. In addition, the responses of the participants were assumed to be accurate and inclusive of their actual experiences in the school setting. Also, the participants were assumed to draw upon the same definition of reflection as used as the theoretical framework of this study. To be sure there was a similar reference point concerning reflection, the survey and interview asked the participant to provide his/her definition of reflection. A decision was made to not provide a working definition of reflection in an effort to effectively collect what was happening in the field and lessen the halo effect from the participants. Through the study, these assumptions were expected to be fulfilled to ensure accurate data was collected.

## CHAPTER IV. RESULTS

In this chapter, the results from the data analysis are presented. The data were analyzed from the three sources as indicated in chapter 3: a pre survey, a post survey, and an interview with the cooperating teacher after the student teacher finished his/her placement. As indicated in chapter 1, the data were analyzed with a focus on the two research questions: *Does a student teacher cause a cooperating teacher to be more reflective?* and *Does a student teacher cause the cooperating teacher to have a greater number of reflective moments?* Both questions were addressed and examined for potential reasons why they were or were not affirmative.

### **Characteristics of the Sample**

Subjects had a student teacher in their classrooms from a small, private institution from Northwest Ohio for the spring 2015 semester. Subjects were then further restricted based on teaching grades 6-12 in a school from a radius of 40 miles from the small, private institution in Northwest Ohio. From the possible teachers, seven teachers were selected randomly and recruited via letter (Appendix B). The convenience sample of teachers responding to the letter was used for the study. Of the seven selected teachers, only five completed the survey and four cooperating teachers agreed to participate in the interview process after the surveys. It is important to note the four cooperating teachers that participated in the interview were part of the same group of individuals who completed both the pre and post surveys through Google Drive.

As the survey participants were not asked to complete or provide any identifiable information, the participants of the survey will be reported in one large group. Data were analyzed for tendencies over the large group. The teaching experience in terms of years of the five teachers involved in the survey varied as well. Within the group, one teacher has been teaching 1-5 years, one 6-10 years, two 11-15 years, and one 25 or more years. Four of the five

teachers self-reported as working in rural school districts. The fifth teacher reported working in a suburban school district. Two of the cooperating teachers were employed in middle schools while the other three reported working in a high school setting. Lastly, one teacher self-reported having earned an undergraduate degree, three teachers earned master's degrees, and one has earned a master's degree plus additional graduate credits.

As the interview of the participants allowed for a more detailed description of the participants, each participating teacher was assigned a letter and he/she will be referred to as Teacher A, Teacher B, Teacher C, or Teacher D. This was completed in an effort to maintain confidentiality as names could lead to identification by readers of this study.

Teacher A was a male history teacher of 11 years employed at a rural high school. Teacher B was a male history teacher of 6 years in a rural middle school setting. Teacher C was a male history teacher of 16 years in a split middle school and high school rural setting. Lastly, Teacher D was a female science teacher of 4 years in a rural middle school setting.

### **Instrument Validity and Reliability**

There were three instruments used in collecting data for this study: an initial survey of the cooperating teacher, a survey of the cooperating teacher after the student teacher has completed his/her placement, and an interview with the cooperating teacher after the student teacher has completed his/her placement. All instruments were vetted and analyzed by two experts in the field. As stated in chapter 3, the first expert was a professor at a small university in Northwest Ohio. The individual specialized in teaching content methods and was the instructor for the teaching methods course on the campus. The individual was also the director of the Center for Teaching Excellence on the campus. The other expert was an associate professor in the doctoral program of a small university in Northwest Ohio. The individual was an expert in interview and

survey mechanics. In addition, the questions in the surveys and the interview were grounded in Rodgers' (2002) foundation and definition of reflection: meaning making, scientific inquiry, community, and growth of self and others.

In an effort to increase validity and reliability, the questions for the interview were scripted and the same for all participants as required for using the semi-structured interview process (Drever, 1995; Fraenkel et al., 2014). In addition, the same survey was used for the pre and post survey for the cooperating teachers. Utilizing both a survey and personal interview allowed for data triangulation based in Grounded Theory (Corbin & Strauss, 1990) as the information was richer and provided a deeper understanding of the information.

### **Research Question 1**

The first research question analyzed was *Does a student teacher cause a cooperating teacher to be more reflective?* In examination of the data from the surveys and interviews of the cooperating teachers, a set of codes were used to understand and categorize the information provided. The codes were directly related to the theory used to examine and understand reflection provided by Rodgers (2002). There were four characteristics provided for reflection:

1. Reflection is a meaning-making process that moves a learner from one experience into the next with deeper understanding of its relationships with and connections to other experiences and ideas. It is the thread that makes continuity of learning possible, and ensures the progress of the individual and, ultimately, society. It is a means to essentially moral ends.
2. Reflection is a systematic, rigorous, disciplined way of thinking, with its roots in scientific inquiry.
3. Reflection needs to happen in community, in interaction with others.

4. Reflection requires attitudes that value the personal and intellectual growth of oneself and of others. (Rodgers, 2002, p. 845)

The first code used was meaning making. To define the code, it is best to use the definition as explained Rodgers,

...we can say that a reflective teacher does not merely seek solutions, nor does he or she do things the same way every day without an awareness of both the source and the impact of his or her actions. Rather, from his or her practice and the students' learning, the teacher seeks meaning and creates from this a theory to live by, a story that provides structure for the growth of the students and the teacher. When the teacher seeks solutions, he or she also pursues connections and relationships between solutions so that a theory might grow. This theory guides practice (which includes but is not limited to problem solving) until it encounters a situation where the theory no longer serves, at which point, through more reflection, it is either revised, refined, or discarded, and a new theory is born. (Rodgers, 2002, p. 849)

An element categorized in the code of meaning making refer to any aspects of the above definition or the process it describes. Ultimately, the code will be used for situations where a teacher describes an issue where he/she is looking to make connections between what actually happened and the problems or solutions derived from the experience. Also, any mention of a theory or foundation from which the teacher operates and problems or supporting items to that theory will fall into the code of meaning making.

The second code used was scientific inquiry. Again, a definition of the code is best defined by Rodgers (2002),

1. an experience;



2. spontaneous interpretation of the experience;
3. naming the problem(s) or the question(s) that arises out of the experience;
4. generating possible explanations for the problem(s) or question(s) posed;
5. ramifying the explanations into full-blown hypotheses;
6. experimenting or testing the selected hypothesis. (p. 851)

As nearly all of the elements mentioned in the interviews and surveys will relate to #1 of Rodgers' (2002) explanation- an experience, a focus will be on the remaining five elements of the definition and how they are depicted in the data. Here, references that mentioned a collection of data from an experience and generating possible explanations from the data were coded scientific inquiry. Also, when the teacher attempted to test a hypothesis, it was coded in the scientific inquiry area.

The third code used was community. Again, Rodgers' (2002) explanation for community was used to define the code. Rodgers (2002) states: "Dewey knew that merely to think without ever having to express what one thought is an incomplete act. He recognized that having to express oneself to others, so that others truly understand one's ideas, reveals both the strengths and the holes in one's thinking" (p. 856). Here, the coded comments for community depicted the teacher working with others in an effort to reflect.

The final code used was growth of self and others. Rodgers' (2002) explained growth of self and others as,

Dewey believed that the attitudes that the individual brought to bear on the act of reflection could either open the way to learning or block it. Awareness of our attitudes

and emotions, and the discipline to harness them and use them to our advantage, is part of the work of a good thinker, he argues. He recognized the tendency in all human beings to see what we wish were true, or what we fear is true, rather than to accept what evidence tells us is so. (Rodgers, 2002, p. 858)

Growth of self and others was used for comments and responses with the underlining goal of improvement. The improvement can be the cooperating teachers' personal growth or the student teachers' growth in the profession.

In an effort to structure the information, this study examined each teacher interview as a separate entity and then analyzed the pre and post surveys in order to address the research question.

## **Interviews**

### **Teacher A**

To begin the examination of Teacher A, it was best to review Teacher A's personal reflection practice in order to establish a beginning point prior to the student teacher's arrival and then compare it to the self-explained practices when the student teacher was present. Teacher A (Appendix E) when asked the second interview question, *What are your areas of focus for your personal reflection?*, focused on meaning making two times. Teacher A stated, "Mine is just looking at the overall understanding. Did the students get what we were trying to get across? What are the questions that they asked? What are areas that they need help in? And basically, just what can you do better?" In addition, Teacher A using meaning making explained,

A lot of it is you can't measure until the next day. When they come back with their homework, go over their homework. See what they did. What questions did they have? What problem spots were there? What parts did they think were too easy? And just try

and generally reflect and say alright I can maybe cut back on five minutes here on this part of the lesson so I can devote five more minutes toward a harder part of the lesson.

Both situations depicted Teacher A creating meaning from the experiences to attempt to create relationships between the information provided by the students and using it to impact his instruction. For example, in the first comment, Teacher A mentioned, “What areas do they [students] need help in?” Here, he was making meaning of the feedback provided by the students and comparing it to his theory of education to create an understanding of what the students need as far as extra support. This connected to Rodgers’ framework as Teacher A was making meaning of the feedback and connected it to his personal theory of education.

In addition, in the second response, Teacher A commented, “What problem spots were there? What parts did they think were too easy?” This depicted Teacher A again using the situations that appeared in his classroom and making a meaning of them based on his previous experiences as an educator. This was evident as he described his ability to “cut back on five minutes here on this part of the lesson so I can devote five more minutes toward a harder part of the lesson.” This showed Teacher A’s ability to make meaning and make connections between what happened and attempt to understand their relationships. No other codes appeared in relation to reflection.

The next interview question analyzed was #4: *Did your reflection opportunities change as a result of having a student teacher than prior to the student teacher being in your classroom? If yes, how and why? If no, why not.* This question elicited a response in the meaning making area as well as community aspect. In regard to meaning making, Teacher A stated, “So it got me to reflect and then I was able to talk to him through those problems. Saying hey, did you think of this? Did you think of trying this? Would you do this in the future? What are your thoughts?”

Teacher A examined his own teaching practices in order to help the student teacher examine his/her own practices. In addition, a reference to community appeared. Teacher A stated, "...just to get an open conversation going." This shows an attempt to build a situation where a community can exist. Teacher A attempted to ask open ended questions in an effort to truly understand his student teacher's ideas. Open ended questions like "Would you do this in the future?" and "What are your thoughts?" allowed the student teacher to inform Teacher A of his/her ideas so the two of them can come to an understanding of the strengths and weaknesses of the thinking.

Lastly, in the examination of the data, a glimpse into the why reflection was able to take place as Teacher A indicated having more time to reflect due to a student teacher stating, "I wasn't at the center and forefront of the class where I could be just a general observer." Here, Teacher A depicted how he was able to reflect more due to the extra time he had due to the student teacher. This provided insight into the benefit of time in regard to the reflection process. Teacher A felt the additional time provided more opportunity for reflection.

Following question #4, the next question examined was #5: *What types of reflective practices did you partake in as a result of your student teacher?* Teacher A indicated a response relating to scientific inquiry. He stated, "...just kind of thinking as I would have done this as a teacher. What would the results have been? Versus what he did. What were the results? Pros/cons. Look at it both ways." Here Teacher A was interpreting his teaching experience against those of his student teacher, naming questions that arise, generating possible explanations, and trying to generate explanations. Teacher compared his teaching and results to that of the student teacher's. He is questioning the results and positives and negatives of the experience. By conducting this analysis, he was using the scientific inquiry process: spontaneous interpretation

of the experience, naming the problems or questions from that experience, generating explanations, and developing a hypothesis.

Question 8 was next analyzed. The question used in the interview was *Do you find the reflective period with your student teacher to lead to change in your teaching practice? If so, how?* Teacher A indicated growth of self and others. Teacher A explained when depicting his prior use of typed notes in class and his willingness to change due to his experience with his student teacher: “So I have kind of done that a little bit just to change it up. So that way not everything in class is so predictable that I kind of get things going a bit more and get more kids up in different ways. We have always had the kids up at the board but just do a little bit different practicing that he has been taught in his education program/college.” Here, Teacher A acknowledged an attitude willing and open to learning after working with his student teacher. Teacher A acknowledged his class had become “predictable” and he was willing to try what his student teacher was “taught in his education program.” Clearly, Teacher A indicated a desire for growth of his own teaching practices by using ideas from his student teacher.

The connection to growth of self and others again appears in question 13: *Have you grown professionally from having a student teacher? If yes, please explain how.* Teacher A commented, “Yeah, you, if you’re not growing professionally I think you are kind of missing out on the boat of the whole experience. This is the third [student teacher] I have had in my career and every one has brought just a little bit of different picture to the overall teaching.” Again, Teacher A is indicating a willing and open approach to learning about his practice with his student teacher. He mentions how each student teacher brought a “different overall picture” to his teaching. Teacher A even indicated a growth of self by indicating how the experience of working with a student teacher leads to professional growth as well by stating, “...if you’re not

growing professionally I think you are kind of missing out on the boat of the whole experience.” Both the aspect of a different perspective and the professional improvement indicated by Teacher A showed a perceived growth of self.

Lastly, question 12 directly asks, *Do you believe you are more reflective when having a student teacher? Explain why or why not.* Teacher A indicated he felt the student teacher makes him more reflective: “I would say yes...” In addition, Teacher A indicated a reason for his answer. Teacher A felt he was afforded more time when working with a student teacher. He stated, “...there is a little bit more time and you are always trying to think of what they can do better to try and help them.” This indicated an improvement focus on the student teacher, but he continued by stating, “...this way it opens up your schedule a little more while you are in school you are able to think more on school related topics.” Also, Teacher A concluded, “And just a normal teaching mode where you are by yourself and there is no student teacher, you are just going from class to class to class and at the end of the day you’re not always thinking about what you did that day.” Indeed, Teacher A strongly indicated how the additional time allowed him to believe he was more reflective when working with a student teacher.

Overall, Teacher A indicated a presence of meaning making in his pre student teacher reflection situations. Once the student teacher arrived, comments indicated a presence of meaning making as well as scientific inquiry, community, and growth or self and others. In addition, Teacher A indicated that having a student teacher caused him to be more reflective.

### **Teacher B**

An analysis of Teacher B’s personal reflection practices was used to establish a beginning point prior to the student teacher’s arrival and then compare it to the self-explained practices when the student teacher was present. Teacher B when asked the second interview

question, *What are your areas of focus for your personal reflection?*, focused on scientific inquiry. Teacher B stated, “I like, I definitely reflect on, I think the, the lesson delivery to find out if it was successful. When I look at kids’ results when I formative assess them, what did I do well and what can I improve. What holes are there in my, is in my delivery. And what holes is in their content knowledge. And how I can fix it for the following day.” Clearly, this comment reaches three of the elements of scientific inquiry as Teacher B made a spontaneous interpretation of the results from a formative assessment: “...what did I do well and what can I improve.” Based on these results, he analyzed any possible “holes” in his delivery and student content knowledge. He then finished with a search for possible explanations. All of these steps indicated scientific inquiry.

The next interview question analyzed was #4: *Did your reflection opportunities change as a result of having a student teacher than prior to the student teacher being in your classroom? If yes, how and why? If no, why not.* This question elicited a response in the meaning making area. Teacher B stated, “You know you see the kids responding to something that you would do and you are like, ‘Wow, that wasn’t very good at all.’ And so, it really starts to make you think about your own practice and your own craft. ” In this situation, Teacher B created a meaning pertaining to his own craft by watching his student teacher. Teacher B explained the meaning making reason being, “So, I don’t think there is a greater way to reflect upon yourself than when you are trying to mentor and help out a young educator. “ Here, Teacher B explained how the presence of a student teacher helps in his own meaning making of his practices.

Following question #4, the next question examined was #5: *What types of reflective practices did you partake in as a result of your student teacher?* Teacher B indicated a response relating to meaning making. He stated, “I have had the luxury of having a student teacher to be

able to really reflect on everything that I have been doing, and almost forcing them to try something new.” By “reflecting on everything I have been doing,” he was making meaning on his previous moments and evaluating these experiences against his operating theory of education. Again, as in the response to question 4, Teacher B used his experience with his student teacher to personally make meaning of his own practices in an effort to understand them for future application as part of his working theory.

Question 8 was next analyzed. The question used in the interview was *Do you find the reflective period with your student teacher to lead to change in your teaching practice? If so, how?* Teacher B continued his expressed meaning making with the presence of a student teacher. Teacher B explained when he examined his grading system and assessments for his classes: “And so, reflecting on that, that was a good thing but I also think that my assessments were off the mark. I don’t think that they were necessarily challenging enough.” Again, as Teacher B evaluated that his “assessments were off the mark” he was using his previous experiences to make meaning of his assessments. He depicted how the assessments were not as challenging as he would like for his students. Teacher B again used his previous experiences to help inform his working theory as an educator.

In addition, Teacher B continued later, “I found that my grading is flawed. So that is why the last nine weeks I went to solely based grading where you are going to move your way up the ladder and if you are hopefully at the end of this next evaluation, if they are mastery they will have demonstrated mastery and not just did well for the third time on a multiple choice test.” Finally, Teacher B commented about his grading system, “... I have created a system and I am not necessarily getting the desired results out of it.” Teacher B provided three meaning making comments about his personal assessments. He was clearly asked a follow up asking if the



reflection period with his student teacher led him to this thought process and he responded, “It did.” Teacher B examined his grading practices. However, the explanation did not rise to scientific inquiry as Teacher B did not look at possible explanations. This implication suggested possible inability to reflect due to Teacher B not being aware of the full reflection process. An understanding of the full process would have allowed Teacher B to dive more deeply into the problem.

Meaning making was again the focus in question 13: *Have you grown professionally from having a student teacher? If yes, please explain how.* Teacher B commented, “Where I have gone through a total change, total 180 on my grading and my approach to education. And, it couldn’t have happened at a better time because I am firm in my beliefs now.” Now Teacher B indicated a change in his “theory” on grading and his “approach to education.” This meaning making comment further continued his documented struggle with grading due to the presence of his student teacher.

Lastly, question 12 directly asks, *Do you believe you are more reflective when having a student teacher? Explain why or why not.* Teacher B indicated he felt the student teacher makes him more reflective: “I am definitely more reflective...” In addition, Teacher B indicated a reason for his answer that focused on growth of self and others and meaning making. Teacher B stated, “...because I need to be able to practice what I preach. It is very easy to sit in this chair when someone else is in front for the class and be critical. ... If I am going to enforce a standard or preach some sort of educational philosophy, I better be practicing it when that student teacher leaves.” Now, Teacher B indicated a growth of self and others as he has stated an awareness of understanding what needed to be changed and an effort to “practice what he preaches.”

Also, Teacher B indicated meaning making as he discussed his change in grading procedures and approach, "...you are not going to be second guessing that student teacher, but you are saying wow that worked. Or maybe that didn't work. How can I do that? Do I do that? That was really great what they just did with the class. Can I emulate that? So I think if the cooperating teacher is taking every advantage of the opportunity they have then they will be constantly reflecting throughout." Here Teacher B concluded with a meaning making reference. He discussed the meaning making he did as he observed the student teacher. Teacher B compared what he observed to his working theory of education. He evaluated what worked and why by examining "How can I do that?" or "Can I emulate that?" when he noticed success by his student teacher. Teacher B even examined "Do I do that?" This allowed him to compare what he was observing with his personal teaching theory. Teacher B was constantly attempting to understand and either self-analyzed or self-critiqued his own teaching pedagogy in relation to the student teacher's practices.

Overall, Teacher B indicated a presence of scientific inquiry in his pre student teacher reflection situations. Once the student teacher arrived, comments indicated a presence of meaning making and growth or self and others. In addition, Teacher B indicated that having a student teacher caused him to be more reflective.

### **Teacher C**

An analysis of Teacher C's personal reflection practices was used to establish a beginning point prior to the student teacher's arrival and then compare it to the self-explained practices when the student teacher was present. Teacher C when asked the second interview question, *What are your areas of focus for your personal reflection?*, focused on three times on meaning making. Teacher C stated, "What works and what doesn't." In addition, Teacher C

expanded more with a clearer example of his meaning making, “One of the things that I do like to make sure that works is if I do something in class and it gives the kids too much free time and they are screwing around then I immediately, I don’t reflect upon it necessarily, I immediately say on the fly once again, I immediately say, ‘This isn’t working I need to do something else.’ Or I need to stretch it out.” Finally, Teacher C commented, “It is something I do right on the fly.” All three of these elements are tied together in Teacher C’s desire to make meaning of his experiences. Teacher C attempted to draw a connection between his experiences and use them to build his theory on educating students. His pedagogy was used in an “immediate” sense as he made decisions and adjustments within the class period.

The next interview question analyzed was #4: *Did your reflection opportunities change as a result of having a student teacher than prior to the student teacher being in your classroom? If yes, how and why? If no, why not.* This question elicited a response in the meaning making area. Teacher C stated, “So, I guess in a sense did it help me to have a student teacher? I didn’t really change anything. I was just saying, ‘Here is what I do, and here is what you did. And here’s why I do it my way. And here’s why doing it your way doesn’t work because you saw the results.’” Again, Teacher C was comparing the student teacher’s practices to his own for a meaning making purpose. His comment, “Here is what I do, and here is what you did. And here is why I do it my way” showed how Teacher C is using his own working theory of education and used it to inform his comments toward his student teacher. Clearly, he used his observations to inform his practices and compared his practices to those of his student teacher.

Following question #4, the next question examined was #5: *What types of reflective practices did you partake in as a result of your student teacher?* Teacher C indicated a response relating to community. He stated, “So, I guess, discussion, I guess.” Here, Teacher C indicated

for the first time a collaborative effort between his student teacher and himself. As a discussion indicated a two person moment where both were contributing, it was established this comment fit into the community aspect of reflection.

Question 8 was next analyzed. The question used in the interview was *Do you find the reflective period with your student teacher to lead to change in your teaching practice? If so, how?* Interestingly, Teacher C indicated a strong “no” in regard to the initial question. He did not feel the presence of a student teacher led to a change in his practice. However, Teacher C continued his expressed comments on meaning making with the presence of a student teacher. Teacher C explained vaguely about how the presence of a student teacher allowed him to form meaning about his own teaching practices. Teacher C stated, “I guess I might have, you know, I sat and listened to him and been like, ‘OK, maybe I have fallen into this trap a little bit.’” In addition, Teacher C commented, “But every once in a while something he would do would kind of get my attention and I would think, ‘OK, well, you know, maybe I’m telling him not to do that but here maybe I’m doing it.’ So maybe I could not do that anymore.” Although not providing specific examples, Teacher C explained how the presence of the student teacher provided an opportunity for him to analyze the meaning making aspect.

He used the practices of the student teacher to help him make meaning of his practices and help inform his “theory” of effective education for his students. Comments such as “...maybe I have fallen into this trap a little bit” shows Teacher C compared the actions and practices of his student teacher to his own practices and theory and noticed a similarity. Also, Teacher C noticed “...maybe I’m telling him not to do that but here maybe I’m doing it.” In this instance, Teacher C noticed his student teacher is doing and action he himself has done and

realized it is not an action he desired. By his realization, Teacher C has used the experience to inform his practice and thus make meaning.

Meaning making was again the focus in question 13: *Have you grown professionally from having a student teacher? If yes, please explain how.* Teacher C commented, “It does, I guess, make you analyze your own teaching a little bit. I guess a little bit more.” In addition, Teacher C stated, “You have to be a little analytical of what you do since you are explaining it to the student teacher all the time.” Here Teacher C described how he had to make meaning of his own practices in order to effectively mentor his student teacher. He explained how he was “a little analytical” of what he was doing. Without an ability to make meaning of his own practices, he was unable to clearly communicate with his student teacher. This showed the importance and impact of the student teacher and how the student teacher’s presence provided an opportunity to reflect more of his practices. Without the student teacher, this opportunity would be less likely to occur.

Lastly, question 12 directly asks, *Do you believe you are more reflective when having a student teacher? Explain why or why not.* Teacher C indicated he felt the student teacher makes him more reflective: “Yeah, you have to be.” However, he did not provide a clear response for why he felt this way in regard to being more reflective. In addition, none of his comments fit within any of the reflective areas for the codes used in this study.

Overall, Teacher C indicated a presence of meaning making in his pre student teacher reflection situations. Once the student teacher arrived, comments still indicated a presence of meaning making and one reference to community. In addition, Teacher C indicated that having a student teacher caused him to be more reflective although he was unable to provide a clear reason to support his belief.

### Teacher D

An analysis of Teacher D's personal reflection practices was used to establish a beginning point prior to the student teacher's arrival and then compare it to the self-explained practices when the student teacher was present. Teacher D when asked the second interview question, *What are your areas of focus for your personal reflection?*, focused completely on scientific inquiry. Teacher D stated, "I'll look at the growth that I have seen from my kids from the beginning to the end with those formative assessments. How I thought the flow of the lesson went. If I needed to change up the order of anything or if I needed to add in any extra explanations." Here, Teacher D indicated an interpretation of formative data from assessments. She used this data to name any problems she observed and attempted to generate possible explanations.

The next interview question analyzed was #4: *Did your reflection opportunities change as a result of having a student teacher than prior to the student teacher being in your classroom? If yes, how and why? If no, why not.* This question elicited three responses in community and one in the meaning making. Teacher D stated, "I am a super reflective person so I think if anything though it was just nice to have another person to bounce the reflections off. So, that was one nice thing. I am the only sixth grade science teacher so I talk with my other colleagues about you know how things are going in class. We meet every day in team but it was nice having somebody in my classroom that we could kind of talk together." In addition, Teacher D commented, "And so it was nice to have somebody to bounce ideas off of to see OK if we were going to change something, how would we change it?" Finally, Teacher D explained, "...I have a lot of questions that I feel like I have to answer myself that I don't get a lot of you know. So it is nice when you can go back and forth with somebody else." Teacher D explained how the

presence of a student teacher provided the in-class reflective piece she felt she does not have in her school as the only science teacher in her grade. Her explanations such as “it was just nice to have another person to bounce reflections off” and “but it was nice having somebody in my classroom that we could kind of talk together” showed the personal benefit she experienced from an additional person in the classroom upon her reflective practice. In this instance, the community aspect of another person to communicate with in order to help her teaching practices was a benefit for Teacher D.

Also, Teacher D used meaning making in a response related to this question. Teacher D stated in a comment related to how she reflects after a lesson, “Ah, of the times it was just you know this is how we phrase something. Did the kids really grasp it? Or do we need to go back and a lot of times it was the brainstorming after we taught the lesson.” Here, Teacher D explained how she and her student teacher attempted to make meaning of their experiences in the classroom to inform their teaching practices. Her question “Did the kids really grasp it?” showed the meaning making process when analyzed to see if the student actually learned based on her working educational theory.

Following question #4, the next question examined was #5: *What types of reflective practices did you partake in as a result of your student teacher?* Teacher D continued her comment on community. Teacher D stated, “I was more conscientious when I reflected because I would share when she first started. I would like kind of share my reflections with her about how I thought the lesson went so that she could see, you know, this is what I look for and this is kind of how I grade myself when I am teaching.” Teacher D depicted a situation of two individuals who shared their experiences in a communal setting. As Teacher D explained she

“shared” her reflections so her student teacher “could see,” showed the two individuals worked together in the reflection process. Clearly, this depicted a community aspect to her comments.

Question 8 was next analyzed. The question used in the interview was *Do you find the reflective period with your student teacher to lead to change in your teaching practice? If so, how?* Despite the earlier comments relating to reflective practices, Teacher D indicated the presence of a student teacher did not lead to a change in her practice.

The focus of the comments was on growth of self and others as well as meaning making for question 13: *Have you grown professionally from having a student teacher? If yes, please explain how.* Teacher D commented in regard to growth of self, “...having someone come into your classroom makes you more aware of what you are doing and so it makes you strive to make sure that everything is even more perfect than before.” In addition, Teacher D stated, “She was either going to have questions about it or I was going to have to tell her.” Both the comments showed Teacher D’s concern with the improvement of herself as well as the growth of her student teacher. Her desire to do activities and her practices more perfectly (“it makes you strive to make sure that everything is even more perfect than before”) shows her concern for her own teaching pedagogy as well as that of her student teacher. In addition, Teacher D vocalized a preparation of herself for comments she had to make to her student teacher as well as questions that may appear. This depicts a concern for her personal growth as well as that of her student teacher. Also, Teacher D referenced meaning making by stating, “...I paid more closer [sic] attention to the details that I was providing in my reflection.” This comment showed Teacher D was focused on the key elements from her teaching in order to make a clear meaning for her personal reflection. This ties to the framework of meaning making as Teacher D paid “closer” attention to the details provided in order to better relate them to her working theory.



Lastly, question 12 directly asks, *Do you believe you are more reflective when having a student teacher? Explain why or why not.* Teacher D indicated she felt the student teacher made her more reflective: “Yes.” However, she did not provide a clear response for why she felt this way in regard to being more reflective. In addition, none of her comments fit within any of the reflective areas for the codes used in this study.

Overall, Teacher D indicated a presence scientific inquiry in her pre student teacher reflection situations. Once the student teacher arrived, comments did not indicate anymore areas of scientific inquiry but rather moved toward meaning making, community, and growth of self and others. Teacher D indicated that having a student teacher caused her to be more reflective although she was unable to provide a clear reason to support her belief.

### **Surveys**

As there were two surveys administered to the participating cooperating teachers, it is important to begin with an examination of the survey prior to the presence of the student teacher and compare its comments to those of the survey after the student teacher was finished in the placement. The initial survey had five respondents. When asked the question, *What is the content of a typical reflective period you have on a typical school day?*, the only area related to reflection was meaning making.

As the respondents were not identifiable, all comments will be talked of in general. Of the five respondents, only four made comments in the meaning making area. A cooperating teacher explained, “Teaching strategies, questioning, assessment, homework assigned, how did students respond to lesson, what questions did they have following lesson.” Here, the teacher was examining specific moments in the day and comparing them to his/her theory. Looking at student responses that fit and those that did not fit in to the working theory were reflected upon

by the teacher. Another teacher stated, “Student responses, flow of lessons, availability & ease of use with technology, student HW, testing results.” This depicted a teacher examining a multiple of items from the classroom: responses, lessons, technology, homework, and testing results. The teacher is making meaning of these experiences as they either fit or do not fit into his/her working theory.

A third cooperating teacher explained, “I decide wether [sic] my lesson worked or not. I make notes on my plans on what I want to change next time.” Again, this teacher was reflecting on the lesson to impart change on his/her working theory with the end result of positive change for the next use of this lesson. The final cooperating teacher explained, “General Science curriculum and needs. Test Preparations.” This teacher was reflecting on more abstract items such as curriculum and assessment. However, these are being evaluated according to the teacher’s personal working theory of education to see if they fit or change that working theory. All of the responses are attempted areas where the cooperating teachers were meaning making in their own personal classrooms.

After the presence of a student teacher, the cooperating teachers’ comments were clear and four of the five relayed comments toward meaning making. In regard to meaning making, cooperating teachers commented, “I think about what went well, what can I do better, & what questions were asked that I need to address in the future.” Here, this teacher was reviewing his/her success or failure within the classroom and comparing it to his/her operational theory for education. In addition a teacher stated, “What went well an[d] what totally bombed. How does this relate to decisions I’ve made in the past? What is this connected to that I can use in the future?” Again as with the previous teacher, this educator was comparing what happened to

his/her working theory. The statement concerning an effort to make connections and an evaluation on how to use the understanding in the future directly relates to meaning making.

Also, another teacher commented, “Did my lesson work. Is it going to help students understand the content. Will it help students pass the state mandated tests.” Here, this teacher was evaluating if his/her lesson was successful. As the bearing of success is rooted in the teacher’s personal theory, it is a clear meaning making procedure. Another teacher explained,

Did students show understanding of the science content? What worked/did[n]’t work in the lesson. Order and structure of lesson activities (within the lesson itself and the lesson within the unit) My feelings in general of the day. Reminders for next year (and sometimes the next lesson) to change. Management issues or successes. Concerns with certain students during the lesson (work habits or content related) Students response to lesson.

The final teacher discussed numerous instances and events he/she attempted to make meaning from: understanding, success of lesson, structure, feelings, management, and concerns. Each of these items was reflected upon and compared to his/her personal theory. This showed a clear connection to meaning making as he/she derived meaning from these aspects by comparing them to previous experiences that informed his/her theory.

All of the four comments depict examples of cooperating teachers who had an experience and are attempting to make meaning of the situation that occurred in order to connect to their operating theory of education or to challenge it for further consideration. Each one was looking to improve his/her practice by examining a practice and evaluate its usefulness.

*Does a student teacher cause a cooperating teacher to be more reflective?*

After and review of the data, the research question was addressed: *Does a student teacher cause a cooperating teacher to be more reflective?* In order to answer the question, it was necessary to evaluate all the teachers' interviews combined with the pre and post surveys. The most important element to understand was how every teacher indicated he/she was more reflective with his/her student teacher than without. In explanation, Teacher A indicated the increase in time as a factor for the increase of reflection. Teacher B explained a desire to "practice what he preaches."

In an attempt to explain the increase, or lack thereof, of reflection of the teachers, the researcher decided to compare the responses to the four pillars of reflection: meaning making, community, scientific inquiry, and growth of self and others (Rodgers, 2002). All four teachers participating in the interview displayed a growth in reflective practices. Teacher A only indicated a presence of meaning making prior to the student teacher arriving and after the student teacher indicated scientific inquiry, community, and growth of self and others. Teacher B only referenced scientific inquiry in his responses prior to the student teacher and after referenced meaning making and growth of self and others. Teacher C displayed meaning making prior to the student teacher and after again displayed meaning making and community. Finally, Teacher D commented on scientific inquiry prior to the student teacher and after referenced meaning making, community, and growth of self and others.

In reviewing of these data, it was clear the teachers were indicating more of the elements of reflection. However, none fully displayed all four elements of reflection at one time before the student teacher arrived or after leaving the placement in the interview.

By an addition of the survey information, the data did not indicate any change in reflection prior to the student teacher when compared with afterward. All the teachers commented on meaning making both before and after the presence of the student teacher.

After a review of both the interviews and surveys, the result was inconclusive. The teachers all believed they were more reflective. However, the data did not support their claims. The surveys showed only meaning making with no reference of the other three elements of reflection. The interviews showed an increase of the reflective elements in the teachers when a student teacher was present. However, no teacher indicated a use of all four categories of reflection in their responses either in the pre-survey, the post survey, or interview.

## **Research Question 2**

The second research question analyzed was *Does a student teacher cause the cooperating teacher to have a greater number of reflective moments?* In examination of the data from the surveys and interviews of the cooperating teachers, the same set of codes relating to reflection in research question 1 were used to understand and categorize the information provided: meaning making, scientific inquiry, community, and growth of self and others.

In an effort to structure the information, this study examined each teacher interview as a separate entity and then analyzed the pre and post surveys in order to address the research question.

### **Interviews**

#### **Teacher A**

In the analysis of Teacher A's amount of reflective moments, it was decided to begin with question 3 from the interview: *Please explain the reflective process for you individually and the reflective process with your student teacher.* The question was selected to be analyzed first

as it was an initial point for the cooperating teacher to explain his/her reflective process as well as that with the student teacher present. In a review of this response, Teacher A indicated a response in community by stating, "...basically what I did with my student teacher was explain to him what my thoughts were as a teacher." As Teacher A explained he and his student teacher met together and Teacher A would "explain" to the student teacher his "thoughts," it is clear they are doing this activity in community with each other. However, Teacher A's community response indicated a meeting would take place but no reference as to how often.

When followed by question 4, *Did your reflection opportunities change as a result of having a student teacher than prior to the student teacher being in your classroom? If yes, how and why? If no, why not?*, Teacher A provided more of a connection to the amount of reflective periods he felt he had due to his student teacher. Teacher A commented, "A little bit because I wasn't at the center and forefront of the class where I could be just a general observer." Here Teacher A explained how he felt he had more reflective opportunities due to the time he had available to him as he was not required to be "at the center and forefront" of the classroom at all times. This provided a reason why Teacher A was able to have more reflective opportunities as he had more time to reflect.

Continued evaluation of the interview brought the researcher to question 6: *Describe a typical reflection period with your student teacher.* In question 6, Teacher A referenced community by explaining a meeting between his student teacher and him on a daily basis. Teacher A stated, "Basically, what we would do after lesson at the end of the day we would pick out a class and say, "Alright, what went well? What went bad? What would you do over again? As if you got to teach this in year two, what would you keep the same? What would you change and why? Just basically trying to get the big picture of it." Here, Teacher A indicated an amount

of times a reflective period took place- once per day and at the end of the day. This is important as it shows Teacher A only participated in a reflective session that involved community as he and his student teacher would discuss key aspects of the lesson from the day and analyzed pedagogical choices and decisions: success, failure, and future planning.

After a review of question 6, it was necessary to examine question 9: *Did any reflective experiences with your student teacher lead you to try new or otherwise untried methods in the classroom? If so, explain.* This question allowed the researcher to further examine the reflective experiences of the cooperating teacher to see if they led to any new methods as a result of the presence of the student teacher. Teacher A indicated a growth of self in the response by stating, “Something that stuck with me that he brought over was making sure that when you look at Pythagorean’s Theorem, a lot of kids miss out on the part that it has to be a right triangle. So some things that he did with that to make sure to get instilled in their mind that it has to be a right triangle, I’ll use in the future.” Here, Teacher A indicated he gained only one item from working with his student teacher he plans to use after the student teacher has left the classroom- an idea for Pythagorean’s Theorem. An example of only one item shows the possibility of limited reflective time as numerous reflective moments likely would have led to more change in his practices.

Question 10 continued to reinforce the same idea as question 6. Question 10 asked, *Did you change any of your teaching practices as a result of the student teacher being in your room? If so, explain.* Here Teacher A did not reference any reflective ideas. However, he stated the student teacher did not change any of his practices by a comment, “No, I don’t think so practice wise.” Again, Teacher A indicated a limited amount of reflective moments as reflective

opportunities would lead to some change in his practices either from reaffirmation or challenging his operational foundation or theory.

Overall, Teacher A did not indicate increased reflective opportunities through his comments related to his reflective practices as defined by Rodgers (2002) with or without his student teacher. He did indicate a reflective meeting held in a communal aspect once per day and at the end of the day.

### **Teacher B**

In the analysis of Teacher B's amount of reflective moments, question 3 from the interview was the first question: *Please explain the reflective process for you individually and the reflective process with your student teacher.* In a review of this response, Teacher B indicated a response in meaning making by stating, "Did we make the connections that we need to to get kids where they need to go." Here, Teacher B's meaning making response indicated an effort to make meaning out of the information provided from the classroom period. Teacher B continued by discussing scientific inquiry:

First of all, formative assessment more so as a means to evaluate kids. I don't think it is a means to evaluate kids. It is a means to evaluate yourself. Is are they giving you the feedback that you need as a teacher to say OK they are ready. Let's go on to the next thing. Or, OK, I have got a group that is ready to go. They are going to do something the next day that is a little bit different and we are going to do some re-teaching. We are going to present some information in a different way to get kids where they need to be.

Here, Teacher B indicated scientific inquiry as he was spontaneously interpreting the experience by examining the "feedback" from the students. He then named the problem and generated



possible explanations by examining if the students are “ready to go.” Teacher B then produced possible explanations and adjusted his teaching based on his understanding of the situation by deciding to possibly “...do something the next day that is a little bit different.” Despite the connection to reflection there was no mention of amount of reflective times or opportunities for reflection.

When followed by question 4, *Did your reflection opportunities change as a result of having a student teacher than prior to the student teacher being in your classroom? If yes, how and why? If no, why not?*, Teacher B provided more explanation into reflection and included community. He stated, “So finally, through some reflective practice and dialogue between him and I, we were able to able to say OK. Maybe I should not do it the way you said, but we should try some other things that you think would work.” Here, Teacher B explained how he met in a community setting with his student teacher. Again, it showed a reflective moment by his comment, “I should not do it the way you said, but we should try some other things that you think would work,” but there is no connection to the amount of reflective moments or times afforded to Teacher B during the student teacher experience.

Continued evaluation of the interview brought the researcher to question 6: *Describe a typical reflection period with your student teacher.* In question 6, Teacher B indicated a reference to community by explaining how the meetings progressed with his student teacher. Teacher B elaborated, “And after we figured each other out, things went a lot smoother and the dialogue would naturally happen.” He explained how a “dialogue would naturally happen” which clearly shows two people conversed in relation to the reflective period. However, there was again no reference to amount of dialogues or if there was a schedule for the dialogues.

After a review of question 6, it was necessary to examine question 9: *Did any reflective experiences with your student teacher lead you to try new or otherwise untried methods in the classroom? If so, explain.* Teacher B indicated, “No.” He felt there was no moment where the student teacher caused him to change his practices due to reflective moments.

Overall, Teacher B did not indicate increased reflective opportunities through his comments related to his reflective practices with and without his student teacher. Teacher B’s indication of no personal change due to his student teacher being in the classroom also suggests there were either limited opportunities to reflect beyond what was typically done prior to the student teacher.

### **Teacher C**

In the analysis of Teacher C’s amount of reflective moments, question 3 (*Please explain the reflective process for you individually and the reflective process with your student teacher*) was next analyzed from the interview. In a review of this response, Teacher C indicated what he did not do by stating, “Because, we didn’t spend a half an hour after each thing saying, ‘OK, well here is what you did wrong and here is what you did right.’” Teacher C suggested he did not spend 30 minutes reviewing each activity the student teacher completed. Although not helpful in establishing a growth in reflective opportunities, the comment concerning “not spend[ing] 30 minutes reviewing each activity” does provide a reference in how much time he did not spend in reflecting with his student teacher.

When followed by question 4, *Did your reflection opportunities change as a result of having a student teacher than prior to the student teacher being in your classroom? If yes, how and why? If no, why not?*, Teacher C explained, “Uh, not really.” Here, Teacher C explained how there was no change in his reflection opportunities.

Continued evaluation of the interview brought the researcher to question 6: *Describe a typical reflection period with your student teacher.* In question 6, Teacher C did not indicate a response that connected to reflection in any form. In addition, there was no mention to the amount of moments or how long any reflective opportunities lasted.

After a review of question 6, it was necessary to examine question 9: *Did any reflective experiences with your student teacher lead you to try new or otherwise untried methods in the classroom? If so, explain.* Teacher C again stated his student teacher did not lead him to try any new methods: “Um, no.” However, Teacher C did indicate there was one “pretty good idea that I am going to steal.” A connection to only one item from the entire student teaching experience indicated there were limited opportunities to reflect on his and his student teacher’s practices. This indicated no increase in the reflective opportunities provided as a result of the student teacher.

Question 10 continued to reinforce the same idea as question 6. Question 10 asked, *Did you change any of your teaching practices as a result of the student teacher being in your room? If so, explain.* Here, Teacher C did not reference any reflective ideas. However, he stated the student teacher did not change any of his practices by a comment, “Uh, no.” Again, Teacher C indicated a limited amount of reflective moments as reflective opportunities would lead to some change in his practices either from reaffirmation or challenging his operational foundation or theory.

Overall, Teacher C did not indicate increased reflective opportunities through his comments related to his reflective practices with or without his student teacher.

#### **Teacher D**

In the analysis of Teacher D's amount of reflective moments, the first question used was question 3 from the interview: *Please explain the reflective process for you individually and the reflective process with your student teacher.* In a review of this response, Teacher D indicated her own reflective practices prior to the student teacher by stating,

Like I said, a lot of times it might just be quick jotting down on a post it note if I want to change something. A lot of times it is just in my own brain. You know. That didn't go well. I'm going to shift it or change it. Change the order. Or change the way I say something from the next class. Or at lunch time is a great time too. Sometimes I'll even add in more manipulatives or more visual pieces for the kids if I feel like they are not grasping it. And then, at the end of the day I usually try and sit down and not 100% doing it all the time but I like to try and sit down and actually write out more of like a journal form but it will be at the end of each lesson plan each day. Just all of the things that went well, what I want to change for next year, what I want to keep the same. I even write down like funny things that the kids will say or funny ways that the kids will remember things. And then, that's usually how I just kind of end it. And then at the end of the unit too. Especially like when I see when I have graded tests because that helps me to see, you know, what did I hit well enough. Maybe I didn't hit something well enough that I should have on the test.

Here, Teacher D explained in depth her reflective practices prior to the student teacher. She depicted herself using a quick post it note while teaching. Teacher D also depicted how lunch time affords her the opportunity to reflect on her practices. Lastly, she stated how she reflected on her practices at the end of the day, after units, and assessments.

This response was then compared to her practices with the student teacher. Teacher D commented,

Student teacher. We always sat down, we tried to touch base, um, at lunch time. Just because it is really difficult to kind of change for a student teacher between periods and even being able to discuss things in a two-minute time span. So usually, I would just look at her and if something didn't go well and say, "Is there something you want to change for next time?" Um, just to kind of give her that prompt. And then at the end of each day though we definitely did touch base and said, "OK, what went well? What do we need to work on for tomorrow? You know, do we need to shift anything in your lesson plan?" And it was a lot of just more verbal. We only did a few times where I actually sat down and documented like how I was, what I was doing as she was going through the lesson.

Here, Teacher D showed what she was doing in her reflective meetings with her student teacher. More importantly, there was an ability to compare reflective practices between before the student teacher and with the student teacher. Teacher D indicated a continued reflective period at lunch time with the student teacher. This was the same as when she was reflecting on her own. Teacher D also commented how there was a complicated "two-minute" passing period reflective period. The two-minute reflective period was not always effective, according to her. Also, Teacher D indicated a daily meeting at the end of the day with her student teacher for the purpose of reflection. This reflective period was an increase to her personal reflective moments as she did not reflect 100% of the time after school when she was alone.

When followed by question 4, *Did your reflection opportunities change as a result of having a student teacher than prior to the student teacher being in your classroom? If yes, how*

*and why? If no, why not?*, Teacher D explained, “I wouldn’t say really much.” However, Teacher D indicated a community aspect by stating, “I mean my, I am a super reflective person so I think if anything though it was just nice to have another person to bounce the reflections off.” There was no reference to amount of reflective moments or the length of these reflections in her responses.

Continued evaluation of the interview brought the researcher to question 6: *Describe a typical reflection period with your student teacher.* In question 6, Teacher D referenced a similar response to question 3. She again referenced community by commenting, “We just sat down and just talked a lot of times.” The community aspect applies as Teacher D and her student teacher “sat down and talked” in a pair. This clearly follows the requirements for community. However, there was a connection to an earlier comment relating to amount of reflective opportunities. She stated, “Um, but a lot of times it was just discussion back and forth at the end of the day.” Again, Teacher D reinforced the daily reflective periods at the end of the day with her student teacher.

Following the evaluation of the typical reflection period with the student teacher, it was necessary to examine question 9: *Did any reflective experiences with your student teacher lead you to try new or otherwise untried methods in the classroom? If so, explain.* Teacher D explained she was going to try one element from the student teacher. She stated, “She did and I haven’t added it in [be]cause we just started our new unit, but there was one thing I liked how they do, what’s the newer thing with the guided readings or leveled readings.” Here, Teacher D provided a single item she gained from her reflective moments with her student teacher.

Question 10 continued to reinforce the same idea as question 6. Question 10 asked, *Did you change any of your teaching practices as a result of the student teacher being in your room?*

*If so, explain.* Here, Teacher D did not reference any reflective ideas. However, she stated the student teacher did not change any of her practices by a comment, “No, I wouldn’t say.”

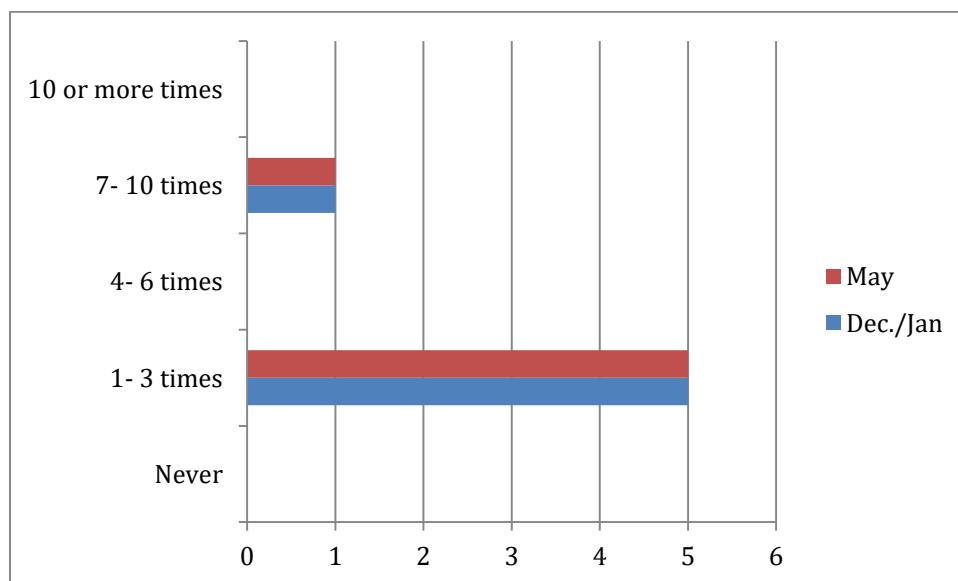
Overall, Teacher D indicated increased reflective opportunities through her comments. She identified her reflective moments prior to the student teacher as lunch and after school. Teacher D then indicated that presence of the student teacher afforded her reflective moments at lunch and every day after school. She also mentioned quick two-minute reflective moments.

### **Surveys**

In a review of the surveys, there were three questions that directly related to the amount of reflective moments. The cooperating teachers were asked the same questions both immediately before and after the presence of a student teacher in their classroom: *How often do you reflect on teaching practices or activities on an average school day?*, *What the length of an average reflection period?*, and *How often do you reflect daily with other educators about your teaching, subject content, or practices?*

In review of the first question, *How often do you reflect on teaching practices or activities on an average school day?*, the cooperating teachers had responses ranging from 1-3 times to 7-10 times in the initial survey. Five teachers indicated 1-3 and one teacher indicated 7-10. The mean and mode response was 1-3 times. Comparing this to the response provided in May after the student teacher had left, the responses ranged from 1-3 times to 7-10 times again. Five teachers indicated 1-3 and one 7-10. The mean and mode response again was 1-3 times.

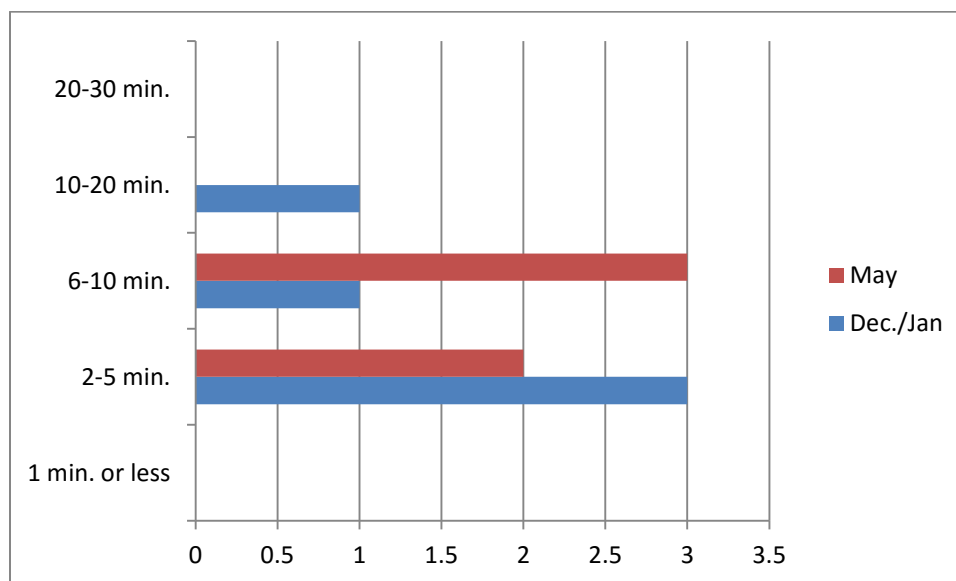
Table 2

*Number of Reflective Moments in an Average School Day*

The second question was *What is the length of an average reflection period?* Here, the initial responses ranged from responses of 2-5 minutes to 10-20 minutes each day. Three teachers indicated 2-5 minutes, one teacher responded 6-10 minutes, and one teacher 10-20 minutes. The mean and mode response was 2-5 minutes. Comparing the initial response to the post survey response, the May survey had responses ranging from 2-5 minutes to 6-10 minutes. Two teachers selected 2-5 minutes, and three indicated 6-10 minutes. Here, the mean and median response was 6-10 minutes. This showed a change from the amount of self-reported time spent on reflection.



Table 3

*Length of an Average Reflection Period*

The final question of the survey was *How often do you reflect daily with other educators about your teaching, subject content, or practices?* In the initial survey, all five teachers selected 1-3 times as a response. Comparing the response to the post survey, all five teachers again selected 1-3 times as a response. There was no change in the responses from the pre to post survey.

Overall, the survey responses were not able to establish significance due to the low amount of responses received. In addition, the data reported did not indicate a change in response between the initial survey and the post survey of cooperating teachers with student teachers. The amount of reflective times remained the same between the pre and post survey. In addition, the amount of reflective moments with colleagues remained the same in the survey when comparing the initial survey with the post survey. The only area a change was indicated

was in the amount of time spent in reflection. The mean and mode responses increased from 2-5 minutes prior to the student teacher to 6-10 minutes after the student teacher.

***Does a student teacher cause the cooperating teacher to have a greater number of reflective moments?***

In assessing the information provided between the interviews and surveys for research questions 2, *Does a student teacher cause the cooperating teacher to have a greater number of reflective moments?*, the data indicated the student teacher does not cause a greater number of reflective moments.

The interview responses from Teacher A, Teacher B, and Teacher C did not indicate any change in the amount of reflective moments they participate in during the school day. Teacher D was able to articulate a slight change as she sometimes participated in a quick 2-minute reflection period with her student teacher between classes.

The survey responses closely aligned with the interview responses. The teachers who completed the survey did not indicate any change in the amount of reflective moments either by themselves or with colleagues. There was an increase in length of time of an average reflective period from prior to the student teacher to after. However, the data from the interviews did not support the reported increase. Surprisingly, the data indicated a lack of understanding of how reflection is defined.

## **Unintended Findings**

### **Definition of Reflection**

An interesting unintended finding was the teachers' lack of understanding of the definition of reflection. This lack of understanding likely had a large impact on the study as teachers were required to report and discuss their own personal reflection periods in both the

interview and surveys. Interestingly, the teachers failed to identify or articulate a response dealing with all four of the required criteria for reflection at any point in the interview, pre survey, or post survey.

Again, the same codes were used to identify themes in the responses. The codes were meaning making, scientific inquiry, community, and growth of self and others. In an effort to structure the information, this study examined each teacher interview as a separate entity and then analyzed the pre and post surveys in order to address the unintended finding.

### **Teacher A**

In his interview, Teacher A indicated meaning making as his definition for reflection. He was asked, *Please discuss and define reflection*. In his response, Teacher A indicated meaning making three times in his response. Teacher A stated, “Reflection is after a lesson thinking about what you did. Just basically what the word says. You reflect on your actions, the questions you asked, the responses that you got from your students.” This fit the meaning making criteria as Teacher A was making meaning from the questions he asked as well as the responses he received from the students. Ultimately, he was using this information and applying it to his working theory.

He later continued, “You always try to look at what’s the question that is going to come up and try to ask that beforehand. So that way they don’t have that trouble at night when they try and do their homework.” Again, meaning making is indicated as Teacher A compared his previous experiences and applied them to the current situation and prepared based on his working theory. And finally, he stated, “Sometimes classes change where one class had a question you were prepared for. Then the next year it is a different class and now it is a different circumstance of questions they ask. So always trying to look back. What could you do better,

what went well, and what do I need to make notes for next year so hopefully that next year's lesson you can knock it out of the ball park." The final response showed a clearer example of the meaning making process. Teacher A analyzed what happened to decide what he could do better and is these items to inform his working educational theory. This theory's purpose for Teacher A is to prepare for the next time he teaches this material. All three responses were clear indicators of Teacher A attempting to make meaning out of his experiences with the students as a teacher. There was no indication of scientific inquiry, community, or growth of self and others.

### **Teacher B**

In his interview, Teacher B indicated meaning making as his definition for reflection. He was asked, *Please discuss and define reflection*. In his response, Teacher A indicated meaning making one time in his brief response. Teacher B stated, "...I think reflection is... It should be formative. It should be summative. It should be something that the educator does all the time in order to make change." Here, Teacher B applied assessments to his definition and also indicated it as a tool for change. For example, he cited formative and summative assessments as tools he used to create personal meaning. This fits the meaning making aspect as it requires using information to make change or not in the teacher's "theory."

### **Teacher C**

In his interview, Teacher C indicated meaning making as his definition for reflection on four occasions. He was asked, *Please discuss and define reflection*. In his response, Teacher C indicated, "I think that a good teacher does reflection on the fly as they [sic] are teaching." He continued later stating, "As I have gotten older and more experienced, I like to do reflection on the fly. So, I can usually tell right away if something is not working." Further, Teacher C stated, "I think reflection is thinking back on what you were doing in class whether or not it worked, if

we are talking like as a professional teaching definition.” Finally, he commented, “I think it is important but I think it is more important to learn how to do it on the fly than it is to sit down and what I consider a wasting time doing it later on.” Interestingly, Teacher D indicated a lack of interest in his response related to reflection by stating “wasting time doing it later on.” However, his four responses clearly related to the meaning making aspect of reflection.

All of Teacher C’s four meaning making comments directly spoke to understanding and creating meaning out of a situation “on the fly.” He explained how he was able to “tell right away if something is not working.” The only way he would be able to understand the information is to make meaning by comparing it to his working theory on education. He even explained how this has happened “as I have gotten older and more experienced.” Again further fortifying the meaning making decisions as his theory would have to be developed over time and from many experiences. Here, Teacher C identified his theory and addressed the situations on the fly as his theory informed his practices as a teacher.

### **Teacher D**

In her interview, Teacher D indicated meaning making as her definition for reflection on three occasions. She was asked, *Please discuss and define reflection.* In her response, Teacher D indicated, “...reflection is looking back and kind of analyzing what you did.” Here, Teacher D depicted how she was analyzing and trying to make meaning of the situation that occurred. In addition, Teacher D stated, “Did they understand everything that I taught? I reflect, is that too much information? Just pretty much going back and analyzing. Thinking about what went well. What didn’t go well? What do I need to fix?” By the second comment, Teacher D furthered the meaning making aspect by her identification of what succeeded and failed. In order to understand these aspects, Teacher D would have to compare this experience with her working

theory. Finally, Teacher D commented, “So, but, yeah, well also if the kids seem to enjoy it, if they are dead, then I might switch things up. Make it a little bit, um, just different flow.” Again, Teacher D was making meaning by making decisions from the information provided by the students as it pertained to her working theory of what students need to stay motivated in the classroom. Clearly, all three comments addressed the meaning making aspect of reflection as they attempt to make meaning out of experiences in the classroom and relate them to Teacher D’s operational theory.

### **Surveys**

In analysis of the initial surveys in relation to the unintended finding concerning the lack of understanding reflection, the prompt *Please, define reflection in the space below* was best to analyze. Four of the five responses indicated meaning making in their explanations. One teacher provided a response that did not fit within any code or theme: “Is a grade communication or compensation.” However, the other four directly related to meaning making. One teacher stated, “Reflection is looking back at your lesson/unit and deciding what went well and what could use more work for improvement.” This statement indicated the teacher was meaning making as he/she was deciding what “went well and what could use more improvement.” The only way the teacher derived this understanding is by comparing the results to his/her working theory of education. Another teacher commented, “Putting something into practice in your classroom & then evaluating its efficiency in a variety of manners.” Again, this statement described a teacher making meaning of the “efficiency” of an activity. The only method of doing this activity is to compare the results to the working theory of education the teacher used.

A third teacher responded, “After a lesson reflection is an evaluation of what worked and what did not. What should be enhanced and what should be fixed.” Here is another example of

meaning making as the teacher was making meaning as he/she evaluated “what worked and what did not” compared to his/her working theory. Finally, the fourth teacher explained, “Reviewing, compiling and examining previous attempts to discover what could or should be changed to further improve.” This last comment, like the previous statement, displayed a teacher making meaning of “what could or should be changed to further improve.” Here the teacher desired to improve and compared the experience to his/her working theory. In this situation, all four meaning making responses indicated an attempt by the teacher to evaluate the result of a teaching practice according to their own “theory” in an effort to validate or change the theory they operate under as an instructor.

The survey after the student teacher finished his/her placement also had the same prompt: *Please, define reflection in the space below.* All five responded in terms of meaning making. One teacher stated, “I think about what went well, what can I do better, & what questions were asked that I need to address in the future.” Another stated, “What went well an[d] what totally bombed. How does this relate to decisions I've made in the past? What is this connected to that I can use in the future?” A third explained, “Classroom Management, Lesson Delivery, Student Ability.” Another teacher explained,

Did students show understanding of the science content?

What worked/did[n]t work in the lesson. Order and structure of lesson activities (within the lesson itself and the lesson within the unit). My feelings in general of the day.

Reminders for next year (and sometimes the next lesson) to change. Management issues or successes. Concerns with certain students during the lesson (work habits or content related). Students response to lesson.

Finally, a teacher explained reflection as, “Did my lesson work. Is it going to help students understand the content. Will it help students pass the state mandated tests.”

Again, all five responses indicated a desire by the teacher to examine his/her practices against their operational “theory” of education. Comments such as “what worked” and “what can I do better?” are examples of a teacher making meaning of an experience to inform or challenge his/her “theory” in which he/she teaches from in the classroom.

### **Findings**

The teachers indicated a strong understanding of meaning making. The teachers signified meaning making exclusively in the responses for the surveys both before and after the presence of a student teacher. In addition, meaning making was exclusively used in the interviews when explaining reflection. Interestingly, many of the teachers indicated responses in their interviews that related to metacognition rather than reflection.

### **Metacognition**

Another unintended finding was the emergence of metacognition in the responses of the teachers in the interviews. As metacognition is simply explained as thinking about thinking (Flavell et al., 2002; Martinez, 2006; Zonar & David, 2009), it was interesting to see how it appeared as a supplement to reflective thought. The codes used for metacognition fell into three areas: preconceived notions, base of knowledge, and monitor progress toward a goal.

A preconceived notion was defined as the importance of learners to draw upon the previous experiences to connect the education to the required material to be learned. The second aspect of metacognition as it applies to the educational setting is students need a base of knowledge, understand facts and figures, and organize material in their brain to develop skills in a particular area. Lastly, progress toward a goal was defined as learners will be able to define



personal educational goals and monitor their own progress in achievement of the specified goals (Bransford, 2000).

The aspect of metacognition was explored after comments in the interviews were related to thinking and self-improvement but did not fit within the defined parameters of reflection. Each teacher's comments related to metacognition will be examined in their responses from the interview.

### **Teacher A**

Teacher A's comments that concerned metacognition appeared in the second question: *What are the areas of focus for your personal reflection?*. Here teacher A stated a reference to monitor progress toward a goal by stating, "We're always trying to make sure that you can do as good [sic] as possible." As Teacher A was striving to improve as a teacher, he is clearly setting a goal to improve his practices in the classroom. Here, Teacher A explained how he is attempting to become the best teacher he can.

Teacher A continued with a reference to preconceived notions in question 3: *Please explain the reflective process for you individually and the reflective process with your student teacher.* Teacher A stated, "What I learned both when I did my student teaching a few years ago and then now throughout my career and also let him know that just because I do it one way doesn't mean you have to do it that way. Basically, everybody is their [sic] own individual." Teacher A indicated an understanding of how every individual comes to the educational process with his or her own understanding of the world. He acknowledged how each teacher needs to operate from within that understanding to be effective. He continued with a reference to preconceived notions in question 4: *Did your reflection opportunities change as a result of having a student teacher than prior to the student teacher being in your classroom? If yes, how*

*and why? If no, why not?* Here, Teacher A explained, “And then some other things where it made me think, Hey this is how I would do it.” In this statement, Teacher A used his previous experiences to connect what needs to be understood by the student teacher and connected it to the student teacher’s performance. The comment, “...this is how I would do it” showed how Teacher A was comparing the student teacher’s performance to Teacher A’s previous experiences with the mindset for improvement of the student teacher. Again, Teacher A is referencing his own preconceived notions and comparing them to his student teacher’s preconceived notions.

Teacher A later depicted an example of monitoring progress toward a goal in question #7: *What are the areas of focus when you reflect with your student teacher?* He stated, “What things can he use like for job interviews. I did this, this worked very well, these are the types of things I would do if you hired me. So, not only just looking at the teacher himself but trying to get the interview process ready. Try and help him find a job.” In this situation, Teacher A indicated a stated goal of helping his student teacher “find a job.” By stating a goal, he was able to monitor progress toward the goal by helping with the interview process and teaching expectations. Here, Teacher A indicated an interest in helping his student teacher toward a measured goal: finding a job.

Lastly, Teacher A indicated base of knowledge in response to two different interview questions. The first question was *Do you believe you are more reflective when having a student teacher? Explain why or why not.* In response to this question, Teacher A stated, “So then it makes you think a little bit on your own. Alright, this is what I have done in the past, here are some ideas I can share with him where.” Teacher A was attempting to increase his student teacher’s base of knowledge by referring to his own. He mentioned “ideas I can share with him”

in reference to the knowledge he attempted to build in the student teacher. In addition in question 13, *Have you grown professionally from having a student teacher? If yes, please explain how*, Teacher A provided another response connected to base of knowledge. He stated, “It is one of those things that in education you are always have to be learning.” He continued later, “Test taking is always changing a little bit so if you can’t learn especially in an environment like this where you are trying to help someone learn, you have to learn for yourself.” Again, Teacher A indicated an effort to continue his base of knowledge as an effective educator. Also, Teacher A explained the challenge of “test taking” and the challenges to learn the best methods to utilize assessments. Clearly, Teacher A explained how he continually attempts to increase his base of knowledge in order to be a more effective teacher by learning more about test taking.

### **Teacher B**

Teacher B also used metacognition in a few of his responses. He began by referencing metacognition in question 3: *Please explain the reflective process for you individually and the reflective process with your student teacher*. In his response, Teacher B mentioned both preconceived notions and base of knowledge. Teacher B stated in regard to preconceived notions, “It was a challenge to get him to reflect at first, because he came in having everything figured out.” Here, Teacher B is referring to the preconceived notions of his student teacher. He was depicting a situation where the student teacher was unwilling to reflect due to his preconceived notions of what he should be doing within a classroom.

Teacher B continued with a reference to base of knowledge by commenting, “He became very frustrated where he wasn’t, he kept, like he was on a treadmill. He was trying, trying, trying and wasn’t getting anywhere.” This situation showed how the student teacher and

Teacher B were unable to “get anywhere” as the student teacher did not have the base of knowledge to understand how to improve as an educator. Again, Teacher B is using metacognition to explain complications he had with his student teacher. Here, a lack of base knowledge created frustration for his student teacher.

### **Teacher C**

Teacher C also included metacognition in his responses. Question 3, *Please explain the reflective process for you individually and the reflective process with your student teacher*, was where he first included base of knowledge in his response. Teacher C commented, “You know I was like you need to recognize it. Like I gave him some basic guidelines and said here recognize it on the fly.” Here Teacher C explained how he shared his base of knowledge for understanding moments “on the fly” with his student teacher.

Teacher C later made a comment in regard to preconceived notions when answering question 3. He later explained, “So I was always telling him, ‘Hey, use police stories to tie in to what we are talking about.’” Here, Teacher C requested his student teacher use his preconceived notions in regard to his previous career as a police officer to inform his teaching practices. Teacher C later brought in the same issue concerning preconceived notions and his student teacher’s previous career as a police officer in question 6: *Describe a typical reflection period with your student teacher*. Teacher C stated, “Um, his biggest thing was as a police officer he was taught to be unemotional. And, because he was dealing with criminals and people who were breaking the law. And people that were possibly dangerous to his physical well-being. So he had to be as unemotional as possible. He was a very good police officer but that doesn’t work in the classroom.” Teacher C indicated the preconceived notions the student teacher was bringing to the classroom focused on being “unemotional.” This lack of emotion did not “work in the

classroom.” In this instance, Teacher C explained how his student teacher’s preconceived notions were negatively impacting his teaching performance.

### **Teacher D**

As with Teacher A, B, and C, Teacher D also incorporated metacognition in her responses. All of her responses were grounded in the base of knowledge aspect of metacognition. Teacher D first mentioned metacognition in responding to question 9: *Did any reflective experiences with your student teacher lead you to try new or otherwise untried methods in the classroom? If so, explain.* Teacher D depicted a situation where she increased her base of knowledge from working with her student teacher. Teacher D stated, “But they have like, ah, lower level, higher level, like highest level questioning and they have to pull from the text to find evidence. So, we talked about how she put that together and so that was one thing that I did like that I am going to start to incorporate more, so.” Here, Teacher D discussed a questioning technique used by her student teacher that she planned to incorporate in to her teaching as well. Clearly, the questioning technique is something Teacher D planned to incorporate into her base of knowledge.

In addition, Teacher D indicated an attempt to increase her student teacher’s base of knowledge concerning reflection. She stated, “I think reflection is a real important piece for teaching and I think that is one thing that I wanted to pass on to the methods and student teachers in my room. Ah, and so I would definitely try to model that a little bit more so I am more aware of how I am reflective and reflecting.” Here, Teacher D described her attempt to model her reflection process for her student teacher in an effort to increase her student teacher’s base of knowledge concerning reflection.

Overall, metacognition appeared in all of the responses from the cooperating teachers. Teacher A referenced all three aspects of metacognition, monitor progress toward a goal, and preconceived notions. Teacher B indicated preconceived notions and base of knowledge. Teacher C commented on base of knowledge and preconceived notions. Finally, Teacher D referenced base of knowledge in her responses.

### **Summary**

The two research questions were completely based in the reflective practices of the cooperating teachers. The first question was *Does a student teacher cause a cooperating teacher to be more reflective?* In review of the initial question, all four of the teachers participating in the interview process indicated a growth of reflective practices. All included more of the four pillars of reflection (meaning making, scientific inquiry, community, and growth of self and others). Interestingly, none of the teachers indicated a comment explaining a use of all four of the pillars at any point when reflecting. Supporting this observation from the surveys was the fact that there was no indication of growth in reflection after the presence of a student teacher. With this in mind, research question 1 was viewed as inconclusive.

In an examination of research question 2, *Does a student teacher cause the cooperating teacher to have a greater number of reflective moments?*, the result was negative. The teachers in the interview and surveys did not indicate a greater number of reflective moments or opportunities due to the presence of the student teacher. It is important to note the survey did indicate a slight growth in the amount of time in the reflection process. However, there was no other evidence to support this increase in terms of amount or dialogue.

After reviewing the data, two unintended findings appeared. Overwhelmingly, the teachers involved in the interview and survey responses did not indicate an understanding of

reflection and focused specifically on the meaning making aspect of reflection. Also, there was a presence of metacognition in the responses of the teachers in the interviews.

## CHAPTER V. CONCLUSIONS AND RECOMMENDATIONS

Chapter 1 discussed the implementation of OTES and its effect on teacher evaluation. Due to the reliance on teacher evaluations, several cooperating teachers who worked with the researcher indicated a lack of interest in working with student teachers in the future. Based on the researcher's experience as a classroom teacher whom worked with student teachers, it seemed as if the pre-service teacher's experience in student teaching not only prepared future educators but enhanced the cooperating teacher's ability indirectly through improved reflection and opportunity for reflection.

Chapter 2 focused on the current research and how it related to the study as a whole. The topics and research related to reflection, metacognition, the role of the student teacher and cooperating teacher, and the increase of performance were discussed.

The next chapter discussed the methodology used to examine the research questions. A qualitative study was described. The study used two main data sources: a survey and interview. The survey was administered on two occasions to the cooperating teacher: prior to the arrival of the student teacher and immediately after the student teacher completed the placement requirements. The interview was completed immediately after the student teacher fulfilled the placement requirement.

Lastly, chapter 4 discussed the results of the research questions. In an examination of research question 1, *Does a student teacher cause a cooperating teacher to be more reflective?*, the data indicated an inconclusive result. The teachers felt they were more reflective; however, the results and data did not support their assertion. Question 2, *Does a student teacher cause the cooperating teacher to have a greater number of reflective moments?*, indicated the student teacher does not cause an increase in reflective moments. Interestingly as the data were



analyzed, two unintended findings emerged: a lack of understanding reflection of the definition of reflection and metacognition. From the previous four chapters' ideas, research, and data, the conclusions below were developed.

### **Review of the Study**

The qualitative study was conducted with a theoretical framework from Rodgers (2002) and her focus on reflection. From this framework two research questions were developed: *Does a student teacher cause the cooperating teacher to have a greater number of reflective moments?* and *Does a student teacher cause the cooperating teacher to have a greater number of reflective moments?* Five cooperating teachers participated in the survey and four participated in the interview process. Due to the number of participants and method of data collection, a qualitative study was developed and implemented.

#### **Does a student teacher cause a cooperating teacher to be more reflective?**

Under the premise a reflective educator is a more effective educator (Dewey, 1933; Schon, 1983; Schon, 1987; Adler, 1990; Mezirow, 1990; Hargreaves & Shirley, 2012), the first research question was developed. Although, the direct connection to improvement on OTES performance evaluations was not able to be determined, there was a link between reflection and quality improved teaching ability established in the research. The question was developed to determine if the presence of the student teacher in the classroom caused the cooperating teacher to be more reflective.

In an attempt to explain the increase, or lack thereof, of the reflective practices of cooperating teachers, the researcher decided to compare the responses to the four pillars of reflection: meaning making, community, scientific inquiry, and growth of self and others (Rodgers, 2002). All four teachers participating in the interview displayed a growth in the four

reflective elements as described by Rodgers (2002). Teacher A only indicated a presence of meaning making prior to the student teacher arriving and after the student teacher indicated scientific inquiry, community, and growth of self and others. Teacher B only referenced scientific inquiry in his responses prior to the student teacher and after referenced meaning making and growth of self and others. Teacher C displayed meaning making prior to the student teacher and after again displayed meaning making and community. Finally, Teacher D commented on scientific inquiry prior to the student teacher and after referenced meaning making, community, and growth of self and others.

In reviewing of the data, it was clear the teachers indicated more of the elements of reflection. However, no single teacher displayed all four elements of reflection through their responses at any point in the interview when analyzed as before and after the presence of the student teacher. This finding was unanticipated as the researcher felt the only missing link for the four pillars of reflection to occur was community. It was assumed the teachers were meaning making, conducting scientific inquiry, and had a desire for a growth of self and others as these are the required elements of reflection. Interestingly, each teacher indicated more of the pillars of reflection but none achieved all four in the presence of the student teacher. This indicated to the researcher the cooperating teachers were not familiar with the full reflective process.

By an addition of the survey information, the data did not indicate any change in reflection prior to the student teacher when compared with afterward. All the teachers commented on meaning making both before and after the presence of the student teacher. This was not surprising as teachers constantly have to make decisions and make meaning from their experiences. The meaning making element seemed to be the most basic element of teaching-solving problems as they happen.

After review of both the interviews and surveys, the result was inconclusive. The teachers all believed they were more reflective as indicated in their responses. However, the data did not support their claims. The surveys showed only meaning making with no reference of the other three elements of reflection. The interviews showed an increase of the reflective elements in the teachers when a student teacher was present. However, no teacher indicated a use of all four categories of reflection in their responses.

Upon reviewing the results, it is clear there are some direct connections to the established research on reflection. Dewey's (1910) assertion required two items for reflection to occur: a problem or issue and an investigation/evaluation to support or nullify the belief held. An unmentioned element is required when reflection is taking place: time. An individual is required to have time in order to properly investigate and evaluate a problem. Interestingly, Teacher A indicated the increase in time as a factor for the increase of reflection. Although not referenced by the other teachers in their responses to the survey and interview questions, it stood as an important reminder of the time element required to fully participate in the reflective process.

A continued reference to the time element occurred when a connection was attempted to be made with Zeichner and Liston's (1996) five steps for reflection when teaching. It was apparent many of the teachers were able to navigate through the first two levels: rapid reflection and making adjustments based on cues. Teacher C was the most eloquent teacher whom depicted these first two steps. He even commented, "It is something I do right on the fly." Here he depicted how he rapidly reflected and made the adjustments based on his perceptions from the students and the environment. These "on the fly" adjustments indicated Teacher C had to make rapid reflection as he did not have much time to analyze the situation and consider all elements.

In addition, Teacher C made adjustments based on the cues he gained from the students as he explained how he made choices within the flow of the typical classroom session.

The third element as explained by Zeichner and Liston (1996) is review where a teacher thinks about, discusses, or writes about some aspect of his/her teaching. The teacher is putting thoughts to the written word to examine the fairness of what he/she is producing, exhibiting, teaching, and demonstrating (Adler, 1990). Teacher D demonstrated review in her responses. She stated, "...I paid more closer [sic] attention to the details that I was [writing] in my reflection." Teacher D repeatedly discussed how she would write on note cards or plans her reflections of the class period. This connects to Zeichner and Liston's (1996) final element as Teacher D actually wrote her thoughts down based on her experiences within the classroom.

The fourth and fifth items discussed by Zeichner and Liston (1996) were when a teacher engages in a systematic and sustained thinking over time typically by collecting data or analyzing research and finally when a teacher critically examines his or her own theories and practice in regard to academic theories. Neither was described in the surveys nor interviews. All the teachers in the interview indicated the increase of reflection. However, none described the systematic and sustained thinking or critical analysis of their own theories and practice. A possible reason for this lack of reaching the final two items could easily be the lack of time a teacher has in his/her day to effectively reflect without interruptions from students, teachers, parents, and administrators. In addition, there are the required elements of lesson planning and assigned duties such as lunch room, study hall, and hall duty. All of these elements require time that can be used for the purpose of reflection. This will be further examined in the recommendations section.

Another element connected between the existing literature and the results of this research question was the aspect of community. Community was shown to reduce personal bias (Mezirow, 1990) and to allow others to help the individual critically analyze his/her own behavior (Osterman & Kottkamp, 1993; Van den Bossche & Beausaert, 2011). Also, Rodgers (2002) included community as one of her four pillars of reflection. The presence of the student teacher in the classroom provided a perfect community aspect to appear. Teacher C actively described,

I am a super reflective person so I think if anything though it was just nice to have another person to bounce the reflections off. So, that was one nice thing. I am the only sixth grade science teacher so I talk with my other colleagues about you know how things are going in class. We meet every day in team but it was nice having somebody in my classroom that we could kind of talk together.

In addition, Teacher D commented, “And so it was nice to have somebody to bounce ideas off of to see OK if we were going to change something, how would we change it?” Finally, Teacher D explained, “...I have a lot of questions that I feel like I have to answer myself that I don’t get a lot of you know. So it is nice when you can go back and forth with somebody else.” Teacher D explained how the presence of a student teacher provided the in-class reflective piece she felt she does not have in her school as the only science teacher in her grade. Clearly, the community aspect of another person to communicate with in order to help her teaching practices was a benefit for Teacher D.

The positive element for Teacher D based on the community aspect provided by the student teacher and the impact on her reflective practices seemed to be more beneficial based on the school situation. As Teacher D is the only science content area teacher for her grade level in

her building, there seemed to be the added benefit for the presence of the student teacher as the individual provided a community possibility right within her classroom. This benefit should be seen in most classrooms with student teachers but seems to be more pronounced in this situation due to the limited community options Teacher D has in her school in her content area.

Although not mentioned by the other individuals specifically in the data collection, community is an area of interest for future exploration to see if this is a common phenomenon. Teachers are by nature exclusionary in their classrooms from their peers due to the significant amount of time needed to collaborate (Sanholtz & Merseth, 1992) unless they are in a team or co-teaching environment. The response indicated by Teacher D shows the reality for a teacher. The benefits seem to be obvious and it is curious whether a larger sample would have produced similar results.

The final aspect of reflection mentioned in regard to a student teacher and his/her impact of reflection was Johns' (2009) that just because an individual is able to understand the meaning of data does not mean he or she can easily change his/her practices. From the lack of ease in ability to change practices, Johns (2009) described three basic inhibitors to use of the reflective practice due to culture: tradition, force, and embodiment. Tradition is adhering on to predetermined customs, norms, and prejudices that existed prior to the reflection process. Force is the way normal relationships are maintained and created through force or power. Embodiment is the way people normally think about the world prior to the reflective process (Fay, 1987). Although not a clear and perfect connection, all four teachers in the interview indicated the student teacher did not cause them to try a new or untried method in their classroom. Many of the teachers said no but then further explained how they were going to borrow an idea the student teacher proposed in the classroom. For example, Teacher A indicated a Pythagorean's Theorem idea he would be

using for future lessons. It would make for an interesting future research project to continue this study to see if a student teacher specifically changes practices and why or why not. The teachers in this study were reluctant to acknowledge a change in their practices and it is curious if the reluctance was due to tradition, force, or embodiment.

Overall, it was curious how the teachers all felt they were more reflective when working with a student teacher in their presence. However, the data from the surveys and interviews show this was not demonstrated. This lack of an increase of reflection may be due to several factors. The teachers were not provided a clear working definition of Rodgers' (2002) theory being used as the foundation of the study. Also, as discussed later, the teachers demonstrated a lack of knowing the definition of reflection in both the survey and interview. However, this created a bit of a paradox. If the working theory was provided, would the teachers have responded differently and provided the researcher with what he wanted to hear rather than what was actually happening in the school? Also, it is plausible the addition of the student teacher created a situation where the cooperating teacher was even busier with increased demands. This increase in the demand on time could easily impact the amount of time available for reflection causing the adverse effect- less reflection.

**Does a student teacher cause the cooperating teacher to have a greater number of reflective moments?**

In review of the second research question, *Does a student teacher cause the cooperating teacher to have a greater number of reflective moments?*, it was important to review the findings in chapter 4. Ultimately, interview responses from Teacher A, Teacher B, and Teacher C did not indicate any change in the amount of reflective moments they participate in during the school day. Only Teacher D was able to articulate a slight change as she sometimes participated in a

quick 2-minute reflection period with her student teacher between classes. However, she indicated how it was not an effective time to reflect due to the time constraints and was only used out of necessity.

The survey responses closely aligned with the interview responses. The teachers who completed the survey did not indicate any change in the amount of reflective moments either by themselves or with colleagues. There was an increase in length of time of an average reflective period from prior to the student teacher to after. However, the data from the interviews did not support the reported increase.

The researcher then used the information from the study to further Shon's (1987) reflection-on-action. In reflection-on-action the individual comes across an unexpected outcome or result. The researcher believed the presence of a student teacher in the classroom of a cooperating teacher, would provide numerous reflection-on-action moments. The surveys conducted also dictated there was no increase in reflective moments with 1-3 times being both the median and mode response. The interview responses also indicated the same aspect of no increase of reflective moments due to the presence of a student teacher. Indeed, the presence of a student teacher had no influence on the number of reflection-on-action moments described by Shon (1987).

### **Definition of reflection**

Beyond the direct connection to the provided research questions, the impact of the cooperating teachers not providing a definition of reflection was troubling. Not being able to define a subject led to the impression the teachers did not know what reflection really is in the educational setting. By not understanding what reflection truly was in their setting, the cooperating teachers indicated a lack of ability to adequately reflect.



When the results of the interview and survey were analyzed compared to Rodgers (2002) definition of reflection, a strong presence of meaning making was apparent. Comments like this from Teacher C show the meaning making aspect, “I think reflection is thinking back on what you were doing in class whether or not it worked, if we are talking like as a professional teaching definition.” Here, Teacher C was looking back on what happened and making meaning of his experience by deciding what worked well and what did not in his teaching. In addition, Teacher A added, “Reflection is after a lesson thinking about what you did. Just basically what the word says. You reflect on your actions, the questions you asked, the responses that you got from your students.” Again, Teacher A was focused on what happened in the classroom and then attempted to make meaning from these experiences.

The results of the survey were not different than the interview. The main response was meaning making. Four of the five responses indicated meaning making. One response was “Reflection is looking back at your lesson/unit and deciding what went well and what could use more work for improvement.” Clearly, this response is related to meaning making as it discusses the teacher’s approach to “look back” on the lesson and make meaning in regard to what was effective and what was not as effective. This further reinforces the aspect that teachers make meaning on a continual basis in their teaching practices.

Interestingly, in the interviews, many teachers indicated the presence of many of the items related to reflection: meaning making, scientific inquiry, community, and growth of self and others. Teacher A in his responses during the interview indicated meaning making, scientific inquiry, community, and growth of self and others at some point. Teacher B described scientific inquiry, meaning making, and growth of self and others. Teacher C described meaning making and community. Finally, Teacher D responded with meaning making, scientific inquiry,

community, and growth of self and others. It is important to understand these responses may have happened when describing the reflective practices either before or with the student teacher. However, two teachers indicated a presence of all of the required elements of reflection at some point in their responses.

Here lies the disconnect between their personal definition and actual practice by these educators. The teachers are using many if not all of the required elements of reflection in their practices despite not being able to articulate the definition of reflection when asked. This seemed to indicate the teachers did not understand what reflection actually is in their teaching practices. It also may have indicated the cooperating teachers reflected without truly knowing what reflection required as often the required elements of reflection are part of good teaching.

An interesting aspect to be explored would be a change in reflective practices if the teachers were aware and taught the four pillars of reflection: meaning making, scientific inquiry, community, and growth of self and others. Two of the teachers already established the presence of all required elements when describing their reflective practices. The other two went beyond their provided definition related to meaning making to include at least one other element. All of these items beyond meaning making were done without a conscious effort to create or develop these opportunities. With education and understanding of the other items required in reflection, it would be interesting to evaluate if the teachers are able to fully understand and utilize reflection in regard to their personal and pedagogical growth.

### **Metacognition**

The final unintended finding was more theoretical and created an interesting challenge for the researcher. Metacognition and reflection seem similar on the surface but after careful examination, a distinction began to occur. While Rodgers (2002) discussed reflection as a four

pronged process involving meaning making, scientific inquiry, community, and growth of self and others, Bransford (2000) depicted metacognition as three areas for growth of self: preconceived notions, base of knowledge, and monitoring progress toward a goal. Both metacognition and reflection are organized for long term growth of the teacher. Additionally, Liu (2014) explained how the role of both the teacher and learner is improved with metacognition and Alder (2013) explained how working in one-on-one situations through the steps of metacognition showed the most personal growth. So the question of how are they distinctively different began to arise.

As explained by Rodgers (2002), one of the pillars is meaning making where an individual makes meaning of a situation or problem and once accomplished it becomes part of the theory from which the educator works from in the classroom. The second pillar is scientific inquiry where the educator creates hypotheses and tests them based on the theory. The educator collects data and uses this data to validate or invalidate the working theory from which he/she operates. The third pillar is that of community. Here, the educator is able to accurately depict what happened and understand its implications with another person in an effort to eliminate bias. The final item is growth of self and others. Ultimately, the educator has to have a desire for personal growth or the information learned in the meaning making process and scientific inquiry with not be taken into consideration as the educator looks to inform his/her working theories. Also, the individual helping in the community aspect must desire the growth of the person with whom he/she is helping in the reflection process. Otherwise, the information provided and the analysis will not help the reflective individual improve or inform his/her theory effectively.

Metacognition has three important elements. First, preconceived notions referred to the idea an educator must draw upon his/her previous experiences and those of the learner to connect

these to the material or information being presented to the learner (Bransford, 2000). Secondly, metacognition involved a base of knowledge. This aspect focused on what the educator and the learner actually knew (Bransford, 2000 & Efklidas, 2014). Here, the expectation is for the learner to understand basic concepts and theories for items to be built upon it. Simply explained, a person is unable to complete basic algebra without an understanding of multiplication. Lastly, the educator and learner must be active in his/her own learning and monitor his/her progress toward a goal (Bransford, 2000). This may be in the form of goal setting and evaluated progress toward mastering an educational approach.

From the above explanations, it was apparent there was distinction between the two approaches of reflection and metacognition; however, it was also apparent how metacognition helped inform the reflective process for the educators. Preconceived notions from metacognition or an understanding of preconceived notions helped the teacher in the meaning making process. Here a teacher must draw upon his/her previous experiences to make meaning of an unexpected situation or a problem. An example would be from Teacher C's interview when he stated, "So I was always telling him, 'Hey, use police stories to tie in to what we are talking about.'" Here, Teacher C connected the student teacher to the previous experiences he had prior to education as a police officer. Once the student teacher is able to use his preconceived notions and experiences to affect his teaching practices, Teacher C and his student teacher will then be able to effectively utilize meaning making in the reflection process as there will be a theory to work from in regard to the education of the children in the classroom.

Another situation occurred with Teacher A. When referencing the metacognitive aspect of preconceived notions, he stated, "And then some other things where it made me think, 'Hey this is how I would do it.'" Here, Teacher A is drawing upon his previous experiences on how

he would teach a lesson and examining it in his own brain in relation to his student teacher's teaching of a lesson. While not reflective as he was not evaluating it against the theory from which he makes his meaning as an educator, it does provide a framework from which he could potentially begin to evaluate with the student teacher his own theory as compared to the student teachers when there is an unexpected occurrence or problem.

The second aspect where metacognition could inform reflective practices is base of knowledge. As base of knowledge discussed what the learner or educator actually knew (Bransford, 2000 & Efklides, 2014), this directly informed the meaning making and scientific inquiry aspects of reflection. If a learner or educator does not possess the basic skills in an area, it will be extremely complicated for him/her to conduct the meaning making process or scientific inquiry of reflection. Teacher A explained, "Test taking is always changing a little bit so if you can't learn especially in an environment like this where you are trying to help someone learn, you have to learn for yourself." Here, Teacher A is referring to his base of knowledge in regard to test taking. He explained the importance for him to be constantly learning about test taking in order to keep an up-to-date base of knowledge on the subject. Without the up-to-date base of knowledge, it would be complicated for him to make meaning of a problem or unexpected occurrence when reflecting on a test taking problem. In addition, not being up-to-date in his base of knowledge on test taking would complicate his scientific inquiry process of reflection. A hypothesis he created on test taking would not include the most current methods and approaches and likely would not lead to a successful scientific inquiry process.

Teacher D also described the aspect of base of knowledge in her interview. She stated, "But they have like, ah, lower level, higher level, like highest level questioning and they have to pull from the text to find evidence. So, we talked about how she put that together and so that

was one thing that I did like that I am going to start to incorporate more, so.” Here, Teacher D described how her student teacher provided her with a growth of her base of knowledge by exposing her to a three-pronged level of questioning to address multiple levels of learners in the same classroom. This new information is not a part of her reflective process; however, it will be able to inform her in her meaning making and scientific inquiry process in future reflective moments.

The last aspect of metacognition is monitoring progress toward a goal. Monitoring progress toward a goal may directly connect with growth of self and others. This connection assumed the progress toward a goal was connected to growth of self and others. The implication was a person monitoring progress toward a goal would inherently desire a goal to improve him or herself.

Teacher A commented on monitoring progress toward a goal with his student teacher. He stated, “What things can he use like for job interviews. I did this, this worked very well, these are the types of things I would do if you hired me. So, not only just looking at the teacher himself but trying to get the interview process ready. Try and help him find a job.” Here, Teacher A helped his student teacher create a goal for being successful on interviewing and hopefully earning a teaching position. While not reflective in nature, the comment clearly showed monitoring progress toward the goal of landing a teaching position. By helping in this capacity, Teacher A was directly impacting his student teacher’s future ability to earn a teaching position. This impact fits into the reflective area of growth of self and others. Teacher A was helping the growth of his student teacher by providing guidance on areas to focus on for earning a job and successful interviewing approaches.

Overall, the connection between metacognition and reflection was apparent as metacognition with its thinking about thinking impacts an individual's ability to reflect. Without a sound metacognitive foundation, an individual will find it hard to reflect effectively. As both metacognition and reflection are important in the improvement of teacher and their educational practices, mastering metacognitive and reflective practices should positively impact the educational practices of all teachers. In an era of high stakes testing and the connection of these tests to teacher performance, understanding and using both metacognition and reflection in educational practices should provide positive rewards in teacher effectiveness.

### **Conclusion**

After a review of the data and using it to further the current research and address the issue of OTES for cooperating teachers, it was important to clearly articulate how the presence of a student teacher was inconclusive in affecting the reflective practices of a cooperating teacher. In addition, the presence of a student teacher was not shown to increase the number of reflective moments a cooperating teacher has in his/her teaching. However, it was determined the convenience sample of teachers were not fully aware of the definition of reflection and possibly were missing out on all of its benefits in improved teaching ability due to the lack of understanding. In addition, many of the teachers were metacognitive as well as reflective. This unintended finding was interesting as it became apparent how the two areas are different but reflection does depend on metacognition for its successful implementation. From this knowledge gained, a couple of recommendations and opportunities for further research were developed.

### **Recommendations**

In reviewing possible recommendations for reflection to occur more often in a school setting, teachers needing more time was apparent. After meeting with all the teachers in the interview setting and reviewing survey responses, the topic of when are teachers to be able to accomplish reflection came to mind. If the belief is that a reflective educator is a better educator (Dewey, 1933; Schon, 1983; Schon, 1987; Adler, 1990; Mezirow, 1990; Hargreaves & Shirley, 2012), educators must be provided time to accomplish the task of reflection. Dewey (1933) indicated the fact of reflection being hard labor and exhaustive in nature. If society would like teachers to fulfill their potential as educators, the premise of OTES, teachers need to be provided time to reflect on their actions, challenges, and successes with and without preservice teachers.

In addition, the nature of secondary teachers is exclusive. Teachers close their doors and teach their subjects. However, the presence of a student teacher in the classroom opens the classroom doors to another educator in the room. As a tenet of reflection is community, common planning time may provide additional opportunities to utilize reflection in the school setting. Ultimately, the element of time needs to be provided to teachers in order to effectively reach their full potential through reflection.

Beyond the needed time for reflection, teachers should be exposed to the requirements and need for reflection in regard to their pedagogy and curriculum. As the benefits of reflection have been established, a clearer understanding of what actually constitutes reflection and the process should increase the ability and effectiveness of teachers. As mentioned in the findings, the teachers used in this study did not know what reflection was and were thereby missing out on the benefits. The exposure to reflection can come in the form of classroom focus by the cooperating teacher for preservice teachers. This may be in the form of the cooperating teacher modeling reflection for the student teacher or even including the student teacher in the reflective



process for the cooperating teacher. In addition, practicing teachers can be exposed to reflection and its benefits from in-services and graduate coursework.

### **Future Research Opportunities**

After an examination of this research project, it was decided by the researcher there are several aspects of the study that could lead to future research opportunities. The most interesting one to the researcher was the idea of applying the same principle of the current study to a true co-teaching environment. Bacharach, Washut Heck, and Dahlberg (2010) described five differing methods to co-teach: one teach, one observe; one teach, one assist; station teaching; parallel teaching; supplemental teaching; alternative teaching; and team teaching. It would be interesting to evaluate if the co-teaching environment where both instructors, the student teacher and cooperating teacher, were actively involved in the educational process. It would be interesting to see if the differing dynamic of both teachers active in the classroom yields differing results in regard to the reflection occurring between the educators.

In addition to the co-teaching model, an analysis on the changing, or lack thereof, in practice of cooperating teachers due to the presence of a student teacher could be analyzed. Some of the teachers in this study indicated they changed or adapted their practices due to the student teacher's impact in the classroom while others indicated no change. It would be intriguing to evaluate the lack of change in regard to Johns' (2009) study that indicated a lack of reflection on practices due to tradition, force, or embodiment. A study analyzing which factor was most prevalent in the reluctance to reflect could prove valuable to the field of education.

Another area for further research would be a byproduct of the unintended consequence in regard to the participants not being able to define reflection and thus missing out on many of the benefits it provides. A study can be conducted where teachers are educated on the four elements

of reflection and how to properly use each pillar. Upon the education of the teacher, an analysis can be conducted if there is an improvement in teaching practices. In addition, the same idea may be applied to a follow-up on this study. Education of both the student teacher and cooperating teacher on reflection and how to properly use it may very well provide interesting results and impact how we educate our preservice teachers and their cooperating teachers.

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## APPENDIX A

# FINDLAY

THE UNIVERSITY OF FINDLAY

**Institutional Review Board**

Date: **November 20, 2014**

To: Christine Denecker

Cc: Vincent Laverick

RE: Reflective Practices of Cooperating Teachers

**Project Expiration date: November 20, 2015**

The University of Findlay Institutional Review Board (IRB) has completed its review of your project utilizing human subjects and has granted authorization. This study has been approved for a period of one year only. The project has been assigned the number 839.

In order to comply with UF policy and federal regulations, human subject research must be reviewed by the IRB on at least a yearly basis. If you have not completed your research within the year, it is the investigator's responsibility to ensure that the **Progress Report** is completed and sent to the IRB in a timely fashion. The IRB needs to process the re-approval before the expiration date, which is printed above.

Understand that any proposed changes may not be implemented before IRB approval, in which case you must complete an **Amendment/Modification Report**.

Following the completion of the use of human subjects, the primary investigator must complete a **Certificate of Compliance form** indicating when and how many subjects were recruited for the study.

Please refer to the IRB guidelines for additional information. This packet can be obtained within blackboard under community section. Please note that if any changes are made to the present study, you must notify the IRB immediately. Please include that number on any other documentation or correspondence regarding the study.

Thank you very much for your cooperation. If you have any questions, please feel free to contact me at (419) 434-5442 or email irb@findlay.edu.

Sincerely,



Susan W. Stevens, EdD., AT  
Chair, Institutional Review Board

Cc: IRB Office

## APPENDIX B

# FINDLAY

THE UNIVERSITY OF FINDLAY

December 2014

Dear cooperating teacher:

You are invited to participate in a study of cooperating teacher reflection when working with student teachers. I hope to learn without prejudice the impact a student teacher has on the reflective practices of a cooperating teacher. You were selected as a possible participant in this study because you are scheduled to have a student teacher from The University of Findlay. If you decide to participate, please complete the enclosed survey. Your return of this survey is implied consent. The survey is designed to determine your personal educational background as well as your reflective practices as an educator. It will take about ten minutes. There will be another survey distributed in May that will take ten minutes as well. In addition, I will be interviewing participants of this study in May. The interview should take no longer than twenty to thirty minutes to complete. I will travel to your school to conduct the interview. No benefits accrue to you for answering the surveys or participating in the interview, but your responses will be used to determine the influence a student teacher has on the reflective practices of a cooperating teacher. Any discomfort or inconvenience to you derives only from the amount of time taken to complete the survey and participate in the interview.

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will not be disclosed. Your decision whether or not to participate will not prejudice any future relationships with The University of Findlay. If you decide to participate, you are free to discontinue participation at any time without prejudice.

This survey and consent waiver have been approved by The University of Findlay Institutional Review Board, which guarantees that research involving human subjects follows federal regulations. The IRB chair is Sue Stevens; and she can be reached at [irb@findlay.edu](mailto:irb@findlay.edu). You will be made aware of any information that varies from what has been provided to you and/or might affect your willingness to continue to participate in the project.

If you have any questions, please ask. If you have any additional questions later, contact Dr. Christine Denecker at [Denecker@findlay.edu](mailto:Denecker@findlay.edu).

Thank you for your time.

Sincerely,

A handwritten signature in black ink, appearing to be a stylized 'K' followed by a horizontal line.

Vince Laverick  
[vlaverick12@gmail.com](mailto:vlaverick12@gmail.com)

## APPENDIX C

11/15/2014

Survey- Cooperating Teachers - Google Forms

## Survey- Cooperating Teachers

\* Required

### Instructions

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Please answer the following questions honestly. Most questions require either a selection of a category or minimal typed answer. To remain anonymous, please do not write your name on this survey. Also, please do not identify your school, students, student teacher, or other personnel by name. Information in this survey will be reviewed only by the researcher and his research advisory committee at The University of Findlay. Reports based on this survey will not identify specific teachers, student teachers, or schools. The questions in this survey are designed to help better understand the reflection that takes place when a student teacher works with a cooperating teacher.

A return of this survey indicates implied consent.

### Background Information

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1. How many years have you been teaching? \*

Mark only one oval.

- 1-5
- 6-10
- 11-15
- 16-20
- 21-25
- 25 or more

2. How much education have you completed? \*

Mark only one oval.

- Undergraduate degeee
- Undergraduate plus graduate level credits
- Master's degree
- Master's degree plus graduate credits
- Terminal degree: Ph.D., Ed.D., J.D., etc
- Other: \_\_\_\_\_

11/15/2014

Survey- Cooperating Teachers - Google Forms

**3. What type of school do you teach at? \****Mark only one oval.*

- Junior High School
- Middle School
- High School
- Technical School
- Other: \_\_\_\_\_

**4. Describe your school setting \****Mark only one oval.*

- Rural
- Suburban
- Urban

**5. How were you selected to have a student teacher? \****Mark only one oval.*

- Requested student teacher
- Assigned by school administration
- Other: \_\_\_\_\_

## Reflection Questions

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**6. Please, define reflection in the space below. \***

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**7. How important do you feel reflection is in education? \****Mark only one oval.*

- not important
- somewhat important
- important
- extremely important

11/15/2014

Survey- Cooperating Teachers - Google Forms

8. How often do you reflect on teaching practices or activities on an average school day? \*

Mark only one oval.

- Never
- 1-3 times
- 4-6
- 7-10
- 10 or more

9. What the length of an average reflection period? \*

Mark only one oval.

- 1 minute or less
- 2-5 minutes
- 6-10 minutes
- 10-20 minutes
- 20-30 minutes
- 30 minutes or more

10. How often do you reflect daily with other educators about your teaching, subject content, or practices? \*

Mark only one oval.

- Never
- 1-3 times
- 4-6 times
- 7-10 times
- 11 or more

11. What is the content of a typical reflection period you have an an average school day? \*

Feel free to mention all of the typical content areas.

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Powered by

 Google Forms



## APPENDIX D

*Questions for Interviews of Cooperating Teachers*

1. Please discuss and define reflection.
2. What are the areas of focus for your personal reflection?
3. Please explain the reflective process for you individually and the reflective process with your student teacher.
4. Did your reflection opportunities change as a result of having a student teacher than prior to the student teacher being in your classroom? If yes, how and why? If no, why not?
5. What types of reflective practices did you partake in as a result of your student teacher?
6. Describe a typical reflection period with your student teacher.
7. What are the areas of focus when you reflect with your student teacher?
8. Do you find the reflective period with your student teacher to lead to change in your teaching practice? If so, how?
9. Did any reflective experiences with your student teacher lead you to try new or otherwise untried methods in the classroom? If so, explain.
10. Did you change any of your teaching practices as a result of the student teacher being in your room? If so, explain.
11. Likewise, were there any reflective periods without your student teacher that lead you to try new or otherwise untried methods in our classroom?
12. Do you believe you are more reflective when having a student teacher? Explain why or why not.
13. Have you grown professionally from having a student teacher? If yes, please explain how.

## APPENDIX E

Teacher A

Teacher of 11 years at a rural high school

1. Please discuss and define reflection.

Reflection is after a lesson thinking about what you did. Just basically what the word says. You reflect on your actions, the questions you asked, the responses that you got from your students. As a teacher you always try to be one step ahead of the game. You always try to look at what's the question that is going to come up and try to ask that beforehand. So that way they don't have that trouble at night when they try and do their homework. Sometimes you miss. Sometimes classes change where one class had a question you were prepared for. Then the next year it is a different class and now it is a different circumstance of questions they ask. So always trying to look back. What could you do better, what went well, and what do I need to make notes for next year so hopefully that next year's lesson you can knock it out of the ball park.

2. What are the areas of focus for your personal reflection?

Mine is just looking at the overall understanding. Did the students get what we were trying to get across? What are the questions that they asked? What are areas that they need help in? And basically, just what can you do better? We're always trying to make sure that you can do as good as possible.

Follow up: So when you say "get what you are talking about," how do you measure that?

A lot of it is you can't measure until the next day. When they come back with their homework, go over their homework. See what they did. What questions did they have? What problem spots were there? What parts did they think were too easy? And just try and generally reflect and say alright I can maybe cut back on five minutes here on this part of the lesson so I can devote five more minutes toward a harder part of the lesson. To try and get a good contrast of what's going on and cover everything part as good as you can.

3. Please explain the reflective process for you individually and the reflective process with your student teacher.

Yes, basically what I did with my student teacher was explain to him what my thoughts were as a teacher. What I learned both when I did my student teaching a few years ago and then now throughout my career and also let him know that just because I do it one way doesn't mean you have to do it that way. Basically, everybody is their own individual. The way you look back on something might be different but try and think outside the box. Try and have a wide idea of what to look at and what you can always get better at.

4. Did your reflection opportunities change as a result of having a student teacher than prior to the student teacher being in your classroom? If yes, how and why? If no, why not?

A little bit because I wasn't at the center and forefront of the class where I could be just a general observer. Where there are some things he did I thought man that is a real good idea. I wish I would have thought of that all these years ago. And then some other things where it made me think, Hey this is how I would do it. Maybe you kind of missed a little bit. So it got me to reflect and then I was able to talk to him through those problems. Saying hey, did you think of this? Did you think of trying this? Would you do this in the future? What are your thoughts? And just to get an open conversation going.

5. What types of reflective practices did you partake in as a result of your student teacher?

Just the self-reflection and just kind of thinking as I would have done this as a teacher. What would the results have been? Versus what he did. What were the results? Pros/ cons. Look at it both ways. Also, was able to get a few ideas that he used teaching that hopefully in a few years I will be able to use as well.

6. Describe a typical reflection period with your student teacher.

Basically, what we would do after lesson at the end of the day we would pick out a class and say, "Alright, what went well? What went bad? What would you do over again? As if you got to teach this in year two, what would you keep the same? What would you change and why? Just basically trying to get the big picture of it. And really think about maybe how the class period started, the middle part, the end, the homework. Try to look all the way across and maybe not just that day because sometimes lessons go two, three days. So look at the whole big picture and try to put the big puzzle together. Say you know you got to get to this point. You are here. What steps do I need to do? So maybe on day three you can look back on something you did on day one or day two and change it. So that way you can get to that finish line a little bit stronger.

7. What are the areas of focus when you reflect with your student teacher?

Areas of focus mainly were on him and presentations. Just with being or not even a first year teacher. Getting ready to become a teacher. What things can he use like for job interviews. I did this, this worked very well, these are the types of things I would do if you hired me. So, not only just looking at the teacher himself but trying to get the interview process ready. Try and help him find a job.

8. Do you find the reflective period with your student teacher to lead to change in your teaching practice? If so, how?

Yeah. A lot of things what I did with my notes is they are already pretyped. Put them up on the board and we just kind of go through them. They also have them available on their Google Drive where they can have access to them on their own. One thing the student teacher did was instead of typing them, wrote them up as they went. So I have kind of done that a little bit just to change it up. So that way not everything in class is so predictable that I kind of get things going a bit more and get more kids up in different ways. We have always had the kids up at the board but just do a little bit different practicing that he has been taught in his education program/college. Just try and take some of those new ideas that professors have there and I can start applying those as well.

9. Did any reflective experiences with your student teacher lead you to try new or otherwise untried methods in the classroom? If so, explain.

It is a work in progress because this is only the first week that he has been out fully. Definitely, in the future, will be trying the change things up a little bit. I mean you are always looking for the newest edge thing. Trying to change things a little bit. So a few ideas, with some examples I know. One was with Pythagorean's Theorem. Something that stuck with me that he brought over was making sure that when you look at Pythagorean's Theorem, a lot of kids miss out on the part that it has to be a right triangle. So some things that he did with that to make sure to get instilled in their mind that it has to be a right triangle, I'll use in the future.

10. Did you change any of your teaching practices as a result of the student teacher being in your room? If so, explain.

No, I don't think so practice wise. Maybe just try to change it up a little bit but still have the same general concept.

12. Do you believe you are more reflective when having a student teacher? Explain why or why not.

I would say yes because there is a little bit more time and you are always trying to think of what they can do better to try and help them. So then it makes you think a little bit on your own. Alright, this is what I have done in the past, here are some ideas I can share with him where. And just a normal teaching mode where you are by yourself and there is no student teacher, you are just going from class to class to class and at the end of the day you're not always thinking about what you did that day. You are thinking about, alright, this is what I have to do when I get home or the few hours I have left to get work done. Where this way it opens up your schedule a little more while you are in school you are able to think more on school related topics.

13. Have you grown professionally from having a student teacher? If yes, please explain how.

Yeah, you, if you're not growing professionally I think you are kind of missing out on the boat of the whole experience. This is the third one I have had in my career and everyone has brought just a little bit of different picture to the overall teaching. I have had two males and one female and I think that makes it just a little bit different. Two different perspectives. It is one of those things that in education you are always have to be learning. I mean we are always going back to school to try and make sure we are learning the new ins and outs. Test taking is always changing a little bit so if you can't learn especially in an environment like this where you are trying to help someone learn, you have to learn for yourself. If you just can't do that, I don't think you are making the full process ready for your student teacher and you are not being as beneficial for them.

Follow up- How does a student teacher help you learn?

A lot of it is with the new ideas or maybe the things you take for granted that I always just done it this way. I have never really thought about why or why not. And then when they ask questions. Well why do you do this. It makes you think just a little bit more and then question yourself. Is this a good practice? Is this something I want to continue? Is this something I want to change? And I think the other thing too is what they have learned for their three and a half years at college all the different educational philosophies, the psychologies. It changes from when you as a teacher were back in college, so you kind of get refreshed on some of those ideas a little bit. Some things change. Some things are the same but it helps you learn through them through what they tell you, "This is what my professors kind of suggested. What do you think?" it is just a different learning experience.

## Appendix F

Teacher B-

Rural school district

Teacher of 6 years

1. Please discuss and define reflection.

Yeah, I think reflection is... It should be formative. It should be summative. It should be something that the educator does all the time in order to make change. In order to better serve the needs of kids.

Practicing for my interview tomorrow.

Can we stick with that?

2. What are the areas of focus for your personal reflection?

I like to focus on my lesson delivery. If there was something that I did that was really, really great, I definitely want to emulate that for the later classes or bring it up in a class tomorrow if the first or second class didn't get it. I like, I definitely reflect on, I think the, the lesson delivery to find out if it was successful. When I look at kids results when I formative assess them, what did I do well and what can I improve. What holes are there in my, is in my delivery. And what holes is in their content knowledge. And how I can fix it for the following day.

3. Please explain the reflective process for you individually and the reflective process with your student teacher.

Step by step is when you plan a lesson, you know if it is going to be a dog or not. You know if you have put in the time needed to meet the needs of the students. So, when I reflect in that instant it is, OK, you know that was, not that that was good enough but is that on the mark? Or am I going to have to scramble or change things to get kids where they need to be. It is more of, in that moment, was I awful or is that going to work? Did we make the connections that we need to to get kids where they need to go.

Follow up: A minute ago you mentioned formative assessment. So, how does that fit into that piece?

Formative assessment, I think, can tell... First of all, formative assessment more so as a means to evaluate kids. I don't think it is a means to evaluate kids. It is a means to evaluate yourself. Is are they giving you the feedback that you need as a teacher to say OK they are ready. Let's go on to the next thing. Or, OK, I have got a group that is ready to go. They are going to to something the next day that is a little bit different and we are going to do some re-teaching. We are going to present some information in a different way to get kids where they need to be.

Follow up: What is the reflective process with your student teacher.

It was a challenge to get him to reflect at first, because he came in having everything figured out. And knowing, and just thinking that just by presenting information that kids would be receptive to that information. And that works as long as your audience is captive. If they are interested and if they are open to what you are saying. And often middle school students and high school students aren't necessarily. You have to make it unique for them. So, I think that he wouldn't listen, wouldn't listen, wouldn't listen and then finally he saw. He became very frustrated where he wasn't, he kept, like he was on a treadmill. He was trying, trying, trying and wasn't getting anywhere. So finally, through some reflective practice and dialogue between him and I, we were able to say OK. Maybe I should not do it the way you said, but we should try some other things that you think would work.

Follow up: what was the exact process you went through with him when you reflected together?

I would say, "How did it go?" You know, any time you evaluate a teacher, you know, how do you think that lesson went? And, they will be able to tell you in the first sentence or two really how they thought. If they thought it was effective or not. And often times he would say, "I think you were right about this. Or, oh, this went better than I thought. Or, Oh, I am going to stick with this during the afternoon lesson. So, once he realized that we were a team and I was trying to help and not just say, "You're wrong, you're wrong." Really trying to get him to be effective. He was definitely more open to that. Those types of dialogues.

4. Did your reflection opportunities change as a result of having a student teacher than prior to the student teacher being in your classroom? If yes, how and why? If no, why not?

Yeah, without question because I was able to potentially see some of the flaws and faults that I had in my maybe my classroom management earlier on in my career. You know, I would like to think that I have it, I definitely don't have it all figured out but I have it more figured out now. So, I don't think there is a greater way to reflect upon yourself than when you are trying to mentor and help out a young educator. If they get up there and do the exact same thing. You know you see the kids responding to something that you would do and you are like, "Wow, that wasn't very good at all." And so, it really starts to make you think about your own practice and your own craft.

5. What types of reflective practices did you partake in as a result of your student teacher?

I have had the luxury of having a student teacher to be able to really reflect on everything that I have been doing, and almost forcing them to try something new. To utilize retakes and redos. And, to not set such firm deadlines and really focus on, you know, your mastery learning. Getting kids a set of criteria and trying to get there set by step and I guess I have really used it to reflect on my own practice. To figure it all out to say if I was going to be teaching for the next six years or ten years, how would I go about doing that to best you know academic achievement and to meet these students' needs.

6. Describe a typical reflection period with your student teacher.

Typical at first, I would say, was a lot of, a lot of, disagreement and a lot of, I think, a lot of frustration on his part and on my part. And after we figured each other out, things went a lot smoother and the dialogue would naturally happen. And I would challenge him to maybe get even more a little more out of his comfort zone and try some new things and he responded really well.

7. What are the areas of focus when you reflect with your student teacher?

Primarily, um, classroom management was always a big one with students. Um, if your expectation is students are at a zero quiet level, do not start teaching when they are at a two. If your expectation is zero, you've got to stick to that. So, classroom management was a big one. It is something that was reinforced often. And also, even though he bought in to my philosophy on education, we would still dialogue back and forth.

I'm sorry what was the question?

Response- What were the areas of focus?

The areas of focus, is was grading, it was classroom management, and it was assessment. Um, I don't know if I have ever made a good assessment or an assessment that I have been happy with and I said "Wow that was on the mark. That's a great standardized test or multiple choice test. Um, I've struggled with that over the years. He and I would engage in a lot of dialogue about was this assessment valid. Was it on target? Was it supposed to assess what we're supposed to be assessing? Are we using the right verbs? Is this too easy? Are we asking kids to analyze and construct arguments when really it's just in the standards it is just a basic you know knowledge level question.

8. Do you find the reflective period with your student teacher to lead to change in your teaching practice? If so, how?

It started out where there weren't going to be any hard deadlines. The student could do something as many times as they needed because if mastery is the goal then and we recognize students learn at different rates, why are we penalizing students for not getting it right the first time? And so we did a lot of retakes and a lot of redos. And I think that is was very successful and then I started to look at the grades. And as a traditional you know as an educator who has been grading under this traditional system, I realized, "Holy smokes. I have got a ton of A's and a ton of B's and not too many C's. And so, reflecting on that, that was a good thing but I also think that my assessments were off the mark. I don't think that they were necessarily challenging enough. To where I have got students that I know in my heart are not mastery level students but yet through retake, retake, retake and homework only being. Homework and all these things that shouldn't go into a grade necessarily, um, I found that my grading is flawed. So that is why the last nine weeks I went to solely based grading where you are going to move your way up the ladder and if you are hopefully at the end of this next evaluation, if they are mastery they will have demonstrated mastery and not just did well for the third time on a multiple choice test.



Follow up: And the reflection period with your student teacher made you see that?

It did. It did when I have created a system and I am not necessarily getting the desired results out of it. I am not getting. I am not saying. I don't want a perfect bell curve at all. But I also, if you know your students and you know what their abilities are it will be nice if that grade communicated to the parents what their child's ability was and not a borderline B-C students getting a 90 or 91. It is not the end of the world but I realized the system that I created was flawed.

9. Did any reflective experiences with your student teacher lead you to try new or otherwise untried methods in the classroom? If so, explain.

I want to say no. I know that sounds bad as the easy way out. I trying to, No.

10. Did you change any of your teaching practices as a result of the student teacher being in your room? If so, explain.

11. Likewise, were there any reflective periods without your student teacher that lead you to try new or otherwise untried methods in your classroom?

12. Do you believe you are more reflective when having a student teacher? Explain why or why not.

I am definitely more reflective because I need to be able to practice what I preach. It is very easy to sit in this chair when someone else is in front for the class and be critical. It is very easy to do that and I struggle with, I am not going to struggle with practicing what I preach. If I am going to enforce a standard or preach some sort of educational philosophy, I better be practicing it when that student teacher leaves.

Follow up: Do you think anything in the student teaching experience or having a student teacher allows you to be more reflective? Is there any benefit the student teacher provides?

I think it does because you are not going to be second guessing that student teacher, but you are saying wow that worked. Or maybe that didn't work. How can I do that? Do I do that? That was really great what they just did with the class. Can I emulate that? So I think if the cooperating teacher is taking every advantage of the opportunity they have then they will be constantly reflecting throughout.

13. Have you grown professionally from having a student teacher? If yes, please explain how.

Without question. I have been forced to not just say what I think is best for kids but actually attempt to do it. Where I have gone through a total change, total 180 on my grading and my approach to education. And, it couldn't have happened at a better time because I am firm in my beliefs now. I feel good about them. But I also haven't had a lot of time to practice those. So having that student teacher opportunity was great so I can really see how it works and fine tune it the last quarter of the year.

## APPENDIX G

Teacher C-

Rural school district

Teacher of 16 years

1. Please discuss and define reflection.

Reflection, I think, I understand the definition of it, but I hated it when it is kind of gets shoe horned into a definition that is “you have to do reflection.” I think that a good teacher does reflection on the fly as they are teaching. I would hate to think of somebody who has to sit down with a certain amount of reflection time. I feel like when I was in college they liked to use these kind of words to shoe horn you into doing habits that may not work for you. So I understand the idea. I understand why it is important for young teachers to understand why reflection is important, but I also think that it is too much. Too much emphasis goes into it, I think. As I have gotten older and more experienced, I like to do reflection on the fly. So, I can usually tell right away if something is not working. So, um, I don’t know.

Follow up: So how would you define it? In your own terms, what do you think reflection means?

I think reflection is thinking back on what you were doing in class whether or not it worked, if we are talking like as a professional teaching definition. Once again, I think it is important but I don’t think it is so important. Once again, I get the opinion that the college, I don’t know the word I am looking for here. The college group think it is something you should do every day. It is something people should do but I think most real world teachers just do it on the fly. Once again, I teach 2 preps but I teach 7 periods a day. So I have 4 classes of freshman and 3 classes of eight graders. If the 4 classes of freshmen, if I use an analogy and it is not working with my 1<sup>st</sup> period, I am immediately boom knock that out of my, I don’t want to call it a lecture, but I knock that out of what I am going to say to 3<sup>rd</sup>, 6<sup>th</sup>, and 7<sup>th</sup>. So, is that reflection? I guess. But I don’t sit there in my conference period and think, “Hmm, what did I do wrong?” Again, I think sometimes college kids are kind of led to believe that is what they should be doing. I think it is important but I think it is more important to learn how to do it on the fly than it is to sit down and what I consider a wasting time doing it later on.

2. What are the areas of focus for your personal reflection?

What works and what doesn’t. I am kind of, not kid of, I am unorthodox in the way I teach. I would probably make most professors pull their hair out. But I am effective. I have always had very high ratings on all my, well after my first year. The first year is a learning experience for everybody. But that first year taught me, you know, how to use my unorthodox methods. But, I have always gotten very high teaching evaluations from the state, from my building principals, and I have had more than one. I simply have it down to a science. So I don’t really sit and think hey what I did wrong. I don’t focus on anything important. One of the things that I do like to make sure that works is if I do something in class and it gives the kids too much free time and they are screwing around then I immediately, I don’t reflect upon it necessarily, I immediately say on the fly once again, I immediately say, “This isn’t working I need

to do something else.” Or I need to stretch it out. Or if my notes only go a half an hour in a forty minute class, I don’t want them to have that 10 minutes to drive me nuts. So, you know, right then I immediately think, “OK, well during these next notes, I need to stall. Tell some personal anecdotes. I need to make different analogies that last longer.” So, that would be my focus is keeping the kids busy. But, once again, it is not something I sit and think about. It is something I do right on the fly.

3. Please explain the reflective process for you individually and the reflective process with your student teacher.

You like that word reflection don’t you? Is this like a reflection study I am assuming?

OK, once again, I just, I don’t use the word reflection. I am pretty unorthodox and pretty laid back. I just, if he had something that didn’t go well, I’m like, “Hey, you need to tighten that up.” That didn’t work. You need to recognize that you are going to be done with notes in 20 minutes and you still have 20 minutes to spare. You need to recognize that. You need to slow yourself down, throw in personal some stories that relate to the notes, or relate to the kids, or you need to find something to do. So I think most of our reflection if you will was had more to do with him using time wisely. So, I guess that would be the thing we focused on. It wasn’t like a, I was trying to teach him how to do it on the fly. Because, we didn’t spend a half an hour after each thing saying, “OK, well here is what you did wrong and here is what you did right.” You know I was like you need to recognize it. Like I gave him some basic guidelines and said here recognize it on the fly. If you realize you are going to go fast, you need to think on your feet and do something.

Follow up: You mentioned a few things to draw it out a little bit. How do you recognize? You mention it a few times “I recognize that I need to fix things.” Or, “I want him to recognize.” So what things are you looking for?

So, I am looking for him to use his time wisely and if say 1<sup>st</sup> period he is doing a power point that he is got scheduled the whole period. And he is done in 20 minutes that is 20 minutes of free time that I don’t want those kids to have because they are going to go nuts. I teach 8<sup>th</sup> and 9<sup>th</sup> graders, you know. You can’t have them just sitting around with nothing to do. So, I want his to recognize, you know right away, “Oh I’m going too fast.” I want him to look at the clock, and say, “Oh, I am  $\frac{3}{4}$  the way done, I still have got 20 minutes to go. I better slow it down or I better tie something in. Or, my student teacher to be a little bit more specific, was a former police officer who had gotten injured. Couldn’t do the job anymore and so he was coming back. So I was always telling him, “Hey, use police stories to tie in to what we are talking about.” So, I wanted him to recognize what he was doing wrong, if you will, as he was doing it by using the clock as a guide. Or using where he was in the notes to kind of say, “Uh oh, I’m going too fast. I need to slow it down or I need to do this or I need to come up with something to do after the notes to keep these kids busy. Or to tie everything together or to even being that he was in college they wanted him to do a certain amount of, I don’t know if busy work is the right way, but a certain amount of activities with the kids. So I was like you know, you need to look at the time you have left and come up with something you can do to make up for the shortcoming in the notes, if you will.

4. Did your reflection opportunities change as a result of having a student teacher than prior to the student teacher being in your classroom? If yes, how and why? If no, why not?

Uh, not really. Like I said, I don't, it's hard for me to answer that question because once again I don't get too bent out of shape about these industry words or you know catch phrases. That has always bothered me. Once again, I would make college professors pull their hair out because I teach completely unorthodox and it works for me. But it doesn't work for everyone else. So to use the word reflection, I don't really, I guess I don't really do it in the generic sense or the definition sense. Do I look at things differently after since I have had a student teacher, not really. I mean, it just kind of reinforced that what I was doing was working. So I was trying to help him do things the way I do them. So, I guess in a sense did it help me to have a student teacher? I didn't really change anything. I was just saying, "Here is what I do, and here is what you did. And here's why I do it my way. And here's why doing it your way doesn't work because you saw the results." And typically it was something you know if he tried a group activity and it didn't work because he let the kids pick their own group. So I am saying, here is what I do if I am going to do a group activity or here is why I avoid group activities. Or if I don't think this group can handle it, I won't do a group activity. Here's why, you did a group activity and it didn't work so here's what you did wrong. Here's something you need to do on your own. I didn't really change the way I, once again, I don't really reflect in that sense. I don't know. I am kind of lost here. I kind of feel like I am talking in circles and out of my behind. Because I don't really think the word reflection as something that I really do. Does that make sense? I don't mean to not answer your question and sound standoffish.

5. What types of reflective practices did you partake in as a result of your student teacher?

He and I would chat about what he did that didn't work. So, I guess discussion, I guess. I never really sat around on a Saturday afternoon and thought, "What did Ryan do wrong that he could do better?" I didn't really do anything like that so. You know that is what I think of sometimes we get hung up on certain things like definitions of words. I don't know. I am just going to shut up on that one. So yeah. I guess what my thing is, what I am struggling with being having taught for 16 years and having all these professional development things come in where someone says, "Hey this worked for me. I am going to show you how to do it." If it doesn't work for me, I don't do it. And then having a student teacher and say, "Yeah, they're making me do this, and this, and this and I am like why? You don't ever use that in the real world. You are never going to... You know he had to write three-page lesson plans and I'm like, "I understand it is like swinging a bat with a weight on it before you actually go up to bat." But, I'm like why would you do that. And the word reflection like I said just kind of jumbles everything up. Why not teach the kids to think on their feet while they are in class. Just because somebody has had success with looking on their lesson and going and picking the whole thing apart doesn't mean it work for everybody. It kind of drives me nuts how, you know, like a college professor, for example, will kind of latch on to these definitions and be like, "Well this works because this works for this person." And so, when you are asking me all these questions about reflection, it is hard for me and I don't want to sound grumpy, standoffish, or anything. I just don't necessarily agree with the importance of the word reflection. I am not trying to downgrade what you are doing. I'm not trying to be a jerk or anything like that. I think that people get too hung up on textbook nonsense and then they come into a classroom and they just sink because they can't relate because they are really good in textbook nonsense and it doesn't really

translate all the time. So, the word reflection to me is a textbook word that you know doesn't necessarily make you a good or bad teacher. If you, you know, don't use it or do use it. To me it's not important how you use it. It's not important to know the definition. It's not important, "Well you taught a great lesson but you don't reflect so you are terrible." You know? The kids sure as heck don't care about your reflection but I understand why it is important for some first year teachers too. I understand why some people feel they have to have it. So, you know, maybe I am just a crusty, old veteran who has been able to do it on my feet for so long I have forgotten what it was like the first year when, you know, I am teaching classes for the first time and I am like, "Oh crap, that didn't work." I better, you know, and maybe I did spend time and I have just forgotten because it has been so long. It's been so long that maybe I've just forgotten that hey maybe I did use reflection a lot the first couple of years. So, maybe that's just part of this disconnect, so.

6. Describe a typical reflection period with your student teacher.

Um, his biggest thing was as a police officer he was taught to be unemotional. And, because he was dealing with criminals and people who were breaking the law. And people that were possibly dangerous to his physical well-being. So he had to be as unemotional as possible. He was a very good police officer but that doesn't work in the classroom. He was having a real hard time with that so, you know, I was trying to give him hints and little tips on, "Hey, you were way too monotone. You were way too boring. You need to..." Even if your power points were awesome and his were pretty good, the kids aren't going to care if you are teaching it like this where you are just teaching in monotone and it is boring like this. So that was one of the big things him and I talked about a lot. If you want to call that reflection, that's fine.

7. What are the areas of focus when you reflect with your student teacher?

8. Do you find the reflective period with your student teacher to lead to change in your teaching practice? If so, how?

Not really. I guess I might have, you know, I sat and listened to him and been like, "OK, maybe I have fallen into this trap a little bit." But I tend to be a little bit over the top when I teach, so that's one of the things I always get commended on when I get my teacher evaluation. My principal is, the energy, the excitement, so um I guess I sat and listened to him because he taught my notes. I made sure he was teaching because I don't have a textbook. I just kind of, everything just kind of centers with me. So, I would give him my PowerPoints and nine times out of ten he would just take them and turn them into his own using the same material. And I would listen to some of the stuff he was saying and it was, you know, um. There might be times when I told him not to do that and here I do that sometimes. You know, I would think about, well, that is something I can get away with because I have been doing this long enough or I have better energy and I have better enthusiasm. So I guess I gave it a little bit of thought but not in depth. It wasn't like I was taking notes and doing charts and pros and cons or anything. But every once in a while something he would do would kind of get my attending and I would

think, "OK, well, you know, maybe I'm telling him not to do that but here maybe I'm doing it." So maybe I could not do that anymore.

9. Did any reflective experiences with your student teacher lead you to try new or otherwise untried methods in the classroom? If so, explain.

Um, no. But he had a pretty good idea that I am going to steal. So, and that was we were talking about the 1920's. He was talking about Henry Ford. I actually have an Industrial Revolution section I'm going to do where we really hit the assembly line and the Frederick Tayler, the Eli Whitney interchangeable parts, with Frederick Taylor the division of labor. So um, and he brought in Lego cars and he had the kids split up into groups and he was having them put the cars together like one person at a time. Then he was doing the division of labor and then he was doing the assembly line. And um, I thought it was kind of neat. The kids seemed to enjoy it so that's something I'm going to steal. I don't know if that's reflection but I'm going to steal it for next year. With his permission, by the way.

10. Did you change any of your teaching practices as a result of the student teacher being in your room? If so, explain.

Uh no. But I appreciated being able to do it. Because I didn't let him have all my classes. I know he is really supposed to have, you know, all seven of my classes. I didn't let him have that. I didn't let him have the freshmen at all. He just taught my three eighth grade classes. I found I kind of missed being able to be up in front of the kids. I kind of felt like a pariah sitting over here at my desk just with nothing to do. And then, we have these SLO's. I am not sure how familiar you are with them. Fun, fun. So, I wanted to make sure that the freshmen because I thought the freshmen SLO was a little more difficult. So I wanted to make sure that I did that myself. I wanted my own hand on that SLO report for the freshmen. We did really well by the way, they did. But, when the SLO was done, I also wanted him to have a taste of what it is like to have seven periods. Sometimes you are lecturing for seven periods. I wasn't sure he was used to that because I didn't let him have the freshmen. So for about three to four weeks, I can't remember how many it was right before he left, he had everything. And it made me appreciate what I have a lot more so it didn't make me change. It kind of, it's almost like summer break you know? By May you are like ughhhh and then by the time August rolls around you are back, you are excited, you are happy to be back. So it was kind of gave me a bit of a rally if you will to be able to jump back in front of the kids at the end of the year instead of being burned out, I was a little more almost like the beginning of the year where you are happy and morale is pretty high so I guess if that helps.

11. Likewise, were there any reflective periods without your student teacher that lead you to try new or otherwise untried methods in your classroom?

12. Do you believe you are more reflective when having a student teacher? Explain why or why not.

I think I have gone over the fact that I am not that reflective. I'm teasing. Yeah, you have to be. You have to say, "OK, well, here is what I do. Here's what you did. Here's why I think my way works better than yours." So, yeah, I guess you have to be. Because if you are not, you are not really helping them out. So, but I don't on my own time sit around and think for my own good, "Well, you know,

maybe I should..." Yeah, well, I don't, I didn't really do that. But I think I was reflective for his benefit. More reflective of his teaching than I was of my own. If that makes sense. Does that make sense?

13. Have you grown professionally from having a student teacher? If yes, please explain how.

Um, I guess. A little bit. It does, I guess, make you analyze your own teaching a little bit. I guess a little bit more. Maybe I am reflective and I just don't realize it because I don't like the word. Like I said, I feel like I am talking in circles here. Pardon the language, I feel like I'm talking out of my ass a little bit. But, I guess, a little bit. You have to be a little analytical of what you do since you are explaining it to the student teacher all the time. Now with that being said, I had a great student teacher. He was awesome. I enjoyed having him but I don't think I will ever have another student teacher. I am not one that does well with sitting around and watching someone else teach my class. It drives me nuts. And then, idle hands are the devil's playground. When everybody found out around here, all the teachers found out around here, that I was having a student teacher they were like, "Oh, God, you are going to get in so much trouble, because you can't handle free time." Because I just do stupid stuff. One of the things I did though is I initiated cookie Friday where I would buy cookies and when he was up here teaching I would sneak down to the Home Ec lab and make cookies for all the teachers. So I did try and use my time as wisely as I could, so.



## APPENDIX H

Teacher D-

Rural school district

Teacher of 4 years

1. Please discuss and define reflection.

Ah, reflection is looking back and kind of analyzing what you did. Looking at not only how that I think that I taught but how did the students perceive the lesson and what did they take away from the lesson. How it was received, I guess, too. Did they understand everything that I taught? I reflect, is that too much information? Just pretty much going back and analyzing. Thinking about what went well. What didn't go well? What do I need to fix?

Follow up: When you use the term well, what do you mean by that? How do you know something went well?

A lot of times the formative assessment. When they leave my class and I get it at the beginning of the class, so I can see the difference or the growth in one class period. Sometimes you just look and read their faces and if they are understanding how I say something. So, I'll do a mini reflection too after each class period. By eighth period, I teach the same class four blocks. So, I, by eighth period, my class is usually completely different than 1<sup>st</sup> period because I kind of gauge how the kids are even reacting to some of my transitional phrases. Some of the ways I explain things with science, the content, it can be tough to explain at a 6<sup>th</sup> grade level. So, but, yeah, well also if the kids seem to enjoy it, if they are dead, then I might switch things up. Make it a little bit, um, just different flow.

2. What are the areas of focus for your personal reflection?

Kind of already hit it in the last question. Ok, um, I do just how I thought it went in general. Like my first feeling right away. I'll look at the growth that I have seen from my kids from the beginning to the end with those formative assessments. How I thought the flow of the lesson went. If I needed to change up the order of anything or if I needed to add in any extra explanations. How the transitions went. I think that is about it. Yeah.

3. Please explain the reflective process for you individually and the reflective process with your student teacher.

Like I said, a lot of times it might just be quick jotting down on a post it note if I want to change something. A lot of times it is just in my own brain. You know. That didn't go well. I'm going to shift it or change it. Change the order. Or change the way I say something from the next class. Or at lunch time is a great time too. Sometimes I'll even add in more manipulatives or more visual pieces for the kids if I feel like they are not grasping it. And then, at the end of the day I usually try and sit down and not 100% doing it all the time but I like to try and sit down and actually write out more of like a journal form but it will be at the end of each lesson plan each day. Just all of the things that went well, what I want to change for next year, what I want to keep the same. I even write down like funny things that

the kids will say or funny ways that the kids will remember things. And then, that's usually how I just kind of end it. And then at the end of the unit too. Especially like when I see when I have graded tests because that helps me to see, you know, what did I hit well enough. Maybe I didn't hit something well enough that I should have on the test.

Follow up: Now add in the piece concerning the reflective process with your student teacher. Or was there one?

Student teacher. We always sat down, we tried to touch base, um, at lunch time. Just because it is really difficult to kind of change for a student teacher between periods and even being able to discuss things in a two-minute time span. So usually, I would just look at her and if something didn't go well and say, "Is there something you want to change for next time?" Um, just to kind of give her that prompt. And then at the end of each day though we definitely did touch base and said, "OK, what went well? What do we need to work on for tomorrow? You know, do we need to shift anything in your lesson plan?" And it was a lot of just more verbal. We only did a few times where I actually sat down and documented like how I was, what I was doing as she was going through the lesson.

4. Did your reflection opportunities change as a result of having a student teacher than prior to the student teacher being in your classroom? If yes, how and why? If no, why not?

I wouldn't say really much. I mean my, I am a super reflective person so I think if anything though it was just nice to have another person to bounce the reflections off. So, that was one nice thing. I am the only sixth grade science teacher so I talk with my other colleagues about you know how things are going in class. We meet every day in team but it was nice having somebody in my classroom that we could kind of talk together.

Follow up: Now I may be beating a dead horse here, but when you said you talked in your classroom with someone, what type of things did you talk about?

Ah, of the times it was just you know this is how we phrase something. Did the kids really grasp it? Or do we need to go back and a lot of times it was the brainstorming after we taught the lesson. You know a lot of times it was the brainstorming after we taught the lesson. You know, the kids really grasped this. Or the kids didn't grasp this. And so it was nice to have somebody to bounce ideas off of to see OK if we were going to change something, how would we change it? Um, I think that is the toughest piece of reflection. Is I have a lot of questions that I feel like I have to answer myself that I don't get a lot of you know. So it is nice when you can go back and forth with somebody else.

5. What types of reflective practices did you partake in as a result of your student teacher?

I felt, I guess, I, I was more conscientious when I reflected because I would share when she first started. I would like kind of share my reflections with her about how I thought the lesson went so that she could see, you know, this is what I look for and this is kind of how I grade myself when I am teaching. Um, and so it just made me more conscientious, I guess, of what I was putting down in my reflection.

6. Describe a typical reflection period with your student teacher.

We just sat down and just talked a lot of times. Um, just the one or two times I actually would write down as she was teaching and then that would be a little bit more formal. We would go back and forth and talk, you know, this is what I saw, what do you think about this, how do you think this went? I gave more a lot of prompting, guiding questions to see how she would answer. Um, but a lot of times it was just discussion back and forth at the end of the day.

7. What are the areas of focus when you reflect with your student teacher?

Ah, a lot of times it was how did she get the content across to the students? Um, were the students understanding what she was teaching? Um, we did talk about management sometimes too. Ah, I have a very different style of teaching. I do a self-paced classroom. So for her it was a lot of learning really, really quickly on how to do it. Wasn't very traditional. So, there was a management aspect to that you know. What kids were on task? What kids weren't. Um, so that kind of came up a few times. Just kind of just how to handle the situation for the future.

8. Do you find the reflective period with your student teacher to lead to change in your teaching practice? If so, how?

Um, I don't, I wouldn't really say a huge change in mine. I kind of feel like she tried to morph to me a little bit. That was one thing we actually reflected on. How she doesn't have to be exactly me. Um, but we, I felt we were very kind of similar teaching styles just in general. How we got things across to the kids so there wasn't a lot of change that happened.

9. Did any reflective experiences with your student teacher lead you to try new or otherwise untried methods in the classroom? If so, explain.

She did and I haven't added it in cause we just started our new unit, but there was one thing I liked how they do, what's the newer thing with the guided readings or leveled readings. But they have like, ah, lower level, higher level, like highest level questioning and they have to pull from the text to find evidence. So, we talked about how she put that together and so that was one thing that I did like that I am going to start to incorporate more, so. Yeah, but other than that there wasn't a lot of other methods that she used that were different than mine.

10. Did you change any of your teaching practices as a result of the student teacher being in your room? If so, explain.

Practices. No, I wouldn't say.

11. Likewise, were there any reflective periods without your student teacher that lead you to try new or otherwise untried methods in your classroom?

12. Do you believe you are more reflective when having a student teacher? Explain why or why not.

Yes. I am more conscientious just so I can model for her just. I think reflection is a real important piece for teaching and I think that is one thing that I wanted to pass on to the methods and student teachers in my room. Ah, and so I would definitely try to model that a little bit more so I am more aware of how I am reflective and reflecting.

13. Have you grown professionally from having a student teacher? If yes, please explain how.

Yes, I think so. I think they, having someone come into your classroom makes you more aware of what you are doing and so it makes you strive to make sure that everything is even more perfect than before. Um, and it is nice too having a different personality where we were similar enough but then also different. Um, so she kind of provided, she connected with some students differently than what I did. So it was nice to see that connection being made and it is sometimes nice too. I always felt like I was bad cop but it is good cop, bad cop you know so the kids um. She kind of instilled like dino Fridays. She just started drawing up on the board and the kids really liked it. So it kind of was some fresh little just fun tiny that don't even necessarily have to do with the content but more building relationships with the kids and bringing in some of those fun little tiny just activities and ideas. So that was good.

Follow up: Do you think having- just to make sure, one last- do you think having a student teacher allowed you more opportunity to be reflective at all? Or does that kind of go into your other one?

I mean I wouldn't say that it provides more opportunity just I paid more closer attention to the details that I was providing in my reflection.

Follow-up: when you say details, what do you mean by that?

Ah, just things that sometimes when I would just think about it quickly. Ah, when I had the student teacher I would make sure that I would actually maybe like jot it down so I could remind myself, "Ok, I am going to tell her that this is what I was thinking as I was going through the lesson." So, um, and just really, it did make me think more as I was going through because I knew I was going to have to. She was either going to have questions about it or I was going to have to tell her. You know as I went through this lesson this is what went well. This is how I know it went well. Things like that.

APPENDIX I

Survey Responses December/January

1/8/2015 15:53:45	1-5	Rural	Asked by UF	1-3 times	6-10 minutes	1-3 times	General Science curriculum and needs Test Preparations	Middle School	Undergraduate degree	important	Reviewing, compiling and examining previous attempts to discover what could or should be changed to further improve.
1/8/2015 14:53:28	25 or more	Suburban	Assigned by school administration	1-3 times	2-5 minutes	1-3 times	I decide whether my lesson worked or not. I make notes on my plans on what I want to change next time.	High School	Master's degree	important	reflection is an evaluation of what worked and what did not. What should be enhanced and what should be fixed.
1/6/2015 7:35:25	11-15	Rural	close working relationship with local university	1-3 times	2-5 minutes	1-3 times	Student responses, flow of lessons, availability & ease of use with technology, student HIV, testing results	High School	Master's degree	extremely important	Putting something into practice in your classroom & then evaluating its efficacy in a variety of manners.
12/12/2014 13:18:55	11-15	Rural	asked by UF if I'd accept one	1-3 times	2-5 minutes	1-3 times	Teaching strategies, questioning, assessment, homework assigned, how did students respond to lesson, what questions did they have following lesson	High School	Master's degree plus graduate credits	extremely important	Reflection is looking back at your lesson/unit and deciding what went well and what could use more work for improvement.
12/11/2014 12:35:57	6-10	Rural	Requested student teacher	7-10	10-20 minutes	1-3 times	Is a grade communication or compensation? This is something I consistently struggle with. A grade should reflect learning but many teachers including myself think it is our job to help prepare students for society....reward accountability and responsibility. If we do this we are inflating grades and punishing those without the	Middle School	Master's degree	extremely important	Is a grade communication or compensation?
Timestamp	How many years have you been teaching?	Describe your school setting	How were you selected to have a student teacher?	How often do you reflect on teaching practices or activities on an average school day?	What the length of an average reflection period?	How often do you reflect daily with other educators about your teaching, subject content, or practices?	What is the content of a typical reflection period you have on an average school day?	What type of school do you teach at?	How much education have you completed?	How important do you feel reflection is in education?	Please, define reflection in the space below.

## APPENDIX J Survey Responses May

5/8/2015 10:09:47	25 or more	Master's degree	High School	Suburban	Assigned by school administration	Does the lesson I am teaching work. Is it effective. What can I change or tweak for the next period or time I teach it.	important	1-3 times	6-10 minutes	1-3 times	Did my lesson work. Is it going to help students understand the content. Will it help students pass the state mandated tests.
5/8/2015 7:27:16	1-5	Undergraduate degree	Middle School	Rural	Asked by UF	Thinking about all aspects of a lesson. How it flowed, how the students responded, whether or not the lesson helped the students progress towards attaining the objective.	extremely important	1-3 times	6-10 minutes	1-3 times	What went well an what totally bombed. How does this relate to decisions I've made in the past? What is this connected to that I can use in the future?
5/4/2015 13:27:46	6-10	Master's degree	Middle School	Rural	Requested student teacher	The ability to look at one's self critically and openly.	extremely important	7-10	2-5 minutes	1-3 times	Classroom Management, Lesson Delivery, Student Ability
5/6/2015 9:12:18	11-15	Master's degree plus graduate credits	High School	Rural	Assigned by school administration	Ability to look back on what has occurred and make changes or adjustments as needed.	important	1-3 times	6-10 minutes	1-3 times	Did students show understanding of the science content? What worked/didn't work in the lesson. Order and structure of lesson activities (within the lesson itself and the lesson within the unit) My feelings in general of the day. Reminders for next year (and sometimes the next lesson) to change. Management issues or successes. Concerns with certain students during the lesson (work habits or content related)