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Comparing Formative and Summative Instruments: What Tools Inform Practice and Guide Teacher Candidate Decision Making?

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COMPARING FORMATIVE AND SUMMATIVE INSTRUMENTS: WHAT TOOLS INFORM PRACTICE AND GUIDE TEACHER CANDIDATE DECISION MAKING?

By

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ABSTRACT

COMPARING FORMATIVE AND SUMMATIVE INSTRUMENTS:

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DECISION MAKING?

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University of Nebraska Omaha, 2017

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With an increased focus on field-based preparation, the relationship between P12 school districts and universities has been forced to change with little or no support to create effective third space environments. The complexity of the student teaching experience is compounded by the need for redefined roles, the lack of a common lexicon and the incongruence of accreditation systems. A Convergent Parallel Mixed Methods study was conducted to compare the use of formative and summative evaluation tools used to evaluate teacher candidates during student teaching. It also explored how the use of these two tools impacted the feedback provided and implemented by teacher candidates. The formative evaluation was developed using Delphi methodology and merged the language of the local P12 school districts with the summative evaluation tool grounded in the InTASC language. The results showed increased candidate growth and more effective feedback from mentor teachers and university supervisors. As a result, a common explanatory framework was developed to support third space environments.

Keywords: Student teaching, teacher preparation, field experience, third space, InTASC standards, co-teaching, formative and summative assessment, data analysis cycle

Dedication

To my kids, Garrett and Sophia – this is for you.

You can accomplish anything you set out to do.

Acknowledgements

I'd like to start by acknowledging that writing a dissertation is not something done in a silo and when you finish, the product is a collective work of the support you received throughout the journey. It truly takes a dedicated team working together to accomplish a common goal. Thank you to so many for the guidance and unyielding support you have offered throughout this process.

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Chapter 1

What is Student Teaching?

Student teaching is a teacher candidate's application of acquired knowledge. Most teacher preparation programs provide learning and teaching on educational theory with guided practicum classroom experience. Student teaching is the final classroom experience for teacher candidates before they earn his/her teaching credentials. This final experience is often the most comprehensive and places teacher candidates in the field daily for a full semester.

Characterizing the process of learning to teach involves preparing teacher candidates for a "complex, unpredictable and context-dependent process" (Henning, Dani, & Weade, 2012; Borko & Putnam, 1996). Not only does a teacher candidate need to learn the intricacies of teaching by applying the skills and strategies learned, but they must do it in a mentor teacher's classroom. This can be difficult when taking semesters of theory into someone else's space (Lawley, Moore, & Smajic 2014).

Teacher candidates plan, instruct, and assess. As this is done, they frame and reframe his/her own learning in the context of his/her observations and experiences. This is most effective when learning is structured to developmentally build upon and integrate previous theory and practice (Zeichner, 2012). These experiences provide opportunities for reflection and professional growth.

Without support, teacher candidates are left to develop reflective practices on his/her own. Therefore, two guides are assigned to support the process, a university supervisor and a mentor teacher. These two facilitate growth throughout the student teaching experience. The role requires both, the university supervisor and the mentor teacher, to provide the teacher candidate with feedback for reflection and professional growth.

Conceptual Framework

Consider the relationship, conversations, and learning between the teacher candidate and the mentor teacher as one distinct space. The relationship, conversations and learning between the teacher candidate and the university supervisor are a second distinct space. In the space comprised of the teacher candidate and mentor teacher, the guidance is fueled by the standards and needs of the P12 classroom. In the second space comprised of the teacher candidate and university supervisor, guidance is grounded in the needs of the university. Whereas both are necessary, it becomes clear that the space between these two distinct spaces, the theoretical third space, is extremely complex with the teacher candidate quite literally being caught in the middle between the university and the P12 classroom. Successful conditions and navigation of the third space environment is critical for teacher candidates' success during student teaching.

The conceptual framework for this study rests in the concept of third space. The concept of third space has been used in multiple fields. Third space refers to the creation of blended spaces to increase effectiveness (Zeichner, 2010). Collaboration in third space between P12 districts and universities is necessary for teacher candidates to learn, practice, and apply instructional strategies in classrooms. A focused approach nurtures

the development of a professional vision (Zeichner, 2012).

During student teaching, it is the university supervisor, mentor teacher, and teacher candidate who collaborate in a blended theoretical space between the university and the P12 school. Effective student teaching environments are based on communication and the application of feedback to increase student achievement. This space thrives on trust, collaboration, and consistent communication to support the professional growth of a teacher candidate. Experiences that include modeling, feedback, and reinforcement are necessary (Rodgers & Jenkins, 2010; Zeichner, 2012).

Collaborative models increase the ability to meet student needs. They escalate the identification of student needs, the implementation of effective instructional strategies, and increase communication (Abbott & McKnight, 2010). Opportunities in the field expose teacher candidates to varied cultural, linguistic, and socioeconomic classrooms. These experiences help teacher candidates to develop his/her own cultural competence and culturally responsive teaching abilities (Zeichner, 2012).

Evolution of the InTASC Standards

Teacher preparation institutions are guided by the Interstate Teacher Assessment and Support Consortium (InTASC) standards. During the student teaching experience, teacher candidates are evaluated on his/her performance of these standards.

In 1992, the Interstate New Teacher Assessment and Support Consortium (INTASC) released *Model Standards for Beginning Teacher Licensing and Development: A Resource for State Dialogue*. The focus was on the development and preparation of new teachers. Notice the model standards state "Beginning Teacher*"* and the word "New*"* is in the organization's name and capitalized in the acronym.

In 2011, the INTASC organization removed "New" from its name. It is now called the Interstate Teacher Assessment and Support Consortium (InTASC). At this time, the N was made lowercase in the acronym to signify the change. The 2011 standards focused on professional practice and included quality teaching for ALL teachers (Figure 1). And therefore determining, that it is the application of the standards

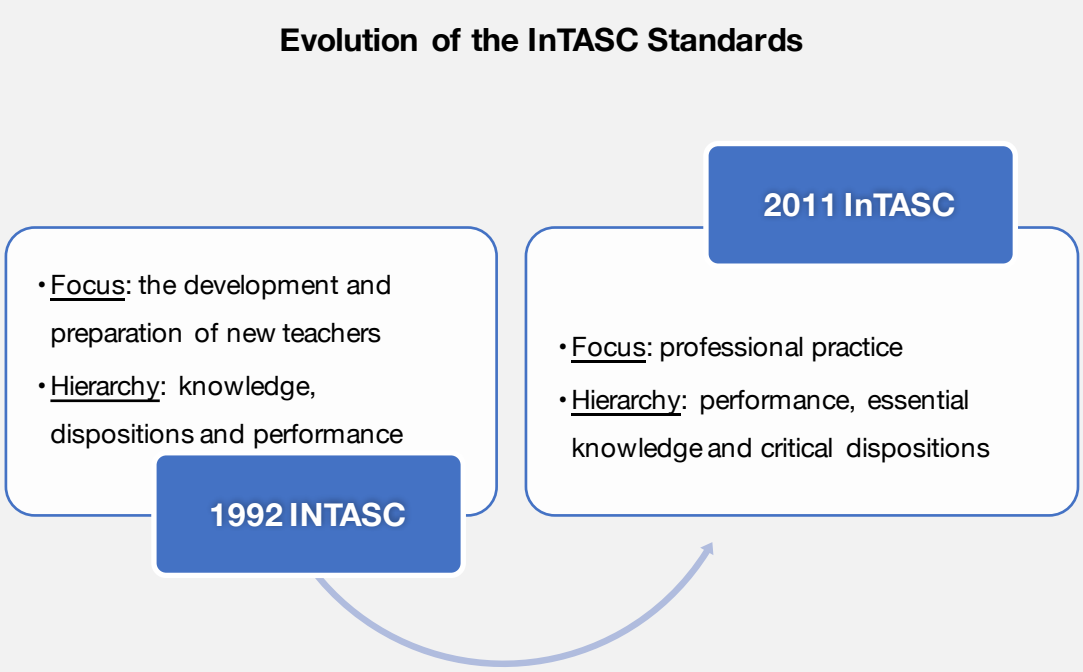

Figure 1. The evolution and changes to the InTASC Standards over time.

that distinguishes the quality of the teaching, not just if a teacher is beginning or veteran. This change acknowledged that performance looks different at different stages of a teacher's career. As a teacher grows, it is the effectiveness and sophistication in the application of each standard that determines developmentally where a teacher performs (CCSSO, 2013).

The 2011 standards also changed the vocabulary used in two key ways. First, the word "students" transitioned to "learners". This change highlighted the need for students

to be actively involved in the learning process. A second change replaced "classroom" with "learning environment". This acknowledged that learning could occur in a variety of contexts outside of a school building.

The delineation between knowledge, dispositions, and performance was also reframed. In 1992, the focus was on the acquisition of knowledge. In 2011, performance was listed first followed by essential knowledge and critical dispositions. The rationale for the change was that both dispositions and knowledge support teacher performance, but it is the performance of teachers that has the greatest impact on student learning.

The InTASC teaching standards provide a framework for effective teaching and establish a foundation for teacher development. These standards provide consistency across programs and guide institutional work.

History of Field-Based Preparation and Increased Field Time

Concurrent with the InTASC changes in 2011, the National Council for the Accreditation of Teacher Education (NCATE) increased his/her focus on field-based preparation in his/her Blue Ribbon Report (NCATE, 2010).

> "The education of teachers in the United States needs to be turned upside down. To prepare effective teachers for 21st century classrooms, teacher education must shift away from a norm which emphasizes academic preparation and course work loosely linked to school-based experiences. Rather, it must move to programs that are fully grounded in clinical practice and interwoven with academic content and professional courses . . . This demanding, clinically based approach will create varied and extensive opportunities for teacher candidates to connect what

> they learn with the challenge of using it, while under the expert tutelage of skilled clinical educators. Teacher candidates will blend practitioner knowledge with academic knowledge as they learn by doing. They will refine his/her practice in the light of new knowledge acquired and data gathered about whether his/her students are learning." (NCATE, 2010).

Field-based preparation includes observing, assisting, tutoring, planning, instructing, and assessing in authentic classroom settings where teacher preparation teacher candidates can apply knowledge learned in university coursework (CAEP, 2013; NCATE, 2010). With the focus turning to the performance of teacher candidates in P12 classrooms, field-based preparation is a means to increase teacher readiness through increased practice, and in turn, student achievement (Zeichner, 2012). These field-based opportunities allow teacher candidates time to apply what they have learned in his/her program of study and develop the effective teaching skills most likely to impact P12 student learning (AFT, 2012; CCSSO, 2012; NCATE, 2010; NEA, 2011; NCTQ, 2011; Singer, Catapano, & Huisman, 2010; & Zeichner, 2010 & 2012).

From Theory to Practice

For decades, universities could function separate from the practicalities of P12 classrooms. Universities have even been referred to as ivory towers providing only the knowledge base and no extensive practice for teacher candidates (Sleeter, 2014). This separation was the norm and status quo prior to 2010. Teacher candidates would go out to student teach at the end of his/her teacher preparation program and earn his/her certification. Little connection between the university and P12 classroom was required. The creation of a cohesive, collaborative third space was not an expectation.

With the implementation of *No Child Left Behind* (United States & Bush, 2001), national accountability on student testing performance became a focus and held high stakes for schools (United States, & Bush, 2001). As a result, more was learned about teacher candidate preparation as well as P12 learner needs. This new knowledge was reflected in the InTASC changes in 2011 and caused student teaching methodologies to shift.

Prior to 2011, teacher preparation programs were also criticized for being too fragmented, with weak pedagogy and having a lack of organized themes, standards, and goals. (Hollins, 2011; Zeichner, 2005). Without clear expectations for the experience, this supported the belief that a teacher candidate needed an opportunity to learn on his/her feet. This sink or swim ideology left some teacher candidates predominately unsupervised by the mentor teacher and unsupported by the university supervisor during student teaching. The experience provided little support or guidance from either the mentor teacher or the university supervisor.

Intentional Placement

With the new knowledge regarding teacher candidate and learner needs, it became apparent that student teaching placements could not be "haphazard, depending on the idiosyncrasies of loosely selected placements with little guidance about what happens in them and little connection to university work," (Darling-Hammond, 2009, p. 11). Additional studies linked the effectiveness of the student teaching experience to the expertise of the mentor teacher, the support provided, and the placement itself (Torrez & Krebs, 2012). This outlined the need for a more strategic process in partnering a teacher candidate with a mentor teacher. Even more so, the connection between P12 and higher

education, the third space, needed to be maximized.

Complex Guidance

In a relationship with two guiding adults, a mentor teacher and university supervisor, determining who is guiding and when can be difficult. Added to this balancing act, many university supervisors are adjunct faculty and retired teachers. Unfortunately, under university governance, adjunct faculty (mentor teachers and university supervisors) have no authority to participate in decisions that impact program development or change. Therefore, when concerns arise and suggestions for improvement are shared by mentor teachers and university supervisors, they may go unnoticed or unaddressed. When student teaching experiences are led predominately by adjunct faculty, the experiences were cited as the least organized and systematic pedagogy in teacher preparation programs (NCATE, 2010, Bullough, Draper, Smith, & Burrell, 2004; Zeichner, 2012; Zeichner, 2010).

Complexities in Field-Based Preparation

With the release of the Blue Ribbon Report in 2010 and the changes to InTASC language in 2011, universities could no longer only provide the knowledge base to teach without ensuring teacher candidates were ready to perform in a classroom. This shifted the views on student teaching from one of practice, with time to learn on the job, to a need for teacher candidates to enter the profession classroom ready after student teaching.

The increased focus on field-based preparation changed the relationship between universities and P12 districts and increased the need for effective third space environments, collaborative supportive interactions between the P12 schools and higher education. This paradigm shift was new and not an easy one. P12 teachers “are

identified as seeking new solutions to operational matters whilst the researchers are characterized as seeking new knowledge" (Helmsley-Brown & Sharp, 2003, p. 460). Given the research demands of the university, many university faculty write for themselves rather than collaborating with classroom teachers to find solutions to common problems (Sleeter, 2014). This past mindset did not support the collaboration needed for a successful student teaching experience. As a result, teacher preparation programs reallocated resources and realigned coursework to increase time in the field as a means of increasing teacher readiness. This placed an increased awareness on third space, the connection and collaboration between the universities and P12 districts.

Role Clarification

One factor impacting the complexity of the student teaching experience is role clarification. There are three distinct stakeholders in the student teaching experience: the teacher candidate, the university supervisor, and the mentor teacher. With the changes in the InTASC standards and the increase of field-based preparation, it became necessary to clarify the roles of those involved in the student teaching experience. The teacher candidate, university supervisor, and mentor teacher work as a team to connect the teacher candidate's university learning to the authentic environments. During student teaching, teacher candidates need time for self-reflection and professional dialogue to grow and develop. To bridge theory and practice, both the university supervisor and mentor teacher should provide constructive feedback and support growth. Both need to understand how to best support the teacher candidate.

Common Lexicon

A second factor impacting the complexity of student teaching is the lack of a common lexicon within education. During student teaching, teacher candidates are students at the university working within a P12 system. This merge of two separate institutions can provide obstacles for feedback and reflection (Figure 2).

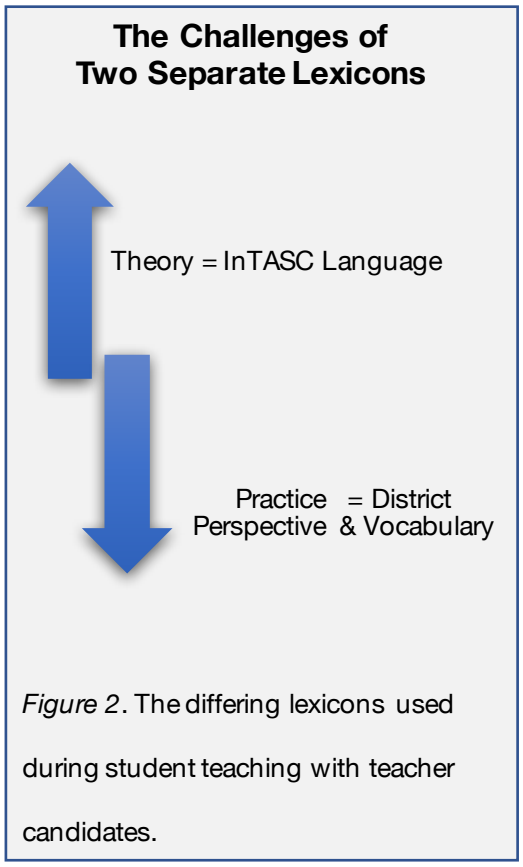

Figure 2. The differing lexicons used during student teaching with teacher candidates.

Each stakeholder brings an educational vocabulary, or lexicon, to student teaching based on professional experience. Education is full of acronyms and each district and university functions under its own locally defined terminology. These distinct lexicons, whether intentional or unintentional, create barriers and impact communication (Figure 3).

It is not just time in a classroom that creates effective educators, but carefully crafted experiences. The teacher candidate's experience at the university has been guided by the InTASC standards. The university supervisor may be versed in the university's lexicon (if tenured faculty) or may bring a lexicon from previous experience (if adjunct faculty). The mentor teacher is grounded in the district lexicon. If both the mentor teacher and university supervisor outline educational expectations based on varied lexicons, the student teacher is caught in the middle with an unclear understanding of

needs and goals. The lack of alignment between the university's lexicon and that of the P12 classroom, creates unnecessary roadblocks for teacher candidates. This inhibits communication and the support teacher candidates receive during student teaching. A common lexicon in this third space environment provides additional support for the mentor teacher, teacher candidate, and university supervisor.

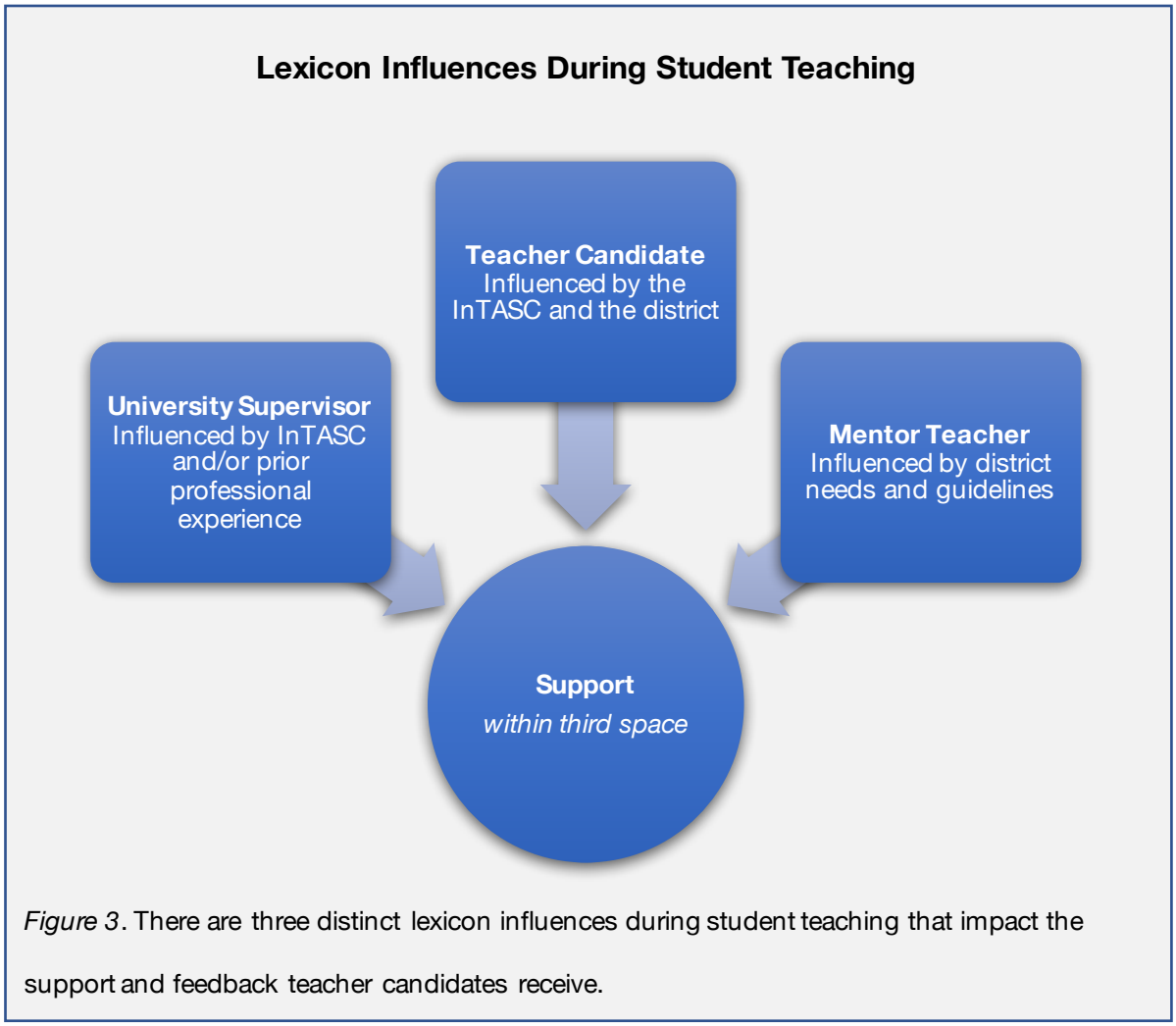

Figure 3. There are three distinct lexicon influences during student teaching that impact the support and feedback teacher candidates receive.

Differences in Accreditation Requirements

Another factor adding to the complexity of field-based preparation is accreditation. P12 school districts have felt the pressure of accountability since the *A*

Nation at Risk (United States, 1983) report, the implementation of *No Child Left Behind*(United States & Bush, 2001) and initiatives such as *Race to the Top* (United States, 2010). Educational legislation and policy currently shape public education within a "standards-based, accountability paradigm" (DeLuca, 2012, p. 577). Universities and colleges throughout the nation now feel this impact as well. Policy makers continue to build accountability systems to measure student achievement and teacher effectiveness. Current policy and accreditation requirements such as the Every Student Succeeds Act (ESSA) and Council for the Accreditation of Educator Preparation (CAEP), demand more attention on assessment, accountability, and collaboration.

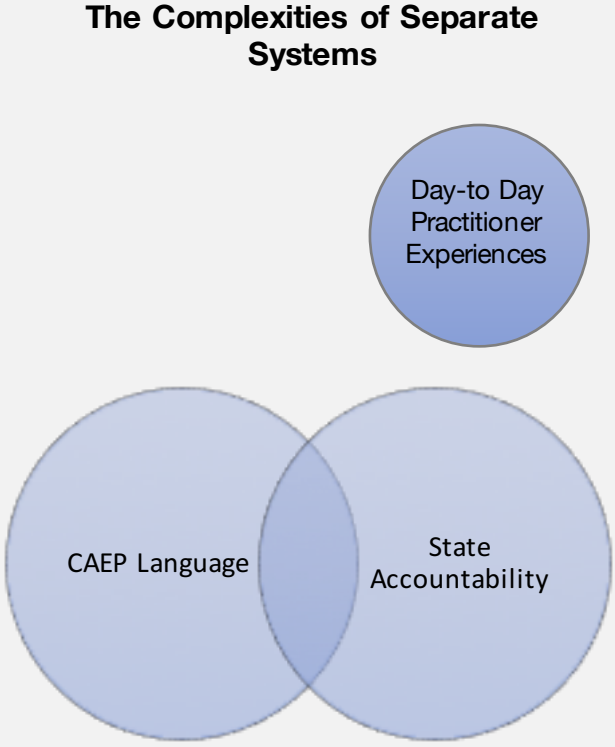

Figure 4. The CAEP accrediting body and the State accrediting body, although parallel, are not directly aligned with one another. Mentor teachers work under yet another set of standards.

Meeting these requirements becomes more difficult when universities are accountable to two sets of accrediting bodies, one at the state level (NE) and one at the national (CAEP). These two system are parallel, but do not directly align with each other (Figure 4). This leaves universities responsible for

finding a way to connect the two systems. At the same time, trying to find a way to connect to the P12 environment and the day-to-day practitioner experiences.

Mentor teachers are well versed with district standards, but have not consistently interacted with InTASC language, nor are they accountable for knowing it. Likewise, with many of the university supervisors being adjuncts, interaction with the InTASC language is also limited. Both the mentor teacher and the university supervisor provide the teacher candidate with feedback for reflection and growth, but are required to do this within two worlds. For example, the daily feedback from a mentor teacher is most likely grounded in the district language, but the summative assessments completed for the university are grounded in the InTASC language. This difference between the two systems impacts the reliability of the feedback, assessment and the application by teacher candidates.

Elements of Successful Student Teaching Experiences

Teacher Preparation Theory Linked to Field

The most effective teacher preparation programs require teacher candidates to spend extensive time in the field practicing skills related to coursework (Darling-Hammond, 2010). In addition, teacher candidates with more comprehensive and supportive student teaching experiences have an increased confidence and likelihood of staying in the profession (Meyer, 2016; Ingersoll, Merrill, & May, 2014; Ronfeldt, Schwartz & Jacob, 2014). When a teacher candidate can draw connections between coursework and student teaching, it leads to an easier transition to first-year teacher performance. Student teaching is guided practice for a teacher candidate. This time allows a teacher candidate to practice, apply feedback, and refine teaching skills. This

connection between theory and application during student teaching guides a teacher candidate to recognize how data can be used to inform instructional decisions.

Mentor Teacher and University Supervisor Feedback

In an effective student teaching triad, the mentor teacher, university supervisor, and teacher candidate are a team working toward a common goal - improving teaching and learning. Feedback from the mentor teacher and university supervisor is critical to the professional growth of a teacher candidate. Teacher candidates who have opportunities to practice teaching and are provided feedback leave the profession at less than half the rate of those who have little or no support (Darling-Hammond, 2006). Teacher candidates should understand what will be assessed during student teaching and mentor teachers and university supervisors need to know how to assess it (Marzano, Frontier, & Livingston, 2011; Danielson, 2008). Student teaching allows a teacher candidate to problem solve while instructing, engage with students, and positively impact achievement. Support and guidance increase a teacher candidate's ability to build these skills.

Consistent dialogue with the mentor teacher and university supervisor provides a foundation from which a teacher candidate can grow. Throughout the semester, a teacher candidate reflects to deepen his or her knowledge and understanding of planning, instruction, and assessment. This foundational knowledge strengthens the ability to draw valid and reliable inferences that impact instructional decisions (Kaden & Patterson, 2014).

When a mentor teacher and a university supervisor work as a team to align the feedback given to a teacher candidate, the teacher candidate can more easily implement

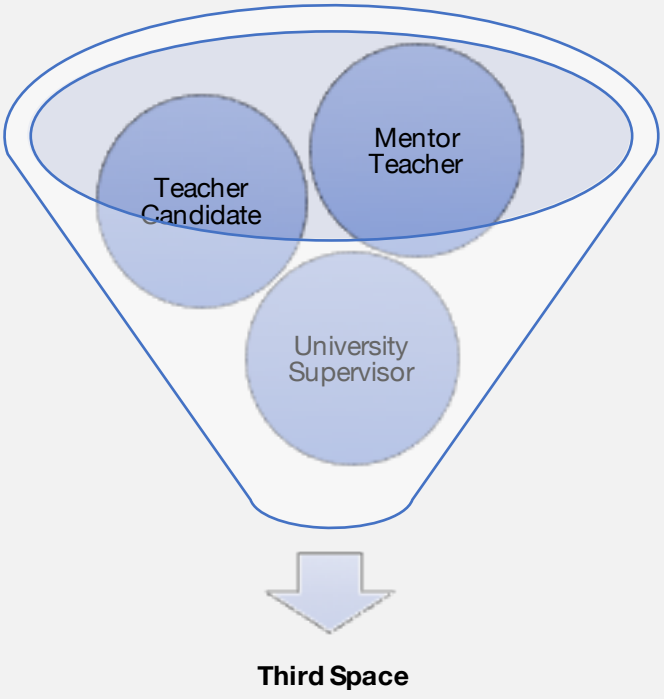

Figure 5. During student teaching, the university supervisor, mentor teacher and teacher candidate collaborate in a blended theoretical space between the university and the P-12 school.

the feedback. This supports collaboration and strengthens the third space environment (Figure 5). This culture increases the time for implementation and learning, rather than a teacher candidate working to interpret who wants what. Teacher candidates have more successful experiences when both the university supervisor and mentor teacher understand the goals of the experience. This common understanding amongst the team and sharing of constructive feedback aids in a teacher candidate's growth.

Teacher Candidate Reflection for Professional Growth

Teacher candidates are expected to reflect throughout the student teaching experience. Reflection is witnessed in the planning, instruction, and assessment of students and guides change. The ultimate goal of reflection is for teacher candidates to develop the ability to evaluate student data, determine if learning occurred and adjust instruction to meet every students' needs. One way teacher candidates begin to reflect is

by recognizing behaviors that impact instruction and learning. Mentor teachers and university supervisors support this type of reflection by guiding teacher candidates through a data-analysis cycle (Kaden & Patterson, 2014; DeLuca, 2012; Graham, 2005).

How Has Student Teaching Been Measured?

In today's high stakes classrooms, school districts cannot wait for novice teachers to learn on the job. Teacher candidates need to be equipped with the knowledge, skills, and dispositions to be successful. In the past, universities have measured the inputs rather than outputs. Research has centered around the quantity of coursework and expectations, rather than quality components of teacher preparation (La Paro et al., 2014; Whitebook & Ryan, 2011). Given the history of the system mentioned previously, this makes sense. Although it leaves limited research pertaining to the effectiveness and evaluation of the student teaching experience.

InTASC standards guide teacher preparation, yet there is no one widely used student teaching evaluation tool. The tools vary by institution and often tie to InTASC language and many include elements of Marzano and Danielson's frameworks. Tools used to evaluate teacher candidate growth should support teacher candidates "in developing both their understanding of the measure and their understanding of the criteria that will be used to evaluate their practice" (La Paro et al., 2014).

Student teaching is vital to the development of a teacher. The complexity of the experience is compounded by the need for role clarification (between teacher candidates, mentor teachers, and university supervisors), the lack of a common lexicon, and the differences between accreditation systems within the context of third space (Figure 6).

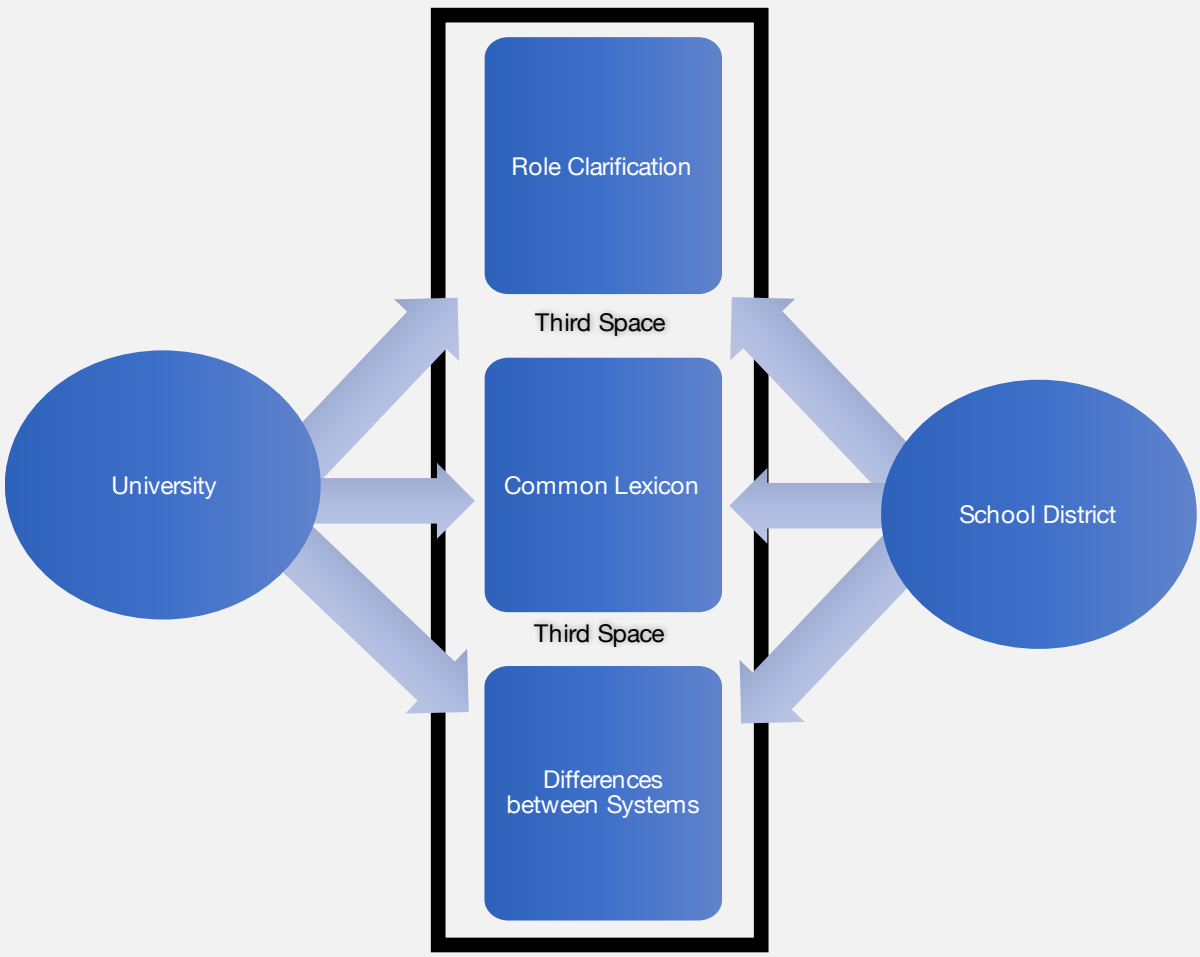

Figure 6. The complexity of the student teaching experience is compounded by the need for role clarification (between teacher candidate, mentor teacher and university supervisor), the lack of a common lexicon, and the incongruence of accreditation systems within the context of third space.

Teacher candidates need feedback, but they also need to understand and apply the feedback provided in the context of a school setting. This is supported through the clarification of roles for mentor teachers, university supervisors, and teacher candidates. Additional support comes from the use of a common lexicon to clarify expectations and to provide feedback aligned with accreditation needs. These supports link assessment

and learning for teacher candidates. They also offer opportunities for reflection and professional growth.

In 2015, the state of Nebraska adopted a state-wide student teaching assessment. It is a frequency-based rating scale aligned with the InTASC standards. Whereas this created consistency for universities, it did not utilize the same standards as the P12 school districts. Likewise, the frequency based format begged the question by evaluators as to the numerical equivalencies associated with the frequencies. How many times did an evaluator need to see something for it to be considered consistent versus frequent?

An observation tool was developed to support formative feedback throughout student teaching. This tool connected the language from the P12 school districts with that of the Nebraska Department of Education's summative evaluation instrument. Focus was placed on behaviors that could be witnessed during an observation.

The purpose of this convergent parallel mixed methods study was to compare the use of formative and summative evaluation tools used to evaluate teacher candidates during student teaching and explore how the use of these two tools impacted the feedback provided and implemented by teacher candidates for reflection and professional growth.

Research Questions

How does having two different, but aligned, student teaching assessment tools impact the feedback provided to teacher candidates during student teaching?

a. Sub-Question 1a. How strongly are the formative evaluation tool (observation summary) and the summative evaluation tool (final assessment) related?

   b. Sub-Question 1b. What are university supervisor perceptions as to how each of the assessment tools support professional productive conversations?

2. What skills demonstrated by teacher candidates at the conclusion student teaching show evidence of growth?
   a. Sub-Question 2a. Do we see a significant difference in group means between the midterm and final assessment?
   b. Sub-Question 2b. Do we see a significant difference in group means between observation summaries?

Definition of Terms

The following definitions have been used throughout the study and are presented to the reader for clarification.

Student Teaching: Opportunities for teacher candidates to apply what has been learned in his or her program of study and develop the effective teaching skills to impact P12 student learning (AFT, 2012; CCSSO, 2012; NCATE, 2010; NCTQ, 2011; Singer, et. al, 2010; & Zeichner, 2010). This is often the culmination of the teacher preparation program and is an all day, every day semester long experience.

*Field-Based Preparation**:*** Includes observing, assisting, tutoring, planning, instructing, and assessing in authentic classroom settings where teacher candidates can apply knowledge learned in university coursework.

Mentor Teacher: The mentor teacher is the school-based personnel sharing a classroom with the teacher candidate.

Third Space: Third space refers to the creation of blended spaces for university faculty, mentor teachers, teacher candidates, and community members to collaborate and generate ideas to increase teacher effectiveness (Zeichner, 2010).

Teacher Candidate: The teacher candidate is an undergraduate student in a teacher preparation program pursuing a degree and certification in education.

University Supervisor: The university supervisor is employed by the university to support teacher candidates in the field, be it during student teaching or other practicum experiences. This may be adjunct faculty or full time faculty.

Assumptions

All teacher candidates were currently enrolled in student teaching, therefore the inclusion criteria of the sample was appropriate and assured that the participants all had experienced the same or similar phenomenon of the study. All teacher candidates were evaluated a minimum of five times using the University created formative evaluation tool (observation summary) and twice with the State created summative evaluation tool (midterm and final assessment). After each formative and summative evaluation, the results were communication between the teacher candidate, mentor teacher, and the university supervisor. The survey participants answered the interview questions in an honest and candid manner.

Delimitations

The study findings, results, and discussion were delimited to the teacher candidates at a metropolitan university participating in student teaching during the fall of 2016 and the university supervisors evaluating teacher candidate performance.

Limitations

This research study was confined to one semester and 50 undergraduate teacher candidates. Using the results from only one semester may skew the statistical results and reduce the utility and generalizability of the findings. Qualitative information provided is based on personal experience with the tools used. Responses by participants may include personal bias based on format of the tools or the comfort in using the tools.

Significance of the Study

This study has the potential to contribute to research, practice, and policy. This study is of significant interest to teacher preparation programs as they work to find ways to strengthen third space environment and decrease the differences between systems.

Contribution to research. The results of this study will be communicated to the College of Education, school districts, and the state. There is a need for the university accreditation system to increase ways to parallel that of P12 to support to sustain new educator growth.

Contribution to practice. Learning must be attainable for the future generation of teachers. Teacher candidates cannot be expected to mine through the expectation of multiple accreditation systems or be expected to learn within environments that do not have the support and guidance needed for a professional growth. The results of this study may inform teacher preparation programs of strategies that can be used to develop future assessment instruments, increase reliability in evaluation measures, and provide context for the needs of teacher growth in the field. Strengthening third space environments and validating relationships amongst mentor teachers, university supervisors, and teacher candidates has the power to shift research to build a knowledge base for teacher preparation.

Contribution to policy. If the results show a positive correlation and reliability between the formative and summative evaluation tools, it could be used to eliminate differences between the university and P12 system. Likewise, if it is determined that one of the two tools lends itself to providing more robust feedback, it could guide the creation of future instruments.

Organization of the Study

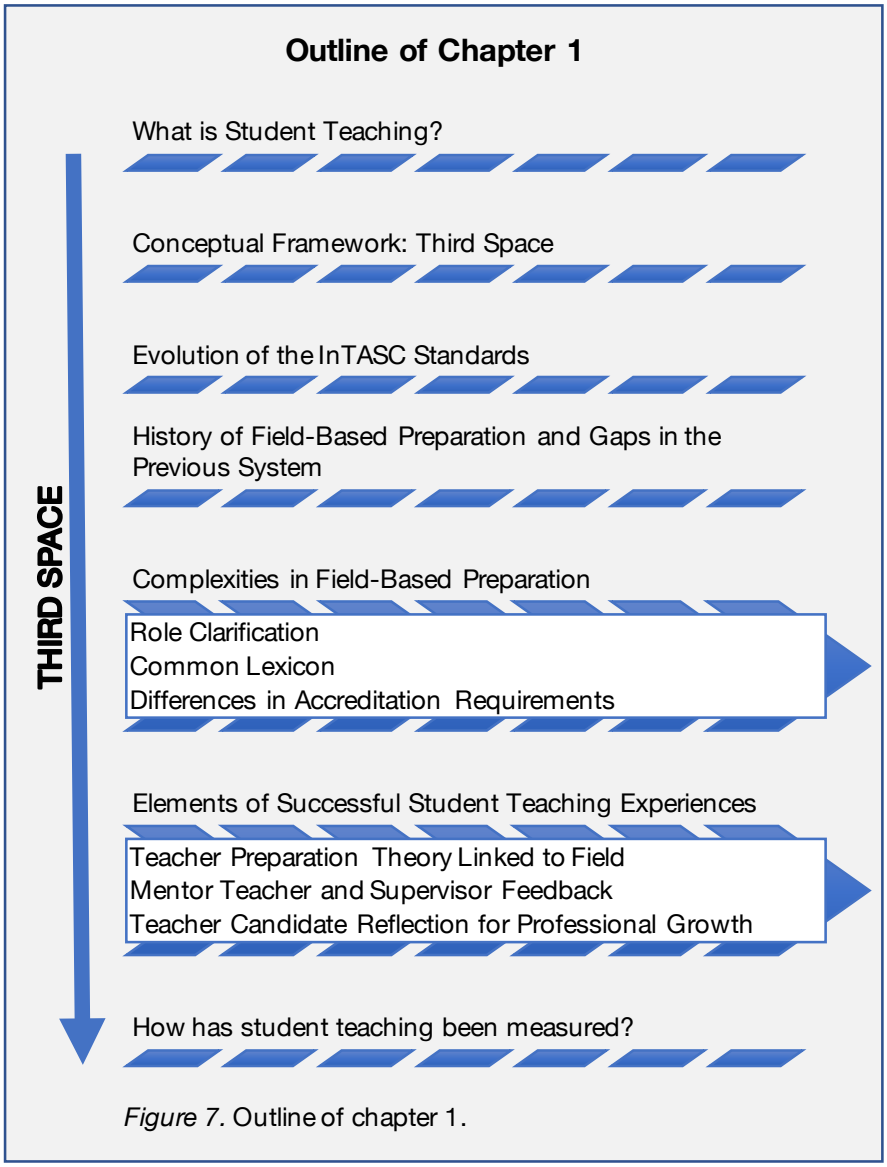

Figure 7. Outline of chapter 1.

Chapter 1 is outlined in Figure 7. The literature review relevant to this study is presented in Chapter 2 and follows a similar structure as Chapter 1 with slight modifications. Chapter 3 describes the research design, methodology, and procedures used to gather and analyze the data of the

study. Chapter 4 reports the research results and Chapter 5 provides conclusions and discussion of the research findings.

Chapter 2

A Need for Quality Student Teaching Experiences

Effective teachers have the greatest impact on a child's education. A child paired with ineffective teachers for three or more years will never catch up academically (Darling-Hammond, 2010; Madda, Skinner, & Schultz, 2012). The value of quality teachers and the impact on P12 students has been at the forefront of conversations for decades. It was reported in 2010 that out of 994 students from across the United States in grades one, three, and five, 9% received poor-quality instruction and emotional support in all three grades (Goodwin, 2010). Additional studies found new teachers underprepared in both teaching skills and knowledge base (Meyer, 2016; Kiuhara, Graham, & Hawken, 2009; Levine, 2006). Given a young workforce, the turnover in education, and the increasing diversity of classrooms, the effectiveness of teacher preparation is even more important. The connection between student learning and teacher performance increases the need for a positive student teaching experience.

Student teaching allows teacher candidates an opportunity to practice and implement a variety of teaching strategies. Effective teachers challenge students, create positive classroom environments, and are intentional when teaching (Goodwin, 2011). This development of quality learning experiences for students is key for a teacher candidate to experience during the student teaching semester. The teaching is not in isolation, but with the guidance of two experienced educators, a mentor teacher and a university supervisor. This daily, culminating experience is typically the last before a teacher candidate receives certification.

One of the most important elements of the experience is connecting teacher candidates with effective mentor teachers in the classroom (Darling-Hammond, 2001). Mentor teachers model effective teaching strategies and create the environment for a teacher candidate to learn. University supervisors also provide support. Oftentimes serving as a liaison; connecting the university to the field. For these placements to be effective, universities and P12 partners work together to ensure student-centered, relevant experiences for teacher candidates (Darling-Hammond, 2001). An effective third space environment supports this work.

Support for Complexities in the Field

Teaching is complex and this complexity is compounded during student teaching. Teacher candidates who are part of the university system now have one foot at the university and one in a P12 classroom. Working in this third space environment is not easy and makes collaborative efforts more difficult. Goodlad noted this as far back as the 1960s. He acknowledged difficulties in reaching symbiosis where each partner was benefitting from a collaborative partnership as well as the cultural differences between the university and P12 environment (Goodlad, 1993). This is only compounded by each system having its own vocabulary and accreditation requirements. Added to this is the need to clarify roles for teacher candidates, mentor teachers and university supervisors within the student teaching triad.

Caring and collaborative work environments support teacher candidate development and provide experiences where teacher candidates can learn to teach (Stanilus & Russell, 2000). Those truly invested in the needs of teacher candidates develop collaborative partnerships to support the growth of new teachers (Zeichner,

2010). When collaborating to meet the needs of students, the mentor teacher and the teacher candidate share responsibility for planning, instruction, and assessment. This allows for increased reflection on teaching and learning.

Collaborative models also facilitate the dialogue necessary to meet student needs. Abbott and McNight (2010) highlighted the impact of collaboration between educators by indicating three positive outcomes:

1) more accurate identification of student needs and instructional strategies
2) greater communication across grade levels and content areas; and
3) an increase in job satisfaction and teacher retention

These collaborative relationships spark conversations that allow mentor teachers, university supervisors, and teacher candidates to connect with one another. This allows each to learn from one another and it strengthens professional relationships. This, in turn, aides in the transition between the two systems for teacher candidates.

Role Clarification

It is important for each stakeholder to understand his or her role during student teaching to provide teacher candidates with needed support. Teacher candidate growth is maximized when the mentor teacher, university supervisor, and teacher candidate are a team working toward a common goal. Ambiguous roles impact communication and inhibit a teacher candidate's ability to apply feedback.

University supervisor. A university supervisor is someone employed by the university to support a teacher candidate during student teaching. This may be adjunct faculty or full time faculty. The research on university supervisors is conflicted as to the role of the university supervisor. According to Rodgers and Jenkins (2010), the

university supervisor is often undervalued, seen a duplication of the mentor teacher's role and offers little influence on the experience. Other research acknowledges the university supervisor as the primary liaison between the mentor teacher and the university. In this role, the university supervisor often problem solves and communicates the goals of the university (Koerner, Rust, & Baumgartner, 2002; Pelling, Barletta, & Armstrong, 2009).

In the past, the university supervisor was an observer and evaluator who assigned the final grade for student teaching after visiting periodically throughout the semester (Shiveley & Poetter, 2002). This approach to supervision is called educative supervision, where the university supervisor is the more knowledgeable person affecting teacher candidate development (Blanton, Berenson, & Norwood, 2001; Fernandez & Erbilgin, 2009).

It is now known that effective student teaching experiences connect coursework to field. These connections provide ongoing feedback and allow time for teacher candidate reflection and professional growth. Current supervision has shifted from observing to conferring. Conversations guide the learning and the university supervisor role becomes one of instructional leadership (Ibara, 2013). In contexts where university supervisors take on the role of an instructional leader, they positively affect student teaching and facilitate the transfer of theory to practice (Koerner et al., 2002).

Concerns with the role stem from a lack of training (Koerner et al., 2002). At times, university supervisors are hired but provided little or no training on how to coach, mentor, or supervise a teacher candidate during student teaching. Thus, impacting a teacher candidate's growth as a developing professional.

Mentor teacher. The mentor teacher is the school-based personnel sharing a classroom with the teacher candidate. The teacher candidate engages daily with the mentor teacher. This contrasts with the university supervisor who is not in the classroom as often. This structure allows mentor teachers the opportunity to provide immediate feedback and model instructional decision-making. Mentor teachers also help teacher candidates understand the school culture, develop a place amongst faculty and staff, acquire materials, plan, teach, and assess (Rodgers & Jenkins, 2010). This explains why mentor teachers often establish the intellectual and affective tone of the experience (Koerner et al., 2002).

Given the day-to-day interaction and increased time for relationship development, the mentor teacher becomes the model from which to perform. Teacher candidates often put more value on the mentor teacher's perspective than the university supervisor (Rodgers & Jenkins, 2010). This can cause problems when a mentor teacher is not a positive model.

Role challenges. Unfortunately, mentor teachers and university supervisors often receive little training on how to:

1) lead adult learners,
2) guide teacher candidates to reflect, or
3) support a teacher candidate's transfer of theory to practice (Koerner et al., 2002;

Rodgers & Jenkins, 2010). This lack of support is correlated to the support a teacher candidate receives during the experience.

A mentor teacher impacts a teacher candidate's daily performance. Studies have linked the effectiveness of student teaching to the culture of the classroom, support and expertise of the mentor teacher (Torrez & Krebs, 2012). Mentoring is a socially constructed practice. Without training, mentor teachers are left to interpret the role in a variety of ways and contexts (Santoli & Ferguson Martin, 2012; Butler & Cuenca, 2012). When this happens, the mentor teacher's influence over the values, opinions, and perspectives impacts the teacher candidate's perceptions more than a university supervisor.

Additional role challenges stem from the structure of the university tenure system. In 2010, NCATE highlighted the need to improve student teaching and the outcomes of the experience. Current policies demand more attention be placed on assessment, accountability, and collaboration. This transition has been difficult for university faculty as the structure of a tenured position is on research and focus is on adding new knowledge to the field of education. This leaves little time for the collaboration associated with field-based preparation. Collaboration takes time and this time is not allotted for within the current structure of a tenured faculty position. This lack of incentive causes faculty to focus on alternative areas of research, service, and teaching (Beck & Kosnik, 2002).

Therefore, field work is often left to adjunct faculty with little connection or voice at the university. This leads to inadequate support. As mentor teachers and university supervisors offer suggestions for change, the voices have little impact on program improvement or systemic change. This disconnect increases the gap between theory and practice and makes dialogue to facilitate growth more difficult.

Common Lexicon

Providing opportunities for teacher candidates to learn and apply instructional strategies without the development of a common lexicon affects feedback (Figure 8). It also inhibits the development of teacher inquiry in teacher candidates. The ambiguity in current practice leads to decreased student achievement and influences professional growth in teacher candidates. The shared language allows for sharing across multiple contexts and communities. Common lexicons allow for increased communication, more opportunities to collaborate and additional opportunities for guidance through constructive feedback.

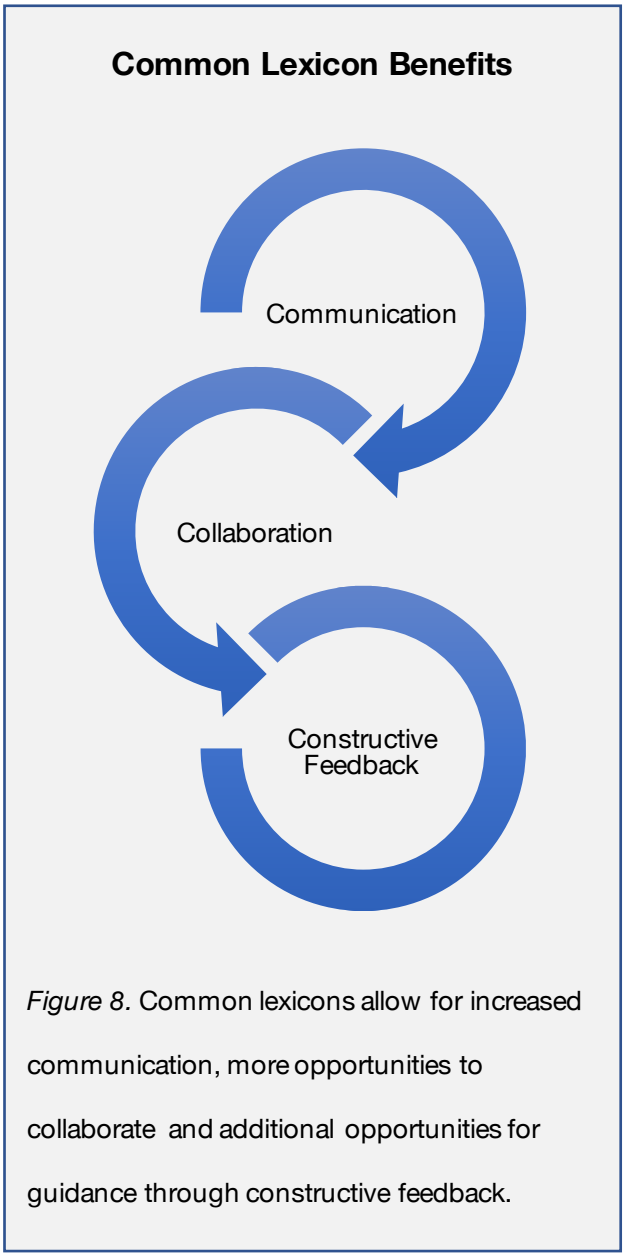

Figure 8. Common lexicons allow for increased communication, more opportunities to collaborate and additional opportunities for guidance through constructive feedback.

Co-teaching. For decades, student teaching has taken a sink or swim approach where the teacher candidate observes for a few weeks, then takes over the classroom. The mentor teacher steps back and lets the teacher candidate try out strategies with little guidance as to what may or may not be effective.

As the need for differentiation has increased to meet the needs of students, so has the need for varied instructional strategies. Therefore, there has been an increase in the use of co-teaching strategies during student teaching (Conderman & Johnston-Rodriguez, 2009; Gately & Gately, 2001; McKenzie, 2009). Co-teaching is defined as two or more teachers working together in the same classroom sharing responsibility for student learning (Friend, Cook, Hurley-Champerlain, & Shamberger 2010; Badiali & Titus, 2010).

In co-teaching student teaching models, teacher candidates, and mentor teachers are asked to co-plan, co-teach, and co-assess. This co-construction of the experience provides more guidance and support for the teacher candidate and allows the mentor teacher to stay actively engaged throughout the semester. Much of the success in the use of the co-teaching strategies is the use of a common language to facilitate conversations regarding instruction. There are seven strategies: one teach, one observe; one teach, one assist; parallel teaching; station teaching; differentiated teaching; alternative teaching, & team teaching. The strategies frame instructional expectations and yield conversations about common practice. Unlike co-teaching in special education, the purpose of the strategies during student teaching is to support both the teacher candidate and the P12 students (Figure 9).

Mentor teachers note that in a co-teaching environment with a teacher candidate, they are better able to serve multiple needs and see improved classroom management when there are two teaching collaboratively (Bacharach, Heck, & Dahlberg, 2010).

Similarities and Differences in Co-Teaching Practices

	Co-Teaching in Special Education	Commonalities	Co-Teaching during Student Teaching
What is the purpose of the structure?	To deliver special education services	To support all students	To support and coach an apprentice teacher during student teaching
Who is involved?	Two experienced educators; a classroom teacher and a special education teacher	Two teachers sharing one classroom	One experienced educator (mentor teacher) with one inexperienced educator (teacher candidate) A university supervisor provides support for the mentor teacher and coaches the teacher candidate throughout the experience. A final grade is assigned by the university supervisor.
What is the structure?	The structure, time and placement are based on student needs. Timeframes vary from set periods to all day, and may last an entire school year or longer.	Co-teaching strategies are used throughout the experience. • One teach, one observe • One teach, one assist • Station teaching • Parallel teaching • Supplemental teaching • Alternative / Differentiated teaching • Team teaching	The structure, time and duration are based on the parameters of the placement; for example, all day, every day for an entire semester Opportunity for constructive feedback and reflective conversations after the lessons are built into the experience.
How does it benefit those involved?	Greater student participation and engagement • Additional instructional resources for diverse needs • Enhanced collaboration skills • Reduce student/teacher ratio • Enhanced classroom management • Increased student achievement • Increased collaboration skills		

Figure 9. A comparison of the co-teaching practices used in special education vs. the co-teaching practices used during student teaching.

Co-teaching does not replace the independent experience necessary during student teaching. The common lexicon provides mentor teachers and university supervisors a framework to support planning and instructional needs for teacher candidates and P12 students (Figure 10).

Reported Benefits

Student learning was positively impacted ---------- **91%**
The model enhanced my collaboration skills ---------- **91%**
There were more opportunities for differentiation ---------- **90%**
Student experienced different teaching methods and perspectives ---------- **90%**

~ Cooperating Teachers, Candidates and Supervisors (N = 421)

Cooperating Teachers (N = 148)		Teacher Candidates (N = 240)	
Students received more individualized attention	90%	I grew as a reflective practitioner	96%
Students experienced different teaching methods and perspectives	93%	I learned strategies that will enhance my future teaching	94%
The model enhanced my collaboration skills	88%	My confidence in teaching and developing others has increased	93%

Figure 10. Reported benefits of co-teaching during student teaching. Data reported is from the University of Nebraska Omaha, 2015-2016.

Evaluation. Evaluation is also part of this framework. Built into co-teaching opportunities is time for dialogue and constructive feedback. Therefore, the use of a common lexicon also impacts evaluation and feedback. All members of the triad, the mentor teacher, university supervisor and teacher candidate, are asked to provide feedback on teacher candidate performance. When mentor teachers and university supervisors are viewing the experience through a different set of criteria, it discounts the reliability of the evaluation instrument and the relevance of feedback for teacher

candidates. Teacher candidates need to understand why actions are taken; communication needs to be explicit, exploratory, and reflective (Lawley, Moore, & Smajic, 2014; Zeichner, 2012). Mentor teachers and university supervisors need support in how to effectively communicate with teacher candidates and tools to provide quality feedback.

Accreditation History

As mentioned previously, the increased pressure of accountability to improve teacher effectiveness has led to new educational policy. From *A Nation at Risk* (United States, 1983) to *No Child Left Behind* (United States & Bush, 2001), *Race to the Top* (United States, 2010) to *Every Student Succeeds Act* (United States, 2015), educational legislation and accountability systems continue to be developed and refined to better measure teacher effectiveness in the P12 environment. At the same time, higher education continues to face changes as well (Figure 11).

In 1954, the National Council for Accreditation of Teacher Education (NCATE) was founded. It developed a consensus of what new teachers should know and be able to do and put these forth as standards. At the time, NCATE framed the standards in terms of outputs that would lead to desired teaching behaviors. In 1987, the NCATE standards were reframed as curriculum guidelines and in 2001, these standards were reframed yet again. This time, they focused on the knowledge, skills, dispositions, and abilities of teachers.

Also in 1987, the Interstate Teacher Assessment and Support Consortium (InTASC) began. This is a group of state education agencies and national educational

Figure 11. History of accreditation and policy changes impacting teacher preparation.

organizations dedicated to the reform of the preparation, licensing, and on-going professional development of teachers. InTASC works closely with state agencies under the guiding principle that "an effective teacher must be able to integrate content knowledge with the specific strengths and needs of students to assure that all students learn and perform at high levels," (CCSSO, 2013, para. 2).

Even with the alignment of standards and creation of InTASC, states and NCATE still ran parallel accreditation cycles. Beginning in 1989, many states and NCATE combined efforts. In 1992, INTASC released standards regarding the development and preparation of new teachers with the following hierarchy: knowledge, dispositions, and performance.

By 1997, a second accrediting organization was founded, Teacher Education Accreditation Council (TEAC). Between 1997 and 2015, institutions could choose the accrediting body, TEAC or NCATE. In 2009, NCATE and TEAC began to consider a merge to the Council for Accreditation and Educator Preparation (CAEP). InTASC standards were revised in 2011. As mentioned previously, at this time, the name of the organization also changed. With the revision of standards, came a focus on professional practice and a revised hierarchy of teaching behaviors. The standards now listed performance as the focus and knowledge and dispositions as support mechanisms for performance. In 2016, the two separate systems merged into one accrediting body called CAEP. Underlying the new CAEP accrediting body were the InTASC standards. Standard 1.1 evaluates an institution on a teacher candidate's ability to demonstrate the ten standards at the appropriate progression levels.

These changes to how teacher preparation licensure programs and accrediting bodies assess teacher candidate's preparedness to enter the teaching field, impact student teaching practices. The new standards require teacher candidates to demonstrate that they have acquired the knowledge, skills, and dispositions to be an effective teacher. Now instead of measuring inputs, teacher candidates must provide evidence of performance outputs such as: portfolios, videotapes of teaching, reflections, performance evaluations, and analyses of student's work. This is in addition to a test of pedagogical and content knowledge to demonstrate qualifications.

During student teaching, not only do teacher candidates demonstrate the ability to plan and instruct, but also to assess. They practice using data to inform instructional decisions about students. They use data from the university supervisor and mentor teacher to modify behaviors. Only when teacher candidates can articulate the 'why' behind the data and reflect on his or her own practice can they grow as a professional. Mentor teachers and university supervisors need a clear understanding of what is to be measured to provide quality feedback. The differences in accountability, licensure, and accreditation requirements influence teacher candidate outputs.

Elements of Successful Student Teaching Experiences

Teacher Preparation Theory

According to the National Commission on Teaching and America's Future (NCTAF, 1996), "…learning cannot occur in college classrooms divorced from schools" (p. 31). When hosting a student teacher, mentor teachers often know little about the methods and foundation behind the courses connected to student teaching. The experience needs to be skillfully planned with a curriculum to support the connection

between theory and practice. A strong teacher preparation program provides teacher candidates experiences that integrate theory and pedagogy. These provide teacher candidates with opportunities to develop understanding through focused inquiry, observation, and guided practice (Hollins, 2011).

Mentor teachers and university supervisors need training on how to communicate, coach, and guide teacher candidates to reflect on current practice so these connections are explicit. Teacher candidate learning is most effective and transformative when goals and expectations are aligned between the mentor teacher and university supervisor (Darling-Hammond, 2006; Zeichner, 2010; Butler & Cuenca, 2012).

Mentor Teacher and University Supervisor Feedback

A study (NCTAF, 2000) found that teachers who received teacher preparation training, had opportunities to practice teaching and received feedback, left the profession at less than half the rate of those who had no training or support (Darling-Hammond, 2006). Given the influx of new teachers into the field and the increase in retirements, these opportunities for feedback and practice have become more relevant and necessary. School districts see the biggest loss of teachers within the first five years; turnover rates have increased by 28% since the 1990s (Ingersoll & Merrill, 2010)

This further supports the need for effective third space environments. Mentor teachers and university supervisors need to both provide feedback that strengthens teaching. This begs the question, what elements are necessary for effective communication between teacher candidates, university supervisors, and mentor teachers?

Trust. Relationships are central to every classroom. True collaboration involves more than meeting with other teachers to achieve a set of tasks listed. It requires

opportunities to "examine, critique, and support another's work in a safe and supportive environment," (Murray, 2015, p. 23). Difficulties emerge when parity is not established between a mentor teacher and a teacher candidate while in front of students (Carter, Prater, Jackson, & Marchant, 2009; Friend et al., 2010; Pratt, 2014). This inequity in roles takes power away from a teacher candidate and discounts his or her role in the classroom.

Obstacles also present themselves when time and support are not provided. Personality differences between teacher candidates, mentor teachers and university supervisors can also cause problems. These difficulties lead to decreased trust and impede progress. When trust is broken, so is the ability to increase a teacher candidate's pedagogical knowledge, skills and, in turn, help positively impact student achievement (Hallam, Smith, Hite, Hite, & Wilcox, 2015; Louis, 2006; Goddard, Tschannen-Moran, & Hoy, 2001).

Effective teachers challenge students, create positive classroom environments and are intentional when teaching. Knowing what to do is only the first step. Reflecting on the effectiveness and knowing how, when, and why decisions are being made increases a teacher's ability to impact student learning (Goodwin, 2011). Trust amongst the team greatly impacts a teacher candidate's ability to reflect. Trust can be defined as "one party's willingness to be vulnerable to another party based on the confidence that the latter party is (a) benevolent, (b) reliable, (c) competent, (d) honest, and (e) open," (Tschannen-Moran & Hoy, 1998). The five faucets of trust can be defined as follows:

Benevolence

- Caring, extending good will, being fair, confidential, positive, and supportive

Honesty

- Telling the truth, keeping promises, accepting responsibility, and having integrity

Openness

- Having open communication, sharing important information, and sharing power

Reliability

- Consistency, being dependable, demonstrating commitment, and diligence

Competence

- Setting an example, engaging in problem solving, fostering confidence, working hard, pressing for results, setting standards, being flexible, and handling difficult situations (Tschannen-Moran & Hoy, 1998).

Establishing trust involves risk and effort from all parties. Without it, the student teaching team cannot create the relationships necessary to help students learn (Goddard et al., 2001).

Although research on the working alliance has predominately occurred in intervention contexts and psychotherapy, the concept can be applied to education. In a working alliance, one person serves as a facilitator of change and another person tries to change (Bordin, 1983; Rogers, 2012). The alliance is a consequence of the collaboration between two people. It involves three elements: an agreement of goals, the tasks to

achieve said goals and an emotional connection (Bordin, 1983). This concept is evident in mentoring and coaching.

Mentoring style. Mentoring style impacts the feedback provided to a teacher candidate. A mentor teacher perceives his or her role during student teaching differently based on personal experience. They may see themselves as a coach, mentor, or a socializing agent (Butler & Cuenca, 2012).

A coach assists and does not prescribe practice. The influence of professional knowledge leads to modeling effective practice and providing timely and quality feedback (Butler & Cuenca, 2012; Jones & Straker, 2006). Coaches focus on developing a teacher candidate's strengths. This is often done by helping teacher candidates integrate his or her personality, character, and abilities into teaching practice.

Mentors see themselves as emotional support and find more value in being helpful than evaluative. Teacher candidates often feel they can share anything with these mentors (Butler & Cuenca, 2012).

Socializing agents see themselves as someone who provides resources and helps unpack the informal culture within the building. These mentors show teacher candidates around the building and help them understand unwritten norms.

Mentor teachers and university supervisors need to demonstrate a wide range of teaching and learning methods but also possess the ability to adapt to individual teacher candidate needs. There may be times throughout the experience where all three of the styles are necessary. It is important for mentor teachers and university supervisors to be able to move between mentoring roles as necessary (Koerner et al., 2002). The ambiguity of the mentor role can complicate communication and reliability in the

feedback provided. For example, if a mentor teacher perceives his or her role as a mentor, the teacher candidate may receive too much positive reinforcement and not enough constructive feedback. In this situation, teacher candidates may be led to believe they are better than they perform. On the other hand, if the mentor teacher is a socializing agent, a teacher candidate may receive too little support.

Coaching. Coaching has been associated with athletics, acting, teaching, and music for several years. The intent, by definition, is to instruct, prepare, and train for a skill. During student teaching, coaching is used to help teacher candidates make informed decisions and implement feedback. These decisions are tied to classroom practice and promote continuous self-assessment.

A cycle of observation, action, and reflection can improve instruction of teacher candidates during student teaching. This is most effective when the cycle is individualized, collaborative, and embeds frequent feedback (Vartuli, Bolz & Wilson, 2014). Changing the way something has been done over time can be difficult. Therefore, the practice of implementing feedback needs to be habitual for long-term impact. Coaching is an increasing part of the development of new teachers and the professional development of veteran teachers. If a teacher candidate develops the skills to be a reflective, data-driven, action-oriented educator, the practice becomes part of who they are instead of what they do.

Successful coaching hinges on effective communication which is directly impacted by the culture of the third space. It is not only what is communicated, but how that information impacts the intended outcomes (Lindsey, Martinez, & Lindsey, 2007; DuFour, Eaker, & DuFour, 2005; Louis, Marks & Kruse, 1996; Reeves, 2008). Over the

years, coaching has taken many forms which includes, but is not limited to: peer coaching, content coaching, literacy coaching, instructional coaching, cognitive coaching, culturally proficient coaching, team coaching, leadership coaching, mentoring, content coaching, and student-centered coaching. Regardless of the title associated with the coaching, each is deeply rooted in the relationship and communication between the teacher candidate, mentor teacher, and university supervisor.

Coaching techniques can be grouped into one of two categories: teacher-centered coaching and student-centered coaching. Teacher-centered coaching focuses on what a teacher candidate is or is not doing and addresses it. The focus is on providing support that does not challenge or threaten. It is deeply rooted in the self-efficacy of the teacher. Student-centered coaching focuses on actions that impact student learning. These actions provided opportunities for teacher candidates to make informed decisions regarding instruction (Sweeney, 2010).

Teacher-centered coaching. In a community of inquiry, three elements are considered essential in building the coaching relationship: a teaching presence, cognitive presence, and social presence (Stenbom, Hrastinski & Cleveland-Innes, 2012). The teaching presence shows focus, attentiveness and reflectiveness within the classroom environment. Cognitive presence is reached when there is engagement between the teacher candidate, mentor teacher, and university supervisor. Social presence allows the team to demonstrate individualism, communicate with purpose, and relate in meaningful ways within the relationship (Stenbom et al., 2012).

In inquiry-based practice, the most important factor is asking the right questions (Martin & Taylor, 2009). Inquiry-based design allows for guided exploration where the

teacher candidate develops his/her own answers to challenging situations (Stenbom et al., 2012). This dialogical approach to coaching recognizes that teachers need to be problem solvers. The conversations lead teacher candidates to reflect, problem solve, and act. The student teaching experience is led by discovery and guided exploration.

Cognitive coaching is another widely-used form of coaching. It takes the concept of inquiry-based coaching and adds a process to enhance the development of the teacher candidate. Fundamental to the cognitive coaching philosophy is the idea that beliefs guide behavioral changes (Costa & Garmston, 2002). Therefore, changing someone's beliefs about his or her practice can lead to a long-term change in behavior. The model includes three interrelated elements: a planning conversation, an event, and a reflecting conversation (Knight, 2010). One study found that mentor teachers rarely provided direct advice during coaching conversations which left the construction of change to the student teacher (Strong & Baron 2004). Without support and training on how to provide feedback, mentor teachers and university supervisors are left to determine strategies themselves.

Consistent feedback stimulates growth during student teaching. Teacher-centered coaching correlates the teacher candidate actions and perceptions to the behavioral changes.

Student-centered coaching. Student centered coaching focuses on "setting specific targets for students that are rooted in the standards and curriculum and working collaboratively to ensure that the targets are met," (Sweeney, 2010, p. 7). Unlike other forms of coaching, student-centered coaching focuses on the needs of the students in the classroom. The impact on student learning surpasses everything else. Conversations are

not about how a teacher candidate feels or what a teacher candidate is not doing. This type of coaching is not directive, but reflective. It is directly tied to the formative data gathered so informed decisions can be made regarding instruction.

Asking two questions can help teachers look at data through the lens of student learning: 1) How many are succeeding? 2) What are the areas of strengths and weaknesses? (Schmoker, 2003). As teachers begin to look at data through this lens, data collection focuses on meeting the needs of the students rather than pointing out the faults of the teacher.

The goal of instructional coaching is to incorporate research-based instructional practices into classrooms. It involves a feedback loop that has not always been evident in previous models. According to Knight (2010), the following coaching behaviors must be demonstrated for an effective partnership:

- Equity – It is an equal partnership. No participant holds authority over the other.
- Choice – Coaches begin where the teacher candidates are and help them discover where they need to go.
- Voice – Teacher candidates should have a voice and be encouraged to say what they think.
- Reflection – Instructional coaches serve as thinking partners.
- Dialogue – The power is in the conversation.
- Praxis – The conversations are embedded in action.

This focus on the relationship within the coaching partnership is key in a teacher candidate's receptiveness to feedback and in building sustainable change.

Student-centered coaching is focused on long-term development and helping teacher candidates understand and problem-solve when answering difficult questions. This impact is enhanced through trust and dialogue. Teachers engage in a "cycle of documentation, analysis, reflection, and action; to focus on children's learning, particularity the thinking process; to develop positive agency; and to create congruence of practice," (Vartuli et al., 2014, p. 4). Student-centered coaching uses student data to direct the conversation, change behavior, and initiate action. The connection of the data to the student teaching experience is key in helping teacher candidates understand the relationship between what is done and how it impacts students.

Teacher Candidate Reflection for Professional Growth

Reflection. Teachers are expected to be reflective practitioners who can adjust instruction to meet the needs of students. This process of inquiry is an expectation in teacher preparation (Brookfield, 1995; Darling-Hammond, 2006; Feiman-Nemser & Beasley, 2007; Liu, 2013). Much of the literature on reflection highlights the connection between reflection and the learning processes (Dewey 1933; Schön, 1983; Brookfield, 1995; Ziechner, 1996). These studies highlight that reflection is more than just cognition; it involves emotions and is impacted by social constructs, such as third space. For example, during student teaching teacher candidates are expected to recognize when adjustments are needed, make them within the context of a lesson and preserve a positive learning environment within someone else's classroom. This is a complex process even for veteran teachers who have their own classroom.

At times, assumptions are made during student teaching that if a teacher candidate can reflect, they can identify effective solutions. This is not always the case. Using a

dialogical approach to reflection supports the coaching discussed previously and adds context to the effectiveness. In other words, teacher candidates benefit from collaborative reflection that involves conversation. In a study by Glazer, Abbott & Harris (2004), it was found that if teachers had reflected internally without collaboration within a group, they would have "missed valuable alternatives to their own perspectives and might not have been able to work through the problem, or have taken their reflection to the next level – action," (Onks, 2009, p. 17).

In 1997, Van Manen identified three levels of reflection: 1) technical reflection (identifies the type of task completed and how well it has been done) 2) practical reflection (applies the choices made regarding criteria for judgement) 3) critical reflection (considers social, moral, and political dimensions) (Liu, 2013). Technical reflection is witnessed in a teacher candidate's response to a grade earned on a paper. Practical reflection is witnessed in feedback conversations between university supervisors, mentor teachers, and teacher candidates. These conversations often discuss actions that will lead to changed instructional decisions or behaviors during student teaching. Critical reflection is evident in the following example:

> A teacher candidate has "noticed a child from a poor community habitually arriving late to school. Instead of taking punitive measures against the student or assuming that they or their parents may not care about school, the teacher instead considers and even foregrounds the social context of this student, seeing this context contributing to what takes place in the classroom, and then considers the many reasons that may have contributed to the student's tardiness," (Liu, 2013, p. 7).

This third type of reflection is by far the most difficult for teacher candidates to attain. Often, teacher candidates "have not had the breadth of life experiences necessary to trigger Van Manen's critical reflection automatically," (Liu, 2013, p. 7).

Data. Current recommendations in education require teacher candidates to use data-driven or data-informed decision making to positively impact student learning (CAEP, 2015; NCATE, 2010). Frequent data collection in natural settings leads to goal setting, identification of support needs and systematic instruction for students (Hojnoski et al., 2009). Teacher candidates are also expected, after reviewing data, to seek answers to questions and modify or adjust instruction. Sometimes a teacher candidate's first exposure to this methodology is during student teaching.

Unfortunately, teacher candidates generally have had one college course that included data collection, analysis, or an interpretation of data displays (Morrison & McDuffie, 2009). This is often associated with a math class prior to beginning in teacher preparation. Teacher candidates don't necessarily draw the connection between data collection and students which is why the application of this during student teaching is so important. Teacher candidates need practice to use data effectively. To use the data, they need to identify the what and the how - what data was collected and how it can be utilized to inform instruction.

Teacher candidates should be able to support, measure, and communicate student learning. Focus should be placed on:

1. What do we want students to learn? (essential standards)
2. How will we know if they have learned? (assessments)
3. What will we do if they don't learn? (systematic interventions)

4. What will we do if they already know it? (extended learning)

(DuFour, DuFour, Eaker, & Many, 2010)

University supervisors and mentor teachers model this pedagogy and support the constructive conversations necessary for professional growth. These conversations help teacher candidates "anticipate, respond to, and meet the needs of diverse learners," (Kaden & Patterson, 2014; Lyon, 2013).

True synthesis during student teaching comes from: 1) understanding the use of data in connection to student learning, 2) knowing the implications of a variety of assessment types and strategies and, 3) being able to select the correct assessment and develop one (if necessary) to accurately reflect student understanding (Kaden & Patterson, 2014; Mertler, 2009; Howley, Howley, Henning, Gilla, & Weade, 2013; Stiggins, 1999).

Student teaching provides time for a teacher candidate to reflect on the effectiveness of his or her teaching. It offers opportunities for teacher candidates to apply and develop effective teaching strategies to impact student learning (AFT, 2012; CCSSO, 2012; NCATE, 2010; NEA, 2011; NCTQ, 2011; Singer et al., 2010; Zeichner, 2010). In addition to exposing teacher candidates to varied cultural, linguistic, and socioeconomic classrooms, this enables teacher candidates to develop cultural competence and culturally responsive teaching strategies (Zeichner, 2012). Reflecting on how, when, and why decisions are made increases a teacher candidate's ability to impact student achievement and grow as a professional (Goodwin, 2011).

How Has Student Teaching Been Measured?

Historically, teacher preparation has been measured with a variety of inputs. Rating scales, questionnaires, and perspectives have been collected for program improvement. With student needs on the line, P12 students cannot wait for novice teachers to develop the skills necessary to positively impact learning. Teacher candidates completing student teaching need the skillset necessary to make informed decisions regarding: planning, instruction, and assessment.

Accreditors are now asking for teacher preparation program outputs. Teacher candidates cannot demonstrate the outputs if they do not know what is being measured. Evidence of performance outputs such as: portfolios, videotaped lessons, reflections, performance evaluations, and analyses of student work are at expected at the completion of student teaching. University supervisors and mentor teachers cannot maximize a teacher candidate's reflection and professional growth if they have unclear roles or are using varied lexicons. Therefore, congruence of assessment criteria is necessary to make learning attainable within third space.

A common explanatory framework affords opportunities for rich discussions about learning for teacher candidates, mentor teachers and university supervisors. This sets the foundation for communication and collaboration. This systematic reciprocal culture connects pedagogy, ensures quality feedback, and stimulates reflection for professional growth during student teaching.

Chapter 3: Methodology

If teaching is a "complex, unpredictable, and context dependent process," then teacher candidates, mentor teachers, and university supervisors benefit from understanding how the application of knowledge is measured (Henning et al., 2012; Borko & Putnam, 1996). The effectiveness of this third space promotes teacher candidate learning and growth throughout student teaching. Mentor teachers and university supervisors provide guidance with lesson planning, instruction, and assessment. Reflection is supported through reflective conversations

The purpose of this convergent parallel mixed methods study was to compare the use of formative and summative assessment tools used to evaluate teacher candidates during student teaching and explore how the use of these two tools impacted the feedback provided and implemented by teacher candidates for reflection and professional growth. The following research questions were addressed during the study:

1. How does having two different, but aligned, student teaching assessment tools impact the feedback provided to teacher candidates during student teaching?
    a. Sub-Question 1a. How strongly are the formative evaluation tool (observation summary) and the summative evaluation tool (final assessment) related?
    b. Sub-Question 1b. What are university supervisor perceptions as to how each of the assessment tools support professional productive conversations?
2. What skills demonstrated by teacher candidates at the conclusion student teaching show evidence of growth?

a. Sub-Question 2a. Do we see a significant difference in group means between the midterm and final assessment?
b. Sub-Question 2b. Do we see a significant difference in group means between observation summaries?

Within this chapter, the following are included: 1) the design of the study, 2) the participants and method of identification, 3) the instruments used and development, 4) the data collection procedures and analysis, 5) the performance site, and 6) the ethical considerations for the study.

Design of the Study

A convergent parallel mixed methods design was used. It is a type of design in which qualitative and quantitative data are collected in parallel, analyzed separately, and then merged (Creswell, 2013). In this study, formative and summative assessments were analyzed to learn if there was a correlation or if the groups' means were significantly different between the formative and summative evaluation tools for teacher candidates during student teaching (Figure 12). These were analyzed using a Spearman Correlation and a Two-Way ANOVA respectively. An open-ended survey explored perceptions of the two evaluation instruments used and how the two instruments impacted teacher candidate growth and the application of feedback. The reason for collecting both quantitative and qualitative data was to confirm the quantitative measures with qualitative experiences (Creswell, 2014). A Convergent Parallel Mixed Methods study was selected to provide a broader understanding through diverse types of data (Creswell, 2014). The assumption in this multimethod approach is that both sets of data provide different types of information and yield results that should be the same, allowing for triangulation (Campbell & Fiske,

1959).

Participants

The study consisted of 14 university supervisors and 50 teacher candidates. Each of the 50 teacher candidates were completing his or her first semester of student teaching to earn an undergraduate teaching degree and certification. The experience for each teacher candidate was a semester long.

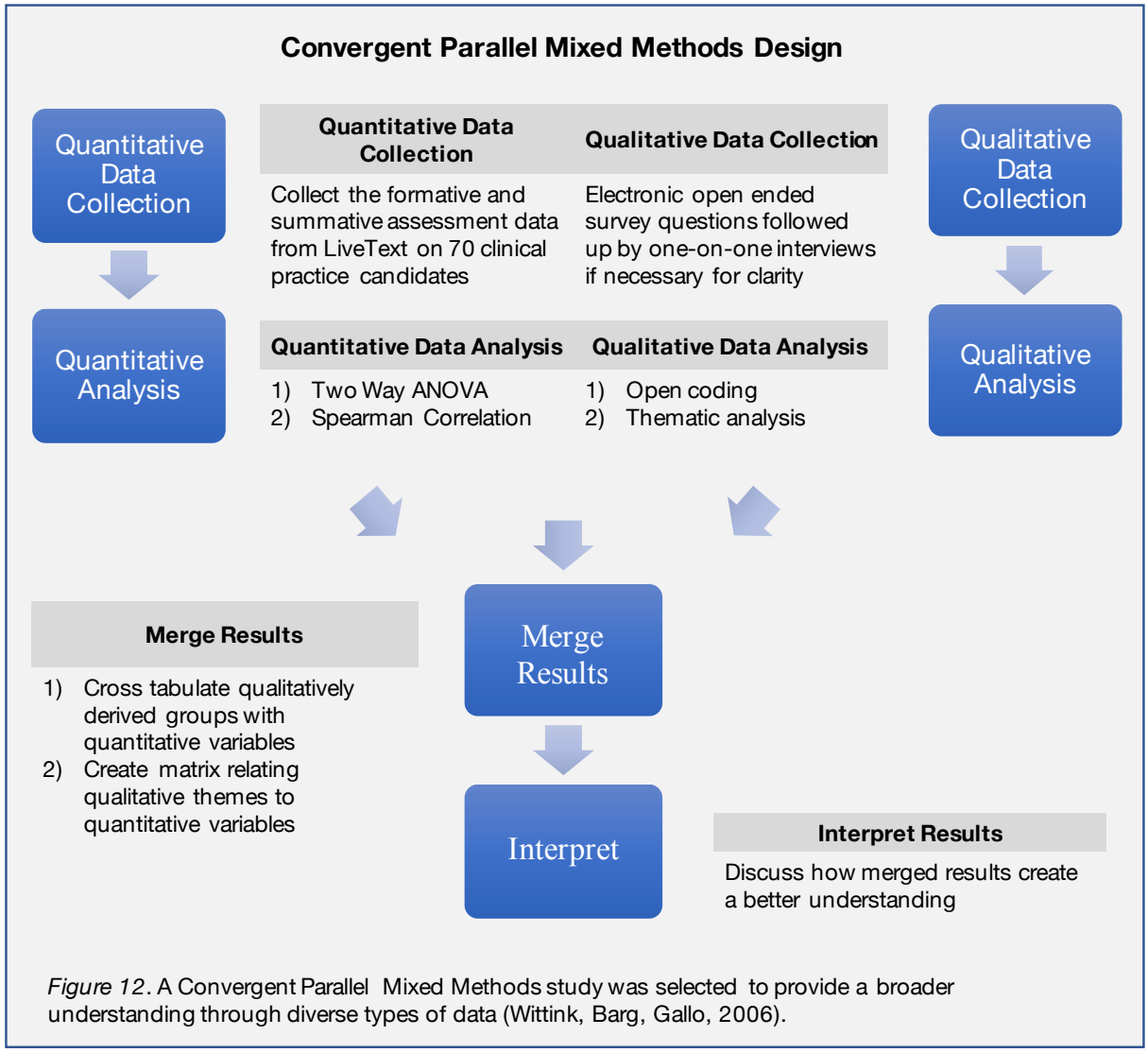

Figure 12. A Convergent Parallel Mixed Methods study was selected to provide a broader understanding through diverse types of data (Wittink, Barg, Gallo, 2006).

Method of participant identification. Participation was voluntary based on enrollment in TED 4600-001, TED 4600-002, TED 4650-001, TED 4640-001, SPED 4700 or SPED 4750. No individual identifiers were attached to the achievement data of the teacher candidates selected for data analysis. Participants needed to be willing to complete an on-line survey at the conclusion of the experience and complete the normal university supervisor duties as assigned.

Instruments Used

Two evaluation instruments were used during the study. The first was the summative evaluation tool, the state Department of Education's Student Teaching Evaluation. This was used to provide feedback two times throughout the semester. The first collection was midway through the semester (midterm evaluation) and the second at the end of the experience (final evaluation). The second instrument, the formative evaluation tool, was created using Delphi methodology and was completed after each university supervisor visit to the site (observation summary). Each university supervisor made a minimum of five visits.

Evolution of the Formative Instrument

A modified Delphi research methodology was used to develop formative evaluation tool (observation summary). The Delphi technique is used to obtain the most reliable consensus from a group of experts (Dalkey & Helmer, 1962). As cited by Green (2014), "Proponents of the Delphi Technique agree that researchers can obtain more accurate data using questionnaires distributed to a group of anonymous experts at a distance than in face-to-face committee meetings where certain individuals tend to dominate the decision-making process," (Delbecq, Van De Ven & Gustafson, 1975;

Linstone & Turoff 1975; Moore, 1987). The technique uses repeated questioning and avoids direct confrontation of one expert with another.

Initially, the researcher met face to face in one on one meetings with 12 university supervisors to gather perceptions. The questions addressed 1) a way to track feedback during observations and 2) teacher candidate application of feedback in context. The information was recorded and coded by theme. The consensus was that the instrument used during observations (formative evaluation) needed to be aligned with the summative evaluation (final assessment). To do this, a common lexicon was needed. Three university supervisors were selected to serve as experts during the first Delphi interaction. The experts were:

- A high school principal from an agricultural community in a rural area. The participant had 14 years of experience as a classroom teacher, 10 years of experience as an administrator, and four years as a university supervisor.
- A middle school principal from a metropolitan area. The participant had 22 years of experience as a classroom teacher, 12 years of experience as an administrator, and three years as a university supervisor.
- An elementary school principal from suburban area. The participant had nine years of experience as a classroom teacher, two years of experience with the university, 12 years of experience as an administrator, and three years as a university supervisor.

These university supervisors were made aware that participation in this group was voluntary and that providing feedback granted permission for the responses to be used during the Delphi process. According to Cyphert & Grant (1970) a minimum of three

rounds of feedback is sufficient. Three rounds of feedback were collected. The purpose of the first Delphi interaction was to explore the open-ended research questions: What do the InTASC standards look and sound like in the classroom? What evidences can be observed?

The experts were provided three weeks to answer the questions. Three out of three responded. The researcher complied responses electronically and housed them on a secure electronic database. The researcher began by reading and analyzing each response individually. During the second reading of each response, the researcher took notes on common themes and highlighted words that reoccurred in the text. After each answer was read and annotated, the researcher cross examined each document highlighting similar words and noting themes. Statements provided by the experts were coded and organized into common groups based on the InTASC standards. Table 1 illustrates the category titles and the supporting statements from the first round of responses.

Table 1

Category Title	Supporting Statements
Student Development	• Builds topics of student interest into lessons • Considers student interests, needs and abilities • Activates prior knowledge
Learner Differences	• Makes intentional efforts to meet all learner's needs • Implements developmentally appropriate and challenging learning experiences • Identifies and supports language demands
Learning Environment	• Communicates and enforces behavior and academic expectations • Fosters positive learning environment that support student engagement • Uses strategies for transitions that minimize problems and maximize instructional time • Uses wait time • Monitors, paces and adjusts instruction as needed throughout the lesson • Provides opening and closing to lessons • Exhibits mobility during lessons and uses proximity control

	• Exhibits awareness of classroom environment • Exhibits mutual respect between self and students • Maintains attention of the classroom • Effective transitions before during and after • Involvement of all students • Clarifies behavior expectations • Maintains attention • Students are involved • Uses positive reinforcement
Content Knowledge	• Understands subject content and uses tools of inquiry in lesson delivery • Articulates accurate content vocabulary and academic language that is clear, correct, and appropriate to students throughout the lesson • Communicates accurate concepts to students and provides accurate answers to questions • Teaches to objective(s) • Shows mastery of content
Application of Content	• Evidence that learning activities support and deepen learning • Students are actively engaged in critical thinking and collaboration • Appropriate questioning techniques
Assessment	• Implements formative assessments (or summative) that measure lesson objective(s) • Uses assessments to engage students in his/her growth and decision making • Helps students understand and use feedback
Planning for Instruction	• Plans, connects and sequences common learning experiences and performance tasks linked to the learning objectives • Plans to support varied student learning needs • Clear lesson plan with clear sequence of instruction • Use of adopted curriculum with creativity • Materials ready • Materials readily accessible for use • Lesson is detailed and indicates thorough thought and reflection (ie. draws upon knowledge of students or the community)
Instructional Strategies	• Actively engages students in learning opportunities • Monitors and adjusts • Gradual release of responsibility and pacing are evident • Communicates clearly to students • Implements formative assessments that match learning objective • Utilizes a variety of appropriate strategies • Questions are framed to promote critical thinking with all students

	• Differentiation reflects the needs and interests of students • Elicits student responses that require higher-level cognitive processes • Utilized technology to enhance instruction
Professional Dispositions	• Demonstrates enthusiasm when teaching through nonverbal communication (i.e. smiles, gestures), tone of voice and volume • Exhibits confidence, command and control • Actively seeks, accepts and implements feedback • Is patient and fair • Respects students • Shows enthusiasm for teaching

Notes: Round 1 Delphi Responses

After the initial themes emerged from the university supervisor responses, the researcher started the second round of the Delphi process. The university supervisors were provided a copy of Table 1 and instructions to review the table and verify that it represented the original responses. They were also asked to review the information considering the research on teacher evaluation.

Given the instrument developed was to be used as a formative assessment during student teaching, it was important for the Delphi participants to understand key elements of teacher evaluation. "If we accept that teaching is, among other things, cognitive work, then the conversations between teachers and observers must be about the cognition," (Danielson, 2012, p. 36). Teacher evaluation has two purposes: to ensure quality and promote teacher learning (Danielson, 2008). What skills do observers need? The ability to:

1) collect evidence without bias or judgement
2) interpret evidence against the performance levels
3) conduct a professional conversation (Danielson, 2012).

Professional conversations should engage teacher candidates in the act of thinking through teaching practices.

Importance also lies in clear and frequent feedback. This is most effective in alignment with a common language to enable teachers to make real-time adjustments in teaching (Marzano, Frontier, & Livingston, 2011). Rubrics or scales aligned to a common language provide a viable means for mentor teachers and university supervisors to define and identify effective teaching (Schooling, Toth, & Marzano, 2013; Marzano et al., 2011). Evaluators need training on coaching skills, strategies to promote reflection and tools aligned with the assessment framework.

The questions addressed during the second Delphi process were: 1) How do we collect evidence/facts without bias or judgement? 2) How do we interpret that evidence against our performance levels? 3) How do we use this information to conduct professional conversations? (Danielson, 2012).

The university supervisors were provided four weeks to review and respond to the document. During this round, three provided feedback on the document. The researcher reviewed the university supervisor's suggestions and revised the document which is highlighted in Table 2.

Specifically, the university supervisors deleted items they felt were subjective, repetitive, or could not be observed during a single observation. Those items that could be witnessed during an observation generated a checkoff list that could be used during each visit. During the second Delphi process, the university supervisors also added columns to the document to track the frequency of evidence. They felt this would help inform the summative evaluation tool.

Table 2

	Observed with defined evidence	Observed with suggestions for improvement	Not observed
Standard 1: Student Development			
• Builds topics of student interest into lessons • Activates prior knowledge • Makes intentional efforts to meet all learner's needs			
Standard 2: Learner Differences			
• Implements developmentally appropriate experiences • Identifies language demands • Accommodates individual needs • Monitors lesson			
Standard 3: Learning Environment			
• Uses effective transitions • Involves all students • Clarifies expectations • Communicates expectations • Supports student engagement • Uses strategies for transitions that minimize problems and maximize instructional time • Uses wait time • Exhibits physical movement • Provides opening and closing to lessons • Exhibits mobility during lessons and uses proximity control • Exhibits awareness of classroom environment • Exhibits mutual respect between self and students • Maintains attention of the classroom • Gives clear directions			
Standard 4: Content Knowledge			
• Understands subject content and uses tools of inquiry in lesson delivery • Articulates accurate content vocabulary and academic language that is clear, correct, and appropriate to students throughout the lesson • Communicates accurate concepts to students and provides accurate answers to questions • Teaches to objective(s) • Shows mastery of content • Uses a variety of applicable strategies per the content area			
Standard 5: Application of Content			
• Evidence that learning activities support and deepen learning • Students are actively engaged • Uses a variety of strategies			
Standard 6: Assessment			

• Implements formative assessments (or summative) that measure lesson objective(s) • Uses assessments • Helps students understand and use feedback			
Standard 7: Planning for Instruction			
• Materials readily accessible for use • Lesson is detailed • Clear lesson plans with clear sequence of instruction • Materials ready for use • Adopted curriculum with creativity • Co-teaching strategies used • Considers student interests, needs and abilities			
Standard 8: Instructional Strategies			
• Actively engages students in learning opportunities • Gradual release of responsibility used • Pacing is evident • Communicates clearly to students • Implements formative assessments that match learning objective • Monitors and adjusts instruction • Utilizes a variety of appropriate strategies • Questions are framed to promote critical thinking with all students • Differentiation reflects the needs and interests of students • Uses appropriate questioning • Elicits student responses that require higher-level cognitive processes • Utilized technology to enhance instruction			
Standard 12: Professional Dispositions			
• Demonstrates enthusiasm when teaching through nonverbal communication (i.e. smiles, gestures), tone of voice and volume • Exhibits confidence, command and control • Is patient and fair • Dresses appropriately • Shows respect for students • Is enthusiastic • Actively seeks, accepts and implements feedback			

Notes: Round 2 Delphi Responses

The third round of the Delphi process allowed participants to refine views and move toward consensus. The university supervisors were provided Table 2 highlighting the suggested revisions and omissions and were asked to provide feedback on the formative evaluation tool (observation summary). To further support content validity, the university supervisors were asked to cross reference the formative evaluation tool

(observation summary) with the summative evaluation tool (midterm and final assessment) and indicate whether it was representative of the InTASC standards. The university supervisors had four weeks to review the document and respond. The responses were tabulated and highlighted on a revised document.

The three university supervisors were provided a copy of the revised document and met with the researcher to verify that the document had accurately cited responses. During this meeting, additional items were added to the document based on the discussion amongst participants. It was decided that guiding questions and goals be added to support teacher candidate reflection after each observation. Signatures were also added to the bottom of the document. The signatures were added to ensure that all members of the team had the same information. After this conversation, the responses showed 100% consensus. The outcome can be found in Table 3.

Table 3

	Observed with defined evidence	**Observed with suggestions for improvement**	**Not observed**
Standard 1: Student Development			
• Builds topics of student interest into lessons (1.2) • Activates prior knowledge (1.3) • Makes intentional efforts to meet all learner's needs (1.3)			
Standard 2: Learner Differences			
• Implements developmentally appropriate and challenging learning experiences (2.2) • Identifies and supports language demands (2.2)			
Standard 3: Learning Environment			

• Communicates and enforces behavior and academic expectations (3.1) • Fosters positive learning environment that support student engagement (3.2) • Uses strategies for transitions that minimize problems and maximize instructional time (3.2) • Uses wait time / Monitors, paces and adjusts instruction as needed throughout the lesson (3.3) • Provides opening and closing to lessons (3.3) • Exhibits mobility during lessons and uses proximity control (3.3) • Exhibits awareness of classroom environment (3.3) • Exhibits mutual respect between self and students (3.3) • Maintains attention of the classroom (3.3)			
Standard 4: Content Knowledge			
• Understands subject content and uses tools of inquiry in lesson delivery (4.1) • Articulates accurate content vocabulary and academic language that is clear, correct, and appropriate to students throughout the lesson (4.2) • Communicates accurate concepts to students and provides accurate answers to questions (4.2) • Teaches to objective(s) (4.3)			
Standard 5: Application of Content			
• Evidence that learning activities support and deepen learning (5.2) • Students are actively engaged in critical thinking and collaboration (5.2)			
Standard 6: Assessment			
• Implements formative assessments (or summative) that measure lesson objective(s) (6.1) • Uses assessments to engage students in his/her growth and decision making (6.2) • Helps students understand and use feedback (6.2)			
Standard 7: Planning for Instruction			
• Plans, connects and sequences common learning experiences and performance tasks linked to the learning objectives (7.1) • Plans to support varied student learning needs (7.1) • Materials readily accessible for use (7.2) • Lesson is detailed and indicates thorough thought and reflection (ie. draws upon knowledge of students or the community) (7.3)			
Standard 8: Instructional Strategies			
• Actively engages students in learning opportunities (8.1) • Gradual release of responsibility and pacing are evident (8.1) • Communicates clearly to students (8.1)			

• Implements formative assessments that match learning objective (8.2) • Utilizes a variety of appropriate strategies (8.2) • Questions are framed to promote critical thinking with all students (8.2) • Differentiation reflects the needs and interests of students (8.2) • Elicits student responses that require higher-level cognitive processes (8.2) • Utilized technology to enhance instruction (8.3)			
Standard 12: Professional Dispositions			
• Demonstrates enthusiasm when teaching through nonverbal communication (i.e. smiles, gestures), tone of voice and volume (12.1) • Exhibits confidence, command and control (12.1) • Actively seeks, accepts and implements feedback (12.2)			

Note: The state Department of Education uses its own numeric nomenclature. The tens place refers to the specific InTASC standard. The tenths place refers to the line item on the summative evaluation tool (midterm and final assessment). The State Department of Education added two additional standards apart from the InTASC standards: standard 11 is student learning and standard 12 is professional dispositions. You will see these additional items on the instruments. The state chose to pull them out, rather than embed them within the other InTASC standards.

Guiding questions post observation:

- How do you know your students learned? What evidence do you have?
- How will you use what you learned about your students today to plan for tomorrow? (formative assessment / impact and responsibility for student learning)
- What was the strongest part of your lesson? Why?
- What would you change in your lesson? Why?
- What specific examples do you have of growing professionally?
- How have you connected and collaborated with colleagues and families outside of the classroom?

Goal(s):

Pick 1-3 areas from above to focus on developing prior to the next observation.

Teacher Candidate Signature _____

University Supervisor Signature _____

Mentor Teacher Signature _____

One of the disadvantages of the Delphi methodology is that answers are limited to the judgements of the selected group and may not be representative of the whole (Yousuf, 2007; Barnes, 1987). To address this, a fourth step was applied to further address the

construct and face validity of the instrument. Mentor teachers, teacher candidates, and university supervisors provided feedback on what behaviors were expected from each of the InTASC standards. The information was tabulated, coded by theme and aligned to the formative evaluation tool (observation summary) created. Table 4 shows a breakdown of those who provided additional input. A shared document was also created highlighting all the ideas collected. See Appendix A.

Data Collection Procedures and Analysis

Table 4

P – 12 Classroom Teachers	
Art	3
Elementary	15
English	4
Information Technology	1
Language Arts	4
Science	1
Music	3
School Library	1
Special Education	2
University Faculty	
Full time	5
Part time	17
Teacher Candidates	
Art	2
Business & Information Technology	1
Deaf and Hard of Hearing	2
Elementary	43
English/Language Arts	11
Math	5
Music	2
PE	1
School Library	1
Science	4
Spanish	3
Special Education	5
Total	**136**

Notes: Evidence Chart Contributors

Research Question #1

Data collection for this study utilized both quantitative and qualitative methods. The first research question addressed was: How does having two different, but aligned, student teaching assessment tools impact the feedback provided to teacher candidates during student teaching? Two measurements were used in two sub-questions for this research question.

Sub-question 1a. Sub-question 1a was how strongly are the formative evaluation tool (observation summary) and the summative evaluation tool (final assessment) related? This question was

evaluated using a Spearman Correlation. Spearman Rank correlations are appropriate when working with ordinal data. The correlation is a bivariate measure of association (or strength) of the relationship between two variables, specifically the formative evaluation tool (observation summary) and summative evaluation tool (final assessment). Spearman Rank correlations are especially useful when looking at the association between two ordinal sets of data. The test determined the magnitude of the relationship. The outcomes (r_s) vary from 0 to 1, with 0 indicating no relationship and 1 indicating a perfect linear relationship. "Positive coefficients indicate a direct relationship; as one variable increases, the other variable also increases. Negative correlations coefficients indicate an indirect relationship; as one variable increases, the other variable decreases," (Statistic Solutions, 2013).

The Spearman Correlation was calculated using the last formative evaluation (observation summary #5) and the summative evaluation (final assessment). Teacher candidate results were calculated into a percentage and recorded to determine if there is a correlation between the two instruments.

Sub-question 1b. An open-ended survey was used to collect qualitative data on sub-question 1b. What are university supervisor perceptions as to how each of the assessment tools support professional productive conversations? The questions were:

1. Did the formative evaluation tool (observation summary) or the summative evaluation tool (midterm and final assessment) support a more professional productive conversation regarding student learning?
2. What specific elements of the tool were most meaningful?

3. Did the formative evaluation tool (observation summary) or the summative evaluation tool (midterm and final assessment) support a more professional productive conversation regarding teacher candidate growth?
4. What specific elements of the tool were most meaningful?
5. Is there anything that needs to be modified, added, or changed to make the instruments more useful? Please specify what and which instrument.
6. If you had to choose between the two tools, which would you choose and why?

Research Question #2

The second research question addressed was: What skills demonstrated by teacher candidates at the conclusion of student teaching show evidence of growth? Two measurements were used in two sub-questions for this research question.

Sub-question 2a. Sub-question 2a addressed the following question: Do we see a significant difference in group means between the midterm and final assessment? This evaluated using a two-way ANOVA to determine if the groups' means on the midterm and final were significantly different. The rationale for a two-way ANOVA was based on the ability to include two factors, the midterm and the final evaluation. The percentile rankings on the initial formative evaluation (observation summary) were broken out into categories based on the teacher candidates' initial performance.

These categories were determined in the following way:

- Group 1: Overall score on the initial formative evaluation (observation summary) was in the 81^{st} - 100^{th} percentile
- Group 2: Overall score on the initial formative evaluation (observation summary) was in the 61^{st} - 80^{th} percentile

- Group 3: Overall score on the initial formative evaluation (observation summary) was in the 41st - 60th percentile
- Group 4: Overall score on the initial formative evaluation (observation summary) was in the 21st - 40th percentile
- Group 5: Overall score on the initial formative evaluation (observation summary) was in the 0 - 20th percentile

The two-way ANOVA was arranged in a 2 x 5 format.

Sub-question 2b. Sub-question 2b addressed this question: Do we see a significant difference in group means between observation summaries? This was evaluated using a two-way ANOVA to determine if the groups' means on observation three and five were significantly different. The rationale for a two-way ANOVA was based on the ability to include two factors, the third observation and the last observation. These factors were broken out into categories based on the teacher candidates' performance during the initial observation. These categories were determined in the following way:

- Group 1: Overall score on the initial formative evaluation (observation summary) was in the 81st - 100th percentile
- Group 2: Overall score on the initial formative evaluation (observation summary) was in the 61st - 80th percentile
- Group 3: Overall score on the initial formative evaluation (observation summary) was in the 41st - 60th percentile
- Group 4: Overall score on the initial formative evaluation (observation summary) was in the 21st - 40th percentile

- Group 5: Overall score on the initial formative evaluation (observation summary) was in the 0 - 20th percentile

The two-way ANOVA was arranged in a 2 x 5 format.

Performance site

All formative and summative evaluation results were routinely collected during student teaching. Permission from the appropriate university research personnel was received. A naturally formed sample of 50 teacher candidates and 14 university supervisors was obtained. Non-coded numbers were used to display individual unidentified data. Aggregated group data, descriptive statistics, and inferential statistical analyses were utilized and reported with means and standard deviations on tables to include the Spearman Correlation and Two-Way ANOVA.

Ethical Considerations

The exemption categories for this study were categories two and four. The research was conducted in a university setting through normal educational practices. The purpose of the study was shared and consent to participate was obtained from participants. Participants were free to terminate participation at any point throughout the study. The study procedures did not interfere in anyway with the normal educational practices of the university and did not involve coercion or discomfort of any kind. Permission from the appropriate university personnel was obtained and identities were protected. See informed consent in Appendix B.

All data was analyzed in the office of the primary investigator. Data was stored on secure databases and was housed for statistical analyses in the office of the primary researcher and the dissertation chair. Data and computer files were kept in a secure,

password protected university computer system. No individual identifiers were attached to the data.

Chapter 4 and 5 will describe how the data was analyzed and present the findings of this study.

Chapter 4

The purpose of this convergent parallel mixed methods study was to compare the use of formative and summative evaluation tools used to evaluate teacher candidates during student teaching and explore how the use of these two instruments impact the feedback provided and implemented by teacher candidates for reflection and professional growth. A convergent parallel mixed methods design was chosen because it is a type of design in which qualitative and quantitative data are collected in parallel, analyzed separately, and then merged (Creswell, 2013).

In this study, formative and summative assessments were analyzed to learn if there was a correlation or if the group means were significantly different between the formative and summative evaluations for teacher candidates during student teaching. These were analyzed using a Spearman Correlation and a Two-Way ANOVA respectively. An open-ended survey explored perceptions of the two instruments used and how the two instruments impacted teacher candidate growth and application of feedback. The reason for collecting both quantitative and qualitative data was to confirm the quantitative measures with qualitative experiences and provide a broader understanding through diverse types of data (Creswell, 2014). Two research questions were addressed:

1. How does having two different but similar student teaching observation tools impact the feedback provided?
2. What skills demonstrated by teacher candidates at the conclusion of the teacher preparation program show evidence that feedback is informing growth?

Demographics

The study consisted of 14 university supervisors and 50 teacher candidates. Each of the 50 teacher candidates were completing his or her first semester of student teaching to earn an undergraduate certification in the chosen endorsement area. The experience for each teacher candidate was a semester long.

Each teacher candidate was placed in a setting that supported an experience in the chosen endorsement area. Depending on a teacher candidate's endorsement area(s), he or she may have a single or a double placement in a single semester (Table 5). Forty-three teacher candidates had a single placement and seven had a double placement. In a single placement, the teacher candidate worked in a single classroom, with one mentor teacher the entire semester. This was a 16-18 weeks in a single environment. A dual placement is defined as a two-placement experience. The teacher candidate worked in more than one classroom setting. This was 8-10 weeks in two separate environments. These settings may have been multiage experiences. For example, a PE or Art teacher candidate spends half the time in an elementary setting and half in a secondary, which leads to a K-12

Table 5

Number of teacher candidates in a single placement for student teaching. This is typically 16-18 weeks.

Endorsement Area	Number of Candidates
Elementary	31
Language Arts / English	5
Math	2
Science	2
Spanish	3

Number of teacher candidates in a dual placement for student teaching. This is typically 8-10 weeks.

Endorsement Area	Number of Candidates
Art	1
Business & Information Technology	1
Elementary & Special Education	3
Language Arts & Science	1
PE	1

endorsement. These two-placement experiences can also constitute multiple endorsements such as Language Arts and Special Education. The breakdown as to content area, number of teacher candidates and number of placements can be seen in Table 5.

Additional information pertaining to the teacher candidates in the study include gender and district placement. Out of 50 teacher candidates, there were 39 females and 11 males. All were pursuing an initial endorsement in the chosen content area and received certification after successful semester completion.

Teacher candidates were placed within 12 different districts. These included: Bellevue, Bennington, Blair, Council Bluffs, Elkhorn, Fort Calhoun, Gretna, Millard, Omaha, Papillion-LaVista, Ralston, and Westside.

There were 14 university supervisors who participated in the study. One held a Doctoral Degree, 12 held a Master's Degree, and one held a Bachelor's Degree. The one holding the Bachelor's degree had an additional 36 hours of graduate work and over 20 years of experience.

Additionally, each university supervisor had a different amount of experience. Six had been supervising for less than

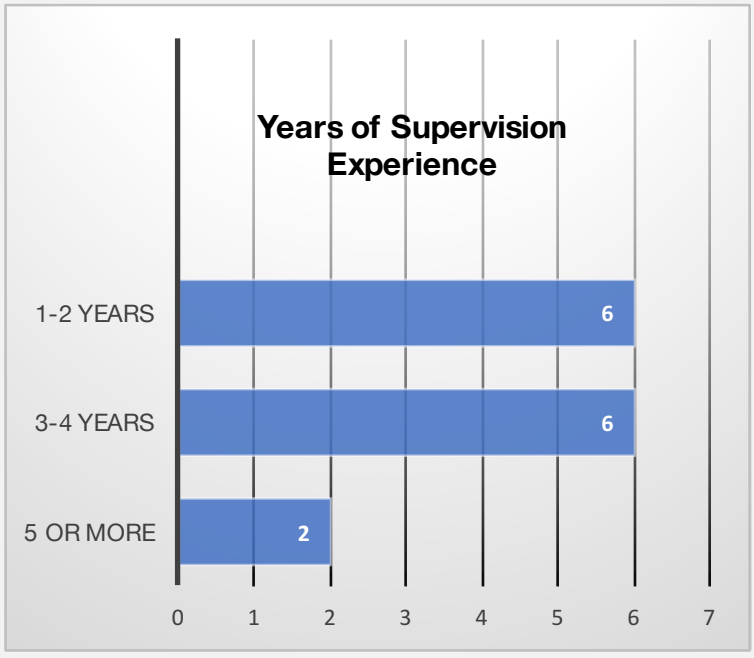

Figure 13. Years of supervision experience amongst participants.

two years, six had been supervising for three or four years, and two for more than five years (Figure 13).

Research Question #1: Quantitative Findings

The first research question addressed was: How does having two different, but aligned, student teaching assessment tools impact the feedback provided to teacher candidates during student teaching? Two measurements were used in two sub-questions for this research question.

- Sub-question 1a was how strongly are the formative evaluation tool (observation summary) and the summative evaluation tool (final assessment) related? This was evaluated using a Spearman rank-order correlation.
- An open-ended survey was used to collect qualitative data on sub-question 1b: What are university supervisor perceptions as to how each of the assessment tools support professional productive conversations?

Sub-Question 1a: Quantitative Findings

Sub-question 1a addressed: How strongly are the formative evaluation tool (observation summary) and the summative evaluation tool (final assessment) related? A Spearman's rank-order correlation was run to determine the relationship between 50 student teachers' formative evaluation tool (observation summary) and the summative evaluation tool (final assessment). The hypotheses evaluated were:

- H_o: There is no correlation between the formative evaluation tool (observation summary) and the summative evaluation tool (final assessment).
- H_1: There is a correlation between the formative evaluation tool (observation summary) and the summative evaluation tool (final assessment).

Results. After running the statistical analysis, there was a strong, positive correlation between the formative evaluation tool (observation summary) and the summative evaluation tool (final assessment). This was statistically significant ($r_s(48) = .382$, $p = .006$). As the formative evaluation tool (observation summary) score increased, so did the summative evaluation tool (final assessment) score.

Sub-Question 1b: Qualitative Findings

An open-ended survey was used to collect qualitative data on sub-question 1b. What are university supervisor perceptions as to how each of the assessment tools support professional productive conversations? The questions were:

1. Did the formative evaluation tool (observation summary) or the summative evaluation tool (final assessment) support a more professional productive conversation regarding student learning?
2. What specific elements of the tool were most meaningful?
3. Did the formative evaluation tool (observation summary) or summative evaluation tool (final assessment) support a more professional productive conversation regarding teacher candidate growth?
4. What specific elements of the tool were most meaningful?
5. Is there anything that needs to be modified, added or changed to make the instruments more useful?
6. If you had to choose between the two tools, which would you choose and why?

The researcher complied responses electronically and housed them on a secure electronic database. The researcher began by reading and analyzing each response individually. During the second reading of each document, the researcher took notes on

common themes and highlighted words that reoccurred in the text. Statements provided by the university supervisors were coded and organized into common themes. The data was collected after using the instruments for one semester. This data collection method was chosen to determine if the quantitative data collected in sub-question 1a matched the perceptions of those using the instrument in sub-question 1b.

Observation summaries led to more productive conversations. After reviewing all the data, the university supervisor responses showed the formative evaluation tool (observation summary) provided a more productive conversation on student learning and led to more conversations regarding teacher candidate growth (questions 1 and 3). Comments were made as to the ability to focus conversations for both university supervisors and teacher candidates. There was only one person who had a differing opinion on the two questions. The university supervisor felt that the formative evaluation tool (observation summary) led to a more professional conversation regarding student learning, but the summative assessment led to a more productive conversation regarding teacher candidate growth.

University supervisors agreed that the direct correlation between instruments provided additional support through: 1) increased focus for the teacher candidate and 2) increased focus for the university supervisor. University supervisors liked the formative evaluation tool (observation summary) because it provided a specific focus and drove the conversations after the observation (Figure 14).

Meaningful elements of the formative tool. The data showed that university supervisors found that the observation summaries led to more productive conversations, but what elements did each see as most meaningful? The researcher again tabulated and

Summary of Survey Responses

Specific Focus	Drove the Conversation
• "Through the observation areas on the form . . . we were led to discuss all aspects of instruction that led to student learning. It made my teacher candidates aware of what was really important in their lesson planning and delivery, and it reminded me of what to focus on in my observations." • "The observation form was helpful in that it focused on more specific indicators and my comments addressed each standard so the candidates understood the importance of each." • "I really liked the observation form because the details provided specific data to address." • The observation summary was "detailed and included all expectations for effective teaching." • "I believe making the language in both tools match more closely leads to a clearer picture of where the teacher candidate stands." • I liked the details in the sections--wait time, transitions, etc. This promotes observable behavioral data rather than instinct or opinion.	• "I felt that the observation summary was more productive to a professional conversation than the midterm/final evaluation because the observation summary was evaluating a specific lesson that had just been taught/observed which gave the opportunity for immediate feedback." • "The observation summary was used for conversations about student learning and the teacher candidate's progress." • "There was more dialogue with the observation summary." • "I found the observation summary was most useful for professional productive conversation regarding the growth of the candidate."

Figure 14. Key ideas from survey responses.

coded the responses (Figure 15). Answers that mentioned multiple areas were counted in each category. All 14 university supervisors commented on the question. One answer was not included as it did not relate to the question.

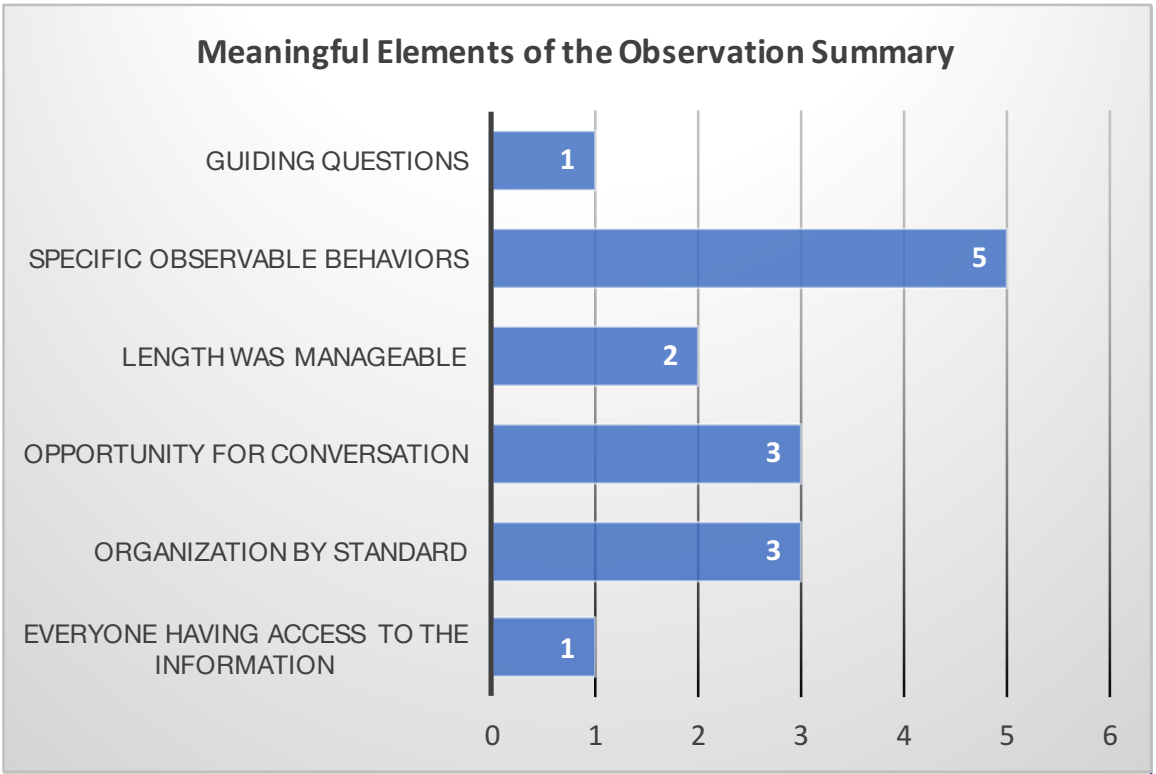

Figure 15. Perceptions of the meaningful elements on the Observation Summary.

One university supervisor felt the guiding questions on the document best supported the conversation. Five noted the specific behaviors made conversations more focused and allowed them to "discuss in depth specific items with suggestions for improvement". Two commented on the length of the document and how it was concise. One university supervisor commented "I did not feel I was lumping to many [items] together so that they get muddled." Three felt the most beneficial part of the instrument was the "opportunity to have conversations with the teacher candidate directly following each observation." Another three commented on the direct correlation to the InTASC standards and the summative evaluation tool (final assessment). They felt the alignment was beneficial in guiding teacher candidates. One liked that the team (teacher candidate,

mentor teacher, and university supervisor) all had access to the same tool, therefore conversations could be aligned.

Formative vs. summative. University supervisors were also asked, if you had to choose between the two tools, which would you choose and why? Ten of the 14 preferred the formative evaluation tool (observation summary) for the reasons outlined above. Out of the four, one preferred the summative evaluation tool (final assessment). One cited that a self-created tool was preferred. One had no preference and one university supervisor felt that it was not an either/or. "I think we need a detailed observation feedback form as evidence for the [summative] assessment." Preferences can be found in Figure 16.

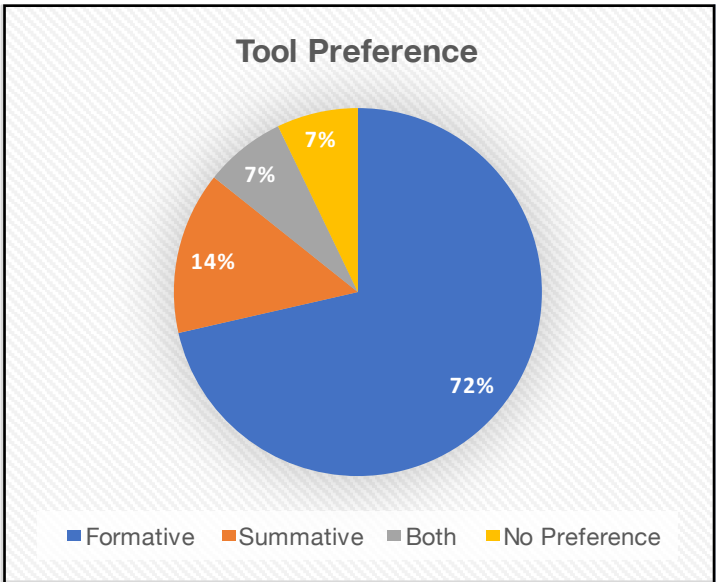

Figure 16. Supervisor preferences between the formative and summative tools.

Modifications. Five university supervisors made suggestions as to modifications to the instruments. One wanted more clarification on item 5.2 on the summative evaluation tool (final assessment). One wanted more indicators added pertaining to routines, procedures, and classroom management. One wanted items added to address dress and punctuality. Two commented on changing the format upon which the information was entered into the electronic database.

Research Question #2 Findings

The second research question addressed was: What skills demonstrated by teacher candidates at the conclusion of student teaching show evidence of growth? Two measurements were used in two sub-questions for this research question.

- Sub-question 2a addressed: Do we see a significant difference in group means between the midterm and final assessment? This was evaluated using a two-way ANOVA.
- Sub-question 2b addressed: Do we see a significant difference in group means between observation summaries? This was evaluated using a two-way ANOVA.

Sub-Question 2a: Quantitative Findings

Sub-question 2a addressed the following question: Do we see a significant difference in group means between the midterm and final assessment? This was evaluated using a two-way analysis of variance. The hypotheses evaluated were:

- H_o: The percentile ranking on the initial formative evaluation (observation summary) will have no significant effect on the summative evaluation (final assessment).
- H_1: The percentile ranking on the initial formative evaluation (observation summary) will have a significant effect on the summative evaluation (final assessment).
- H_o: The midterm score will have no significant effect on the summative evaluation tool (final assessment).
- H_1: The midterm score will have a significant effect on the summative evaluation tool (final assessment).

- H_o: The midterm assessment score and percentile ranking on the initial observation summary will have no significant effect on the summative evaluation tool (final assessment).
- H_1: The midterm assessment score and percentile ranking on the initial observation summary will have a significant effect on the summative evaluation tool (final assessment).

The percentile rankings on the formative evaluation (observation summary) were broken out into categories based on the teacher candidates' initial performance. These categories were determined in the following way:

- Group 1: Overall score on the initial formative evaluation (observation summary) was in the 81st - 100th percentile
- Group 2: Overall score on the initial formative evaluation (observation summary) was in the 61st - 80th percentile
- Group 3: Overall score on the initial formative evaluation (observation summary) was in the 41st - 60th percentile
- Group 4: Overall score on the initial formative evaluation (observation summary) was in the 21st - 40th percentile
- Group 5: Overall score on the initial formative evaluation (observation summary) was in the 0 - 20th percentile

	Group 1	Group 2	Group 3	Group 4	Group 5
Midterm assessment					
Final assessment					

Figure 17. Two-way ANOVA design for sub-question 2a.

The two-way analysis of variance was arranged in a 2x5 format (Figure 17).

Results. A two-way ANOVA was conducted on the influence of two independent variables (initial observation summary rankings and the midterm assessment) on the final assessment scores. Ranking on the initial observation summary consisted of five levels (0 - 20th percentile, 21st - 40th percentile, 41st - 60th percentile, 61st - 80th percentile and 81st - 100th percentile). All effects were statistically significant at the .05 significance level. The main effect for the initial observation summary yielded an *F* ratio of F (4, 6) = 8.86, p = .011, indicating a significant difference between the 0 - 20th percentile (M = 3.707, SD= .209), 21st - 40th percentile (M = 3.667, SD= .276), 41st - 60th percentile (M = 3.831, SD= .181), 61st - 80th percentile (M = 3.867, SD= .099) and 81st - 100th (M = 3.729, SD= .303). The main effect for the midterm assessment yielded an *F* ratio of F (25, 6) = 9.615, p = .005, indicating a significant difference between the midterm assessment (M = 3.311, SD = .330) and the final assessment (M = 3.76, SD = .229). The interaction between the initial observation summary ranking, the midterm assessment and the final assessment was statistically significant, F (14, 6) = 6.761, p = .014.

Sub-Question 2b: Quantitative Findings

Sub-question 2b addressed this question: Do we see a significant difference in group means between observation summaries? This was evaluated using a two-way analysis of variance. The hypotheses evaluated were:

- H_o: The percentile ranking on the initial formative evaluation (observation summary #1) will have no significant effect on the final formative evaluation (observation summary #5).

- H_1: The percentile ranking on the initial formative evaluation (observation summary #1) will have a significant effect on the final formative evaluation (observation summary #5).
- H_o: The third formative evaluation (observation summary #3) will have no significant effect on the final formative evaluation (observation summary #5).
- H_1: The third formative evaluation (observation summary #3) will have a significant effect on the final formative evaluation (observation summary #5).
- H_o: The initial formative evaluation (observation summary #1) and third formative evaluation (observation summary #3) will have no significant effect on the final formative evaluation (observation summary #5).
- H_1: The initial formative evaluation (observation summary #1) and third formative evaluation (observation summary #3) will have a significant effect on the final formative evaluation (observation summary #5).

The percentile rankings on the initial formative evaluation (observation summary) were broken out into categories based on the teacher candidates' initial performance. These categories were determined in the following way:

- Group 1: Overall score on the initial formative evaluation (observation summary) was in the 81^{st} - 100^{th} percentile
- Group 2: Overall score on the initial formative evaluation (observation summary) was in the 61^{st} - 80^{th} percentile
- Group 3: Overall score on the initial formative evaluation (observation summary) was in the 41^{st} - 60^{th} percentile

- Group 4: Overall score on the initial formative evaluation (observation summary) was in the 21st - 40th percentile
- Group 5: Overall score on the initial formative evaluation (observation summary) was in the 0 - 20th percentile

The two-way analysis of variance was arranged in a 2 x 5 format (Figure 18).

	Group 1	Group 2	Group 3	Group 4	Group 5
Observation #3					
Observation #5					

Figure 18. Two-way ANOVA design for sub-question 2b.

Results. A two-way ANOVA was conducted on the influence of two independent variables (initial observation summary rankings and observation summary #3) on the final observation summary (#5). Ranking on the initial observation summary consisted of five levels (0 - 20th percentile, 21st - 40th percentile, 41st - 60th percentile, 61st - 80th percentile and 81st - 100th percentile). No effects were statistically significant at the .05 significance level for any of the three hypotheses indicating that there was not a significant interaction between observation summaries #1 and #3 independently or combined on observation summary #5.

A second two-way ANOVA was conducted on the influence of two independent variables (initial observation summary rankings and observation summary #3) on the final observation summary (#5). Ranking on the initial observation summary consisted of five levels (0 - 20th percentile, 21st - 40th percentile, 41st - 60th percentile, 61st - 80th percentile and 81st - 100th percentile). This second test of variance was conducted without the six split placements to see if there was difference between the two subgroups. The sample consisted of 43 teacher candidates. Each in a 16-week placement.

The main effect for the initial observation summary yielded an F ratio of F (4, 10) = .908, p < .499, indicating that the mean change score was not significantly greater for observation #5. However, observation # 3 yielded an F ratio of F (12, 10) = 3.125, p = .040, indicating that the mean change score was significantly higher for observation #5 (M = 2.86, SD = .146) than for observation #3 (M = 2.77, SD = .180). The interaction effect between the initial observation summary, observation #3 and observation #5 was significant, F (16, 10) = 3.11, p = .037. A summary of findings can be found in Table 6.

Table 6

Spearman Correlation	**Significance**
Spearman Correlation comparing the formative tool and the summative tool	p = .006
Observation Summary, Midterm and Final Comparison (with the split placements)	
Two-Way ANOVA comparing the initial formative assessment to the final summative assessment	p = .011
Two-Way ANOVA comparing the midterm assessment to the final summative assessment	p = .005
Two-Way ANOVA exploring the interaction between the initial formative assessment, the midterm assessment and the final summative assessment	p = .014
Observation Summary Comparison (without the split placements)	
Two-Way ANOVA comparing the initial formative assessment (observation summary #1) to the final summative assessment (observation summary #5)	p = .908
Two-Way ANOVA comparing the formative assessment (observation summary #3) to the final summative assessment (observation summary #5)	p = .040
Two-Way ANOVA exploring the interaction between the initial formative assessment (observation summary #1), the third formative assessment (observation summary #3) and the fifth formative assessment (observation summary #5)	p = .037

Notes: Data summary.

Chapter 5

Student teaching requires mentor teachers, teacher candidates, and university supervisors to work as a team in a third space environment. This blended space between the university and P12 classroom increases in effectiveness when mentor teachers, university supervisors, and teacher candidates collaborate to meet the expectations of student teaching. Student teaching is vital to the development of a teacher and provides time for teacher candidates to learn, practice, and apply instructional strategies in the classroom. With the increasing needs placed on the mentor teachers, the roles in this third space environment become more complex. The complexity of the experience is compounded by the need for role clarification (between teacher candidates, mentor teachers and university supervisors), the lack of a common lexicon, and the incongruence of accreditation systems within the context of third space.

Student teaching is the culmination of a teacher candidate's educational work. During this 16-18 weeks, a teacher candidate shares a classroom with a mentor teacher. Knowing the curriculum well enough to teach it, learning a new culture and applying pedagogy in this authentic environment is not easy for a developing teacher. Add to this, working within the parameters of someone else's space and receiving feedback from both a university supervisor and a mentor teacher. The complexities of environment impact student teaching success.

Effective experiences require communication, collaboration, and constructive feedback. These are necessary for teacher candidate growth and reflection, yet teacher candidates respond to feedback based on sensitivity levels and experiences. Without a collaborative third space environment, trust is impacted. When this occurs, feedback is

perceived as negative and a teacher candidate may become defensive, argumentative, or passive aggressive which impacts learning. So how can third space environments be maximized for teacher candidates? It starts with communication. Mentor teachers and university supervisors need role clarification, a common lexicon and an understanding of how to facilitate teacher candidate growth.

The purpose of this convergent parallel mixed method study was to compare the use of formative and summative assessment tools used to evaluate teacher candidates during student teaching and explore how the use of these two instruments impacted the feedback provided and implemented by teacher candidates for reflection and professional growth. Two research questions were addressed:

1. How does having two different but similar student teaching observation tools impact the feedback provided?
2. What skills demonstrated by teacher candidates at the conclusion of the teacher preparation program show evidence that feedback is informing growth?

Permission from the appropriate school research personnel was received. The study consisted of 14 university supervisors and 50 teacher candidates. Each of the 50 teacher candidates were completing his/her first semester of student teaching to earn undergraduate certification in his/her chosen endorsement area. The experience for each teacher candidate was a semester long. Data and computer files were kept in a secure, password protected university computer system. No individual identifiers were attached to the data.

Findings & Implications

Cognitive capital is the inner resource within a teacher to frame thoughts and reshape reflection while teaching (Roussin & Zimmerman, 2014). This includes a teacher candidate's

> "ability to reflect on her own beliefs and organize her thoughts and feelings so that she can describe how she made up her mind to act. When each person can articulate his or her own learning story, the culture begins to reshape itself," (Roussin and Zimmerman, 2014, p. 39).

This ability to think on his or her feet is a teacher candidate's most valuable asset. Developing and nurturing this in a teacher candidate during student teaching is essential to growth and development.

Effective student teaching environments are based on communication and the application of feedback to increase achievement for both the teacher candidate and the P12 students. This environment thrives on trust, collaboration, and consistent communication to support the professional growth of the teacher candidate. Obstacles in receiving feedback include: basing the feedback on a single performance; the imbalance of power between teacher candidate and the university supervisor and/or mentor teacher; and a teacher candidate's mindset when receiving feedback. These obstacles make collaboration and the relationship between the university supervisor, mentor teacher, and teacher candidate during student teaching even more important.

To avoid these obstacles, a teacher candidate needs a supporting third space environment. A teacher candidate needs modeling, guidance, feedback and reinforcement throughout the experience (Rodgers & Jenkins, 2010; Zeichner, 2012).

Feedback needs to be ongoing to both support and encourage a teacher candidate. Feedback on a single experience does not provide the teacher candidate or the evaluator a clear picture of the everyday interactions and strategies used by the teacher candidate.

Relationships need to be nurtured from the start of the experience between the university supervisor, mentor teacher, and teacher candidate to alleviate the power differential and its ability to impact growth. This is most important when interacting with students. P12 students need to see parity between the mentor teacher and teacher candidate. How this is developed and conveyed to students at the start of the experience impacts the power differential throughout.

Parity also impacts a teacher candidate's mindset when receiving feedback. For example, in situations where parity is unclear, a teacher candidate lacks confidence to make independent decisions and is unable to think on his or her feet without first receiving assurance that the decision is the right one. This lack of cognitive capital inhibits the teacher candidate's ability to reflect, organize emotions, and decide how to act or react.

"An important step to enhancing the stature of educators in the family of professionals is defining clearly what constitutes excellence in teaching. As long as practitioners present teaching as a mysterious art form without well-defined duties and competencies, the larger community will regard it with some mistrust," (Danielson, 1996, p. 7). Without a common lexicon, communication and feedback are misguided and misaligned with overall goals. Feedback is not the university supervisor or mentor teacher's story, it is the teacher candidate's. How a teacher candidate recounts the feedback and applies it to future teaching dictates the outcome (Roussin & Zimmerman,

2014). It is easy to assume that a teacher candidate understands, can unpack, and knows how to apply feedback, but this is not always evident to a teacher candidate. The following steps sustain a culture of improvement:

1. Develop a common language of teaching
2. Provide opportunities for focused feedback and practice
3. Provide opportunities for observing and discussing effective teaching
4. Require individual teacher growth and development plans (Marzano, 2014)

Research Question #1

Research question #1 addressed how two different but similar student teaching observation tools impacted the feedback provided? The formative evaluation tool (observation summary) was created using a modified Delphi research methodology. The Delphi methodology is used to obtain the most reliable consensus from a group of experts (Dalkey & Helmer, 1962). The technique uses repeated questioning and avoids direct confrontation of one expert with another. The summative evaluation tool (midterm and final assessment) was created by state universities and colleges in Nebraska and was implemented state-wide after a review by the Buros Center for Testing in Lincoln, NE.

Mentor teachers, university supervisors, and teacher candidates were all involved in the development of the formative evaluation tool (observation summary). This was the rationale in using the Delphi research methodology to develop the instrument. "Teacher involvement and responsibility improve the quality of teacher evaluation" (Wise, Darling-Hammond, Tyson-Bernstein, McLaughlin, 1984, p. 76). This includes involving expert teachers in 1) the supervision and assistance of peers, 2) the development of

processes, and 3) in ongoing monitoring to hold teachers accountable for instructional decisions (Wise et al., 1984).

Mentor teacher voices are often left out of the process, but are necessary in the supervision and development of teacher candidates. Not only are they expected to provide expertise and guidance but they also must hold the teacher candidate accountable for instructional decisions within the context of third space.

The theory behind the creation of the observation summary hinged on the following questions. How can universities and P12 environments minimize the differences in the language used in the P12 world with that of the university? How can the two systems work together to ensure that the support provided to teacher candidates maximizes growth?

This need for a more strategic process to develop teacher candidates and support mentor teachers and university supervisors in this third space environment is outlined below:

1. Reflect on the complexities and sophistication of teaching and learning
2. Identify key strategies for effective teaching to include what is appropriate for each type of lesson
3. Include rubrics or scales with clearly defined continuums and evidence to impact student learning
4. Allow flexibility, yet retain a common language (Marzano, Frontier and Livingston, 2011)

Sub-Question 1a: Quantitative Findings

In determining how two different but similar student teaching observation tools impacted the feedback provided, the researcher addressed the correlations between the formative and summative assessment tools. The Spearman Correlation Coefficient was used. After running the statistics, there was a strong, positive correlation between the formative evaluation tool (observation summary) and the summative evaluation tool (final assessment), which was statistically significant ($r_s(48) = .382$, $p = .006$).

Teachers need clear and frequent feedback, against a common language of instruction, to make real-time adjustments in teaching (Marzano et al., 2011). What the Spearman significance confirmed is that the common lexicon created via the observation summary did have a strong association with the summative assessment that used the InTASC language. Minimizing the differences between systems increased the communication between the teacher candidate, mentor teacher and university supervisor, and confirmed a strong relationship between instruments.

> "Rubrics or scales aligned to a common language provide a viable means for teachers and supervisors to both celebrate, reward and replicate effective teaching as well as provide a clear path for improvement. Feedback can come from various forms of self-assessment, mentor, peer, and supervisor feedback using a common language through scales or rubrics," (Schooling et al., 2013, p. 2).

Sub-Question 1b: Qualitative Findings

Observation summaries led to more productive conversations. In addition to learning if the two instruments yielded a strong correlation, a survey was administered to determine how university supervisors perceived the two instruments and the impact on

conversations and teacher candidate growth. University supervisors agreed that the direct correlation between instruments provided additional support through increased focus. Overall, university supervisors preferred the formative evaluation tool (observation summary) because it provided a specific focus and drove the post observation conversations.

Meaningful elements of the formative tool. Observing classroom practice is about collecting evidence (Danielson, 2012; Minnick, Warren, Riley, & Ingram, 2012). Facts without bias or judgment are collected and focus is on observable evidence, rather than inferences. For example, if the students are engaged during a lesson on density, what is observed? How do you know they are engaged? Perhaps students test different items against the density of water, have conversations, lean in during discussion or record sketches, thoughts, and ideas in a log. These observations lead the evaluator toward engagement but does it through the explanation of what was witnessed. Evaluators should:

1. Collect evidence without bias
2. Interpret the evidence against performance levels
3. Conduct professional conversations (Danielson, 2012).

On the survey, university supervisors reported on the meaningful elements of the observation summary. Ideas can be categorized within the parameters of this Danielson framework (Figure 19).

*Collecting evidence without bias***.** Six university supervisor responses could be categorized within the collection of evidence without bias. Five university supervisors noted that the specific behaviors outlined on the observation summary were the most

meaningful element of the formative tool. The specific behaviors allowed for a focus on actions rather than inferences and led to a data-informed reflection. One supervisor felt a benefit was that everyone had access to the information. If university supervisors,

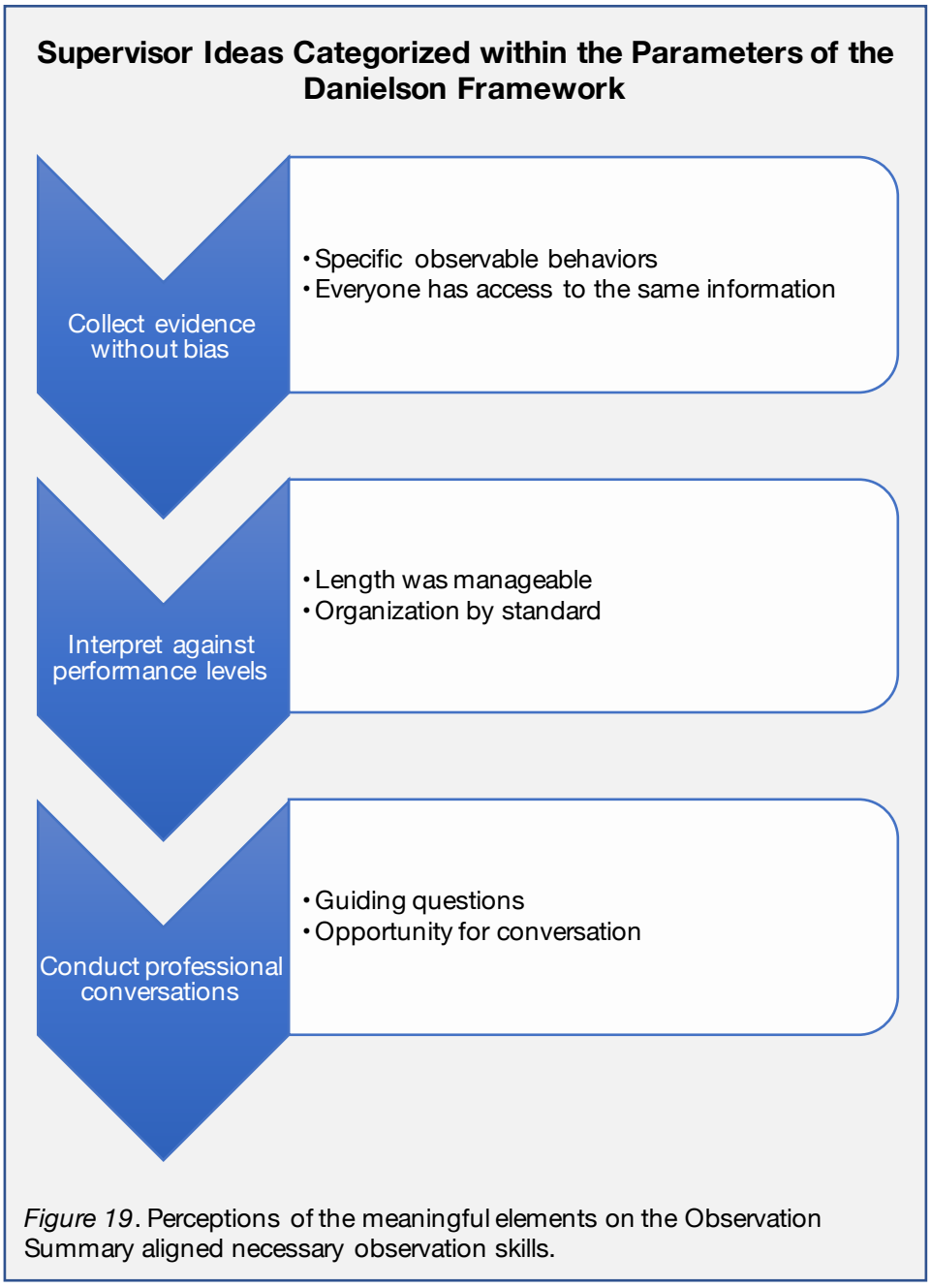

Figure 19. Perceptions of the meaningful elements on the Observation Summary aligned necessary observation skills.

mentor teachers, and teacher candidates all have equal access to the same information, it eliminates miscommunication and ensures everyone is looking for the same evidences.

Interpret against performance levels. The ability for university supervisors to interpret evidences against performance levels was made possible by the manageable length and organization of the formative evaluation tool (observation summary). Two university supervisors commented that the length was appropriate and fit the needs of an observation through the details and focus within each section. Three university supervisors commented on its organization. They felt the linkage to the summative evaluation tool (midterm and final assessment) increased communication with the teacher candidates and provided evaluators a focus. One stated, "I believe making the language of both tools match … leads to a clearer picture of where the teacher candidate stands."

Conduct professional conversations. Four university supervisors commented that the observation summary provided more opportunities for professional conversations. One felt the guiding questions were the most meaningful element of the instrument because it provided a foundation from which to start the conversation and started the reflective process. Three university supervisors commented that it was simply the opportunity for conversation that made the formative tool most useful. One stated, "The observation summary was evaluating a specific lesson that had just been taught/observed which gave the opportunity for immediate feedback." Another noted, "The observation summary was used for conversations about student learning and the teacher candidate's progress."

Formative vs. summative. The purpose of supervision should be the enhancement of teachers' pedagogical skills, with the goal of enhancing student

achievement (Marzano et al., 2011). Danielson (2008) believes evaluation has two purposes: ensure quality and promote teacher learning. University supervisors were asked to choose between the two evaluation tools, 10 of the 14 university supervisors preferred the formative evaluation tool (observation summary). One university supervisor felt, that it was not an either/or. "I think we need a detailed observation feedback form as evidence for the [summative] assessment." Consensus was that the common lexicon, alignment between instruments and data-informed conversations led to more meaningful feedback.

These comments support the need for formative and summative evaluation tools. The summative evaluation tool (midterm and final assessment) provides a holistic look at the teacher candidate progress. It encompasses multiple evidences into a single evaluation. The formative evaluation tool (observation summary) provides an opportunity to collect those evidences to ensure reliability in student teaching evaluations. This also explains why the preference for the formative evaluation tool was so large. University supervisors felt the conversations regarding specific evidences witnessed in a single observation provided teacher candidates more opportunity to reflect, apply and refine actions immediately. The consistent feedback provided over time supports teacher candidates as they develop the skills necessary to be reflective, data-driven, and action-oriented.

Outcome of Research Question #1: Creating a Culture of Improvement in Third Space

One outcome of both sub-questions 1a and 1b (both the quantitative and qualitative findings) was how university supervisor perspectives and the correlation

between the formative evaluation tool (observation summary) and the summative evaluation tool (final assessment) supported a culture of improvement within third space. Identifying and supporting congruent factors between the P12 and university system in addition to the development of a common lexicon strengthened third space (Figure 20).

These factors aligned with Marzano's culture of improvement. Not only did the structure align in relation to the formative evaluation tool (observation summary) and the summative evaluation tool (midterm and final assessment), but also through structure of the observation and the post observation conversations.

Summative assessment. Mentor teachers, teacher candidates and university supervisors all completed the summative evaluation tools, both the midterm assessment and the final assessment. The midterm was completed midway through the experience and provided the teacher candidate an idea of progress in the context of the final evaluation tool. The final assessment was completed at the end of the experience. The teacher candidate completed a self-assessment for both the midterm and the final. The team met to discuss progress after each assessment.

University supervisor role in formative assessment. The use of a common lexicon on the instrument, provided opportunities for focused feedback. The layering of a minimum of five formal observations conducted by the university supervisor throughout the semester provided multiple opportunities for feedback with time in between for practice. After each formal observation teacher candidates, mentor teachers and university supervisors discussed the evidences witnessed through a series of guiding questions and the data collected. Each conversation ended by setting goals for the next visit that focused on individual teacher candidate needs, and development.

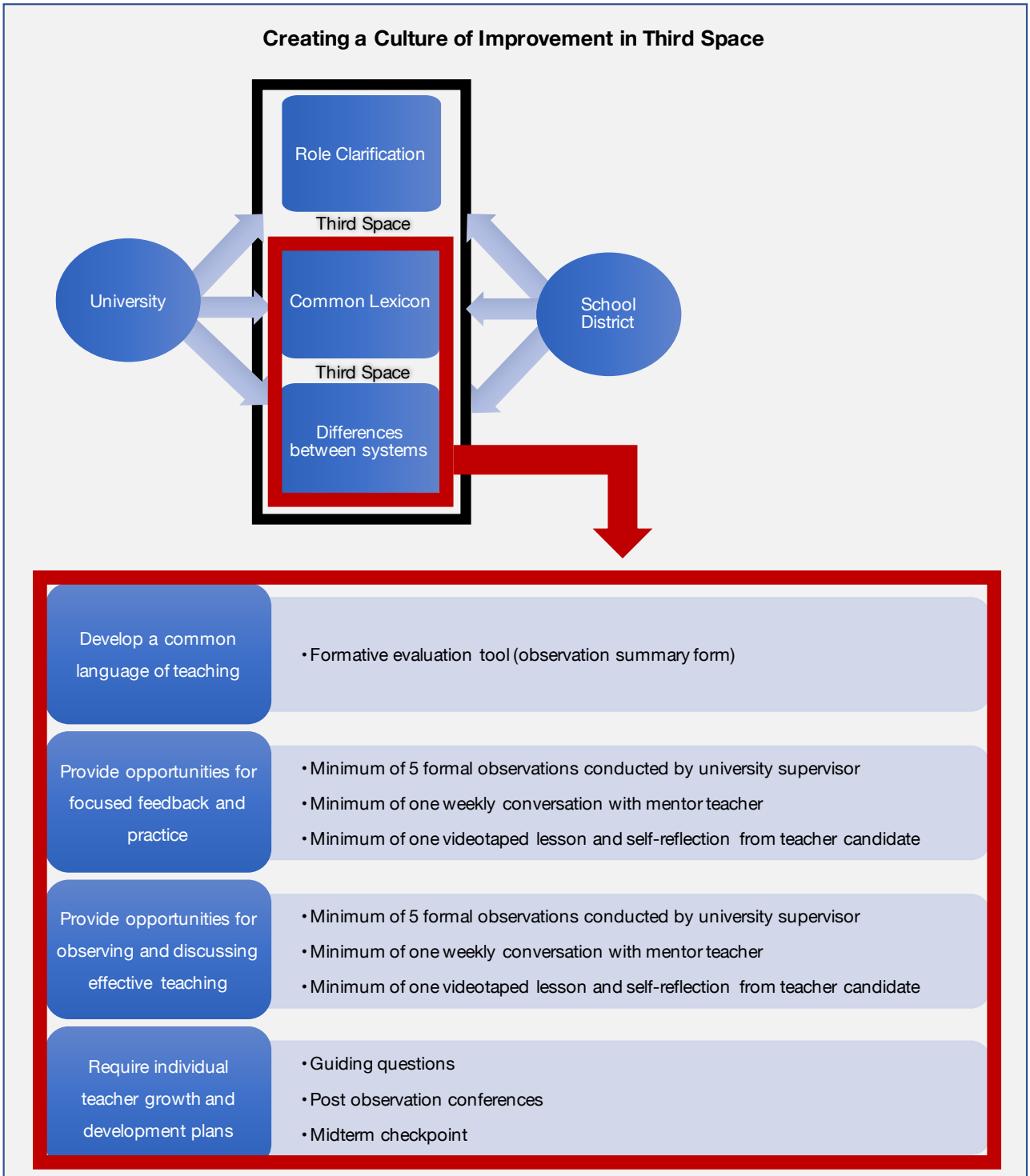

Figure 20. The complexity of the student teaching experience is compounded by the need for role clarification (between teacher candidate, mentor teacher and university supervisor), the lack of a common lexicon, and the incongruence of accreditation systems within the context of third space. The linkage between the complexities and creating a culture of improvement as outlined by Marzano (2014).

Mentor teacher role in formative assessment. In addition to the five formal observations conducted by the university supervisor, mentor teachers were also asked to use the observation tool for a minimum of one weekly conversation with teacher candidates. This offered further support, discussion, and the opportunity to refine ongoing goals. It also provided consistent communication throughout the experience between the mentor teacher and teacher candidate regarding growth and development.

Teacher candidate role in formative assessment. Teacher candidates also videotaped one lesson and used the formative assessment tool (observation summary) to self-evaluate and reflect on the videotaped lesson. The university supervisor also watched the videotaped lesson. The formative self-assessment and reflection was shared and discussed with the university supervisor. This opportunity to self-assess using the formative assessment tool (observation summary) provided reinforcement of language and goals for the teacher candidate. It also forced teacher candidates to look at themselves through the same lens as the mentor teacher and university supervisor. Since self-reflection is an important part of evaluation, this decreases apprehension for formal observations and increased the knowledgebase for making informed decisions about practice (Marzano et al., 2011).

Team Communication. Mentor teachers, university supervisors, and teacher candidates were asked to share feedback provided and/or received with all members of the team throughout the experience. The rationale behind involving the entire team in the completion of the formative evaluation tool (observation summary) and the final evaluation tool (midterm and final assessment) was that each person brings a perspective

that adds context to the overall experience. Each perspective helps add to the story of a teacher candidate's growth. This communication strengthens the third space environment.

Research Question #2

Research Question #2 addressed: What skills demonstrated by teacher candidates at the conclusion of the teacher preparation program show evidence that feedback is informing growth? "To succeed, a teacher evaluation system must suit the educational goals, management style, conception of teaching, and community values of the school district" (Wise et al., 1984, p. 66). This can be difficult in the confines of third space. Therefore, the goals of the experience and management of it must match teaching ideals and values within the profession if feedback is to be effective.

Sub-Question 2a: Quantitative Findings

Sub-question 2a addressed: Do we see a significant difference in group means between the midterm and final assessment? This was evaluated using a two-way analysis of variance designed in a 2x5 format comparing the percentile rankings on the initial formative evaluation (observation summary) to the summative evaluation (midterm and final assessment). All effects were statistically significant at the .05 significance level for all three hypotheses indicating that there was a significant interaction between the initial formative assessment (observation summary) and the summative evaluation (midterm assessment) independently and the interaction on the summative evaluation (final assessment). This strong interaction between the two instruments supports that one informs the other. This was the goal in developing the common lexicon.

Sub-Question 2b: Quantitative Findings

Sub-question 2b addressed this question: Do we see a significant difference in group means between observation summaries? This was evaluated using a two-way analysis of variance designed in a 2 x 5 format comparing the percentile rankings on the initial formative evaluation (observation summary #1) to observation summary #3 and observation summary #5. No effects were statistically significant at the .05 significance level for any of the three hypotheses indicating that there was not a significant interaction between observation summaries #1 and #3 independently or combined on observation summary #5.

A second two-way ANOVA was conducted on the influence of two independent variables (initial observation summary rankings and observation summary #3) on the final observation summary (#5). This second test of variance was conducted without the six split placements to see if there was difference between the two subgroups (8-10 week placements vs. 16-20 week placements). The sample consisted of 44 teacher candidates. Each in a 16-week placement.

A teacher in a split placement begins a new experience at the 8 or 10 week mark. Observation summary #3 was taken either at the start of the second placement or the end of a the first. It is understandable that the start of an experience in a new environment, with new students, a new mentor teacher and a new university supervisor would yield a difference in formative evaluation data (observation summary). It would also impact the cycle of growth for a teacher candidate.

The result of this second two-way ANOVA showed that the percentile rankings on the initial formative evaluation (observation summary #1) to observation summary #5

was not significant, but the interaction between observation summary #1, #3, and #5 was significant as was observation summary #3 and observation summary #5. Whereas the lack of significance between the initial observation summary (observation summary #1) to observation summary #5 was surprising, within the context of the existing research, it made sense.

The formative assessment was designed to provide evidences that could be witnessed in a single lesson observation as attention was directed to the observable behaviors during an observation. "You can never get enough observations to get a clear picture of what a teacher is doing . . . If you only observe four times, you're probably not going to get more than a general idea of the typical behavior," (Quinn, 2014, p. 13). This was the concept behind designing the formative evaluation tool. These snapshots of evidence showed teacher candidates the expectations and provide university supervisors and mentor teachers the context to guide and support.

Without clear direction, teacher candidates won't be able to meet the expectations. Even without removing the split placements, the interactions between the formative evaluation tool and the summative evaluation tool were significant which provided evidence that the two tools were working in unison. The consistency of the formative assessments (observation summaries) provided the opportunity to track progress which can be seen in the significance of the interactions between all three. The difference between evaluation and observation is that observation provides a snapshot of evidence, achievable in small amounts at a time, whereas evaluation provides direction as to long term progress.

Implications & Recommendations

Current teacher preparation programs, school districts, and state education departments could explore developing aspects of creating and sustaining cultures of improvement within the context of third space. School districts and universities are effective independently, but this autonomy does nothing to drive the needs of the profession. With an increased focus on field-based preparation, the relationship between P12 districts and universities has been forced to change with little or no support to create effective third space environments.

Often collaboration is something that is stated without providing those involved the tools, time, and resources to do it effectively. Collaboration is based on trust and communication. It takes time to develop a team of educators working with a teacher candidate, but the outcome is a stronger teacher candidate. This increasing focus on collaboration is witnessed in the expansion of the use of co-teaching strategies during student teaching which encourages teaming to support and guide teacher candidates. Whereas the positive impact of co-teaching strategies is not to be argued, the element missing is the alignment of assessment tools to support third space interactions.

A common explanatory framework would provide a foundation for development. It would offer context for third space and a foundation from which to start professional conversations. Just as teacher candidates are in developmentally different places, so are mentor teachers and university supervisors. Providing support to thrive in a third space environment, keeps mentor teachers and university supervisors from needing to sink or swim. The framework affords multiple stakeholders opportunities for rich discussions about learning for teacher candidates, mentor teachers, and university supervisors. It

provides the infrastructure for communication, collaboration, and trust. As a result, this systematic reciprocal culture connects pedagogy, ensures quality feedback and stimulates reflection for professional growth during student teaching.

Create

The first step is for districts and universities to create a foundation from which to grow. Student teaching roles need to be clarified so both the mentor teacher and university supervisors know how to best support a teacher candidate. Differences in accreditation systems need to be clarified by developing a common language that can be utilized by both mentor teachers and university supervisors. This clarifies expectations for teacher candidates and helps to eliminate misdirection.

Sustain

Once a foundation has been established, it is the responsibility of states, districts, and universities to sustain the third space environment. This shared professional vision aligns lexicons between instruments to develop an effective culture of practice and feedback. Within this culture, there are opportunities for observation and conversation and goal setting (Figure 21).

Create: Bridge Theory to Practice

Teacher candidates with more comprehensive and supportive student teaching experiences have an increased confidence and likelihood of staying in the profession (Meyer, 2016; Ingersoll et al., 2014; Ronfeldt et al., 2014). When explicit connections are drawn between coursework and student teaching it provides increased opportunities to practice skills and apply strategies (Darling-Hammond, 2010). This time in the classroom allows teacher candidates to practice and refine teaching skills.

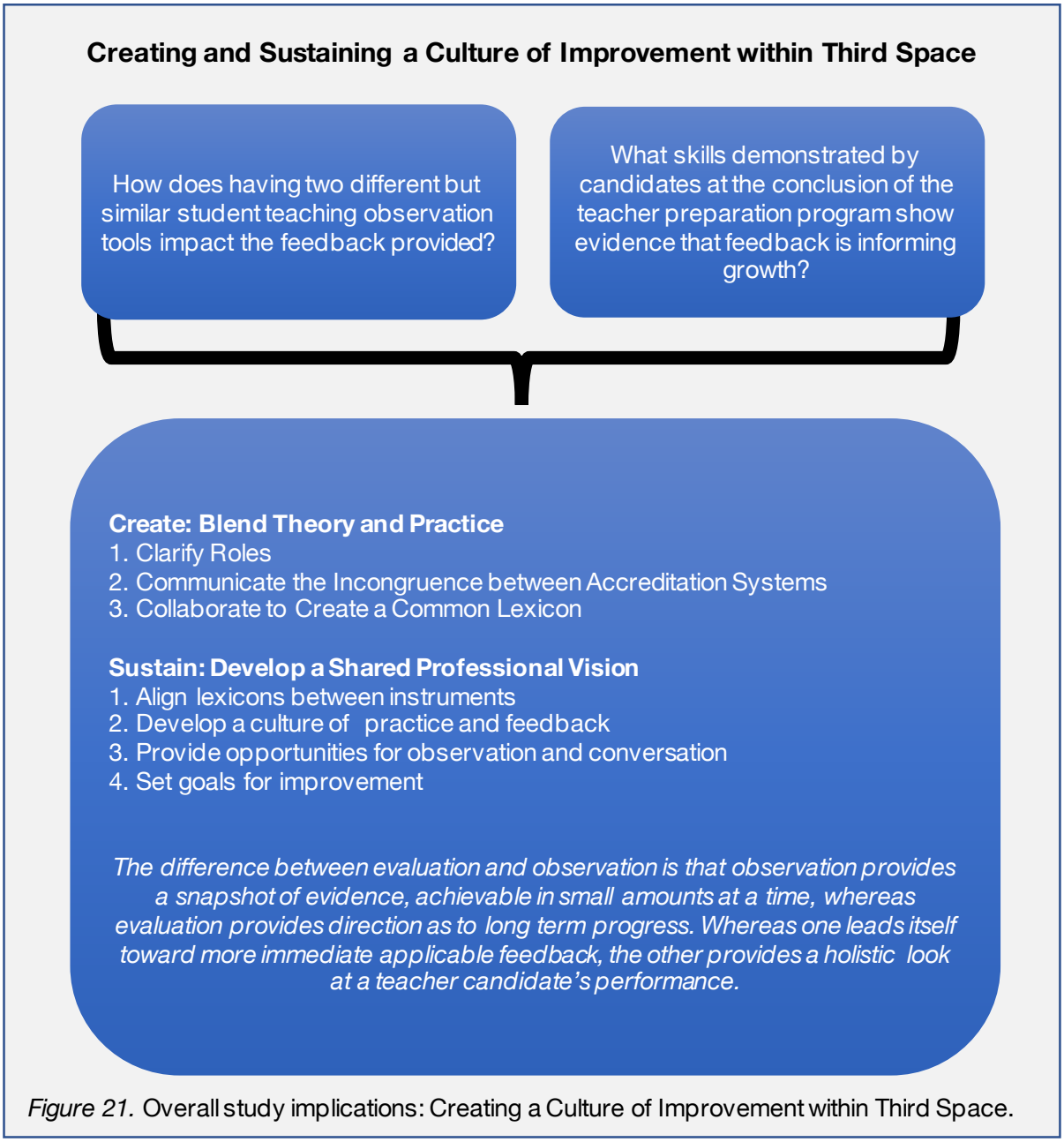

Figure 21. Overall study implications: Creating a Culture of Improvement within Third Space.

This connection between theory and practice during student teaching guides a teacher candidate to recognize how data can be used to inform instructional decisions. This blend of university and P12 environments thrives when an effective third space environment is developed. What does this look like between a mentor teacher, teacher candidate, and university supervisor?

Clarify Roles

To begin, stakeholders blend theory and practice. This is done by clarifying student teaching roles. If teacher candidates, university supervisors, and mentor teachers are to work as a team, each must understand how to best support the teacher candidate and his or her role in the process. Teacher candidate learning is most effective and transformative when goals and expectations are aligned between the mentor teacher and university supervisor (Darling-Hammond, 2006; Zeichner, 2010; Butler & Cuenca, 2012). With the increased use of co-teaching practices during student teaching and the use of coaching in P12 classrooms, the role of mentor teacher and university supervisor has shifted to better meet the needs of P12 students.

How to clarify roles. Maximizing a teacher candidate's experience goes beyond simply providing a to do list of expectations. The relationship between the university supervisor, mentor teacher and teacher candidate should be nurtured through conversation and common expectations established should be established amongst team members. If one of the goals for a university supervisor, and mentor teacher is to provide a systematic and consistent presence during student teaching to provide feedback, support planning and guide teacher candidate reflection, what does this look like for a university supervisor vs a mentor teacher? Conversations need to center in on what each participant expects from the other to include the teacher candidate. Miscommunication and misinterpretation are likely when expectations for each other have failed to be discussed.

Communicate the Incongruence between Accreditation Systems

During student teaching, teacher candidates need time for self-reflection and professional dialogue to grow and develop. Both the mentor teacher and the university

supervisor provide the teacher candidate with feedback for reflection and growth. This difference between the two systems impacts the reliability of the feedback, assessment and the application by teacher candidates.

How to communicate incongruence. Communicate differences between systems. Share the summative evaluation developed (most likely) using InTASC or university language. One way to do this would be through cooperative learning. Ask mentor teachers, university supervisors, and teacher candidates to create a non-linguistic representation of each of the items. For big groups, it may be easiest to jigsaw the content and share out to the group. At this point, it is important to build an awareness and understanding of the items.

Collaborate to Create a Common Lexicon

To bridge theory and practice, both the university supervisor and mentor teacher need to provide constructive feedback to support growth. Each stakeholder brings his or her own educational vocabulary, or lexicon, to the student teaching experience based on professional experience. These varied lexicons create barriers and impact communication. Without a common lexicon, barriers will continue to inhibit teacher candidate growth and the effectiveness of feedback.

This can be done by aligning instruments and determining where the commonalities exist, then clarifying the language. This is what the Delphi methodology provided in the creation of the formative evaluation tool (observation summary). Throughout the process, mentor teachers, teacher candidates, and university supervisors provided feedback on what behaviors were expected from each of the InTASC standards. The information was tabulated, coded by theme and aligned to the formative evaluation

tool (observation summary). The outcome included both P12 perspectives, university, and teacher candidate (Appendix 1).

How to create a common lexicon. Taking time to gather outside perspectives and apply them to practice builds trust in third space environments. Ask P12 mentor teachers, university supervisors, and teacher candidates to identify the evidence that might be witnessed by each of the indicators outlined on the summative evaluation tool. These perspectives can be used to develop evidence charts that outline the suggestions made and can be used as a resource throughout the semester.

If a formative evaluation tool has not already been linked using common language to the summative evaluation tool, the suggestions can be used to create a formative evaluation tool. This tool highlights the key points to be observed during a student teaching observation and can be used by the team to provide feedback and guidance. The sharing and application of ideas increases collaboration and shows that all perspectives are valued.

Sustain: Develop a Shared Professional Vision

Collaboration in third space between P12 districts and universities is necessary for teacher candidates to learn, practice, and apply instructional strategies in classrooms. A focused approach nurtures the development of a professional vision (Zeichner, 2012). Professional visions allow for a common language and increased communication. Collaboration between mentor teachers, university supervisors, and teacher candidates also leads to more accurate identification of student needs. Stronger communication allows for increased awareness and growth for teacher candidates.

How to Align Lexicons Between Instruments

Education is always changing. How can third space environments develop and sustain a common language? This is in addition to granting opportunities to observe, practice, and provide focused feedback while at the same time meeting the needs of multiple P12 students.

The needs alone provide the rationale for effective third space environments. One constant is that evaluation instruments will be updated and language will change. As this occurs, districts and universities should continue to revisit the varied instruments to ensure alignment exists. When many modifications are necessary, pull the necessary stakeholders together for revision. If necessary begin by communicating incongruences and create a common lexicon as discussed above. Although time consuming, having a process and structure in place that expects and accommodates for change leads to long term sustainability and stronger third space environments.

How to Develop a Culture of Practice and Feedback

Reflection guides change. Understanding behaviors that impact instruction and learning is one-way teacher candidates begin to reflect. Consistent dialogue with the mentor teacher and university supervisor provides a foundation to grow throughout the semester. This foundational knowledge strengthens the ability to draw valid and reliable inferences that impact instructional decisions (Kaden & Patterson, 2014). Successful coaching from the mentor teacher and university supervisor hinges on effective communication. It is not only what is communicated, but also how that impacts outcomes (Lindsey et al., 2007; DuFour et al., 2005; Louis et al., 1996; Reeves, 2008; Schmoker, 2003).

A teacher candidate is expected to use professional judgment in decision-making and create his or her own meaning and reality. A cycle of observation, action, and reflection can improve instruction when individualized, collaborative, and frequent feedback is utilized (Vartuli et al., 2014). Yet changing the way something has been done over time can be difficult. The change needs to be habitual for long-term impact and highlights the importance of consistent feedback. This aspect the common explanatory framework requires a structure for observation and feedback. After time has been dedicated to sharing roles and developing a formative evaluation tool, the common lexicon is reinforced throughout the experience. For example,

1. Mentor teachers use the formative evaluation tool in weekly conversations with teacher candidates. They also complete the summative evaluation tool.
2. Teacher candidates reflect on video-taped lessons using the formative evaluation tool to self-assess. They also self-assess using the summative evaluation tool.
3. University supervisors use the formative evaluation tool during formal visits throughout the semester. They also complete the summative evaluation tool.

How to Provide Opportunities for Observation and Conversation

When the mentor teacher and the university supervisor work as a team to align feedback given to the teacher candidate, the teacher candidate can more effectively implement the feedback. Using a common formative assessment tool provides a structure for conversations, guidance, and support. This increases the time for implementation and learning, rather than a teacher candidate working to interpret who wants what.

One way to do this would be to follow each formative or summative evaluation with a data-informed conversation. This provides the mentor teacher, university

supervisor, and teacher candidate an opportunity to discuss the evidences found. In addition to the evidences highlighted on the formative evaluation tool, the following guiding questions are discussed:

- How do you know your students learned? What evidence do you have?
- How will you use what you learned about your students today to plan for tomorrow? (formative assessment/impact and responsibility for student learning)
- What was the strongest part of your lesson? Why?
- What would you change in your lesson? Why?
- What specific examples do you have of growing professionally?
- How have you connected and collaborated with colleagues and families outside of the classroom?

How to Set Goals for Improvement

Goals can be short term or long term and teacher candidates need a combination of both during student teaching. They need short term goals that can be achieved in a small amount at a time, but they also need guidance and direction as to long term progress. Whereas one leads itself toward more immediate applicable feedback, the other provides a holistic look at a teacher candidate's performance. Therefore, it is important for teacher candidates to set both types of goals.

After each formative and summative evaluation, teacher candidates identify one to three goals for the future and they are recorded as part of the conversation. This allows for mentor teachers, university supervisors, and teacher candidates to review past goals before starting the next conversation regarding evidence and progress.

This cycle of 1) identifying needs, 2) determining the action, 3) ensuring the action fulfills students' needs, 4) planning for the improvement, 5) implementing, and 6) self-reflecting allows mentor teachers, university supervisors, and teacher candidates to continuously model the process throughout student teaching with the goal being that teacher candidates leave the experience with the ability to independently move through the improvement cycle (Figure 22).

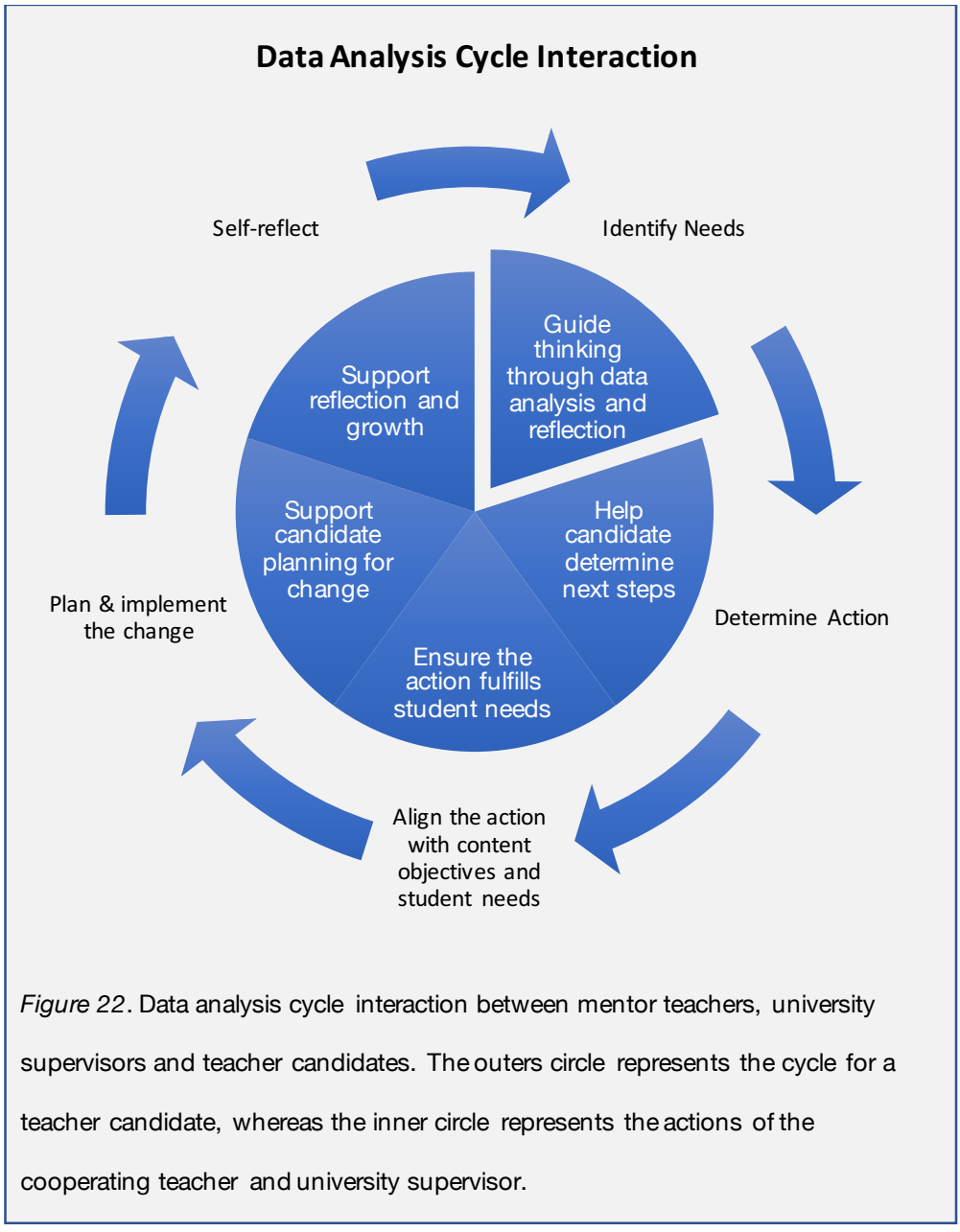

Figure 22. Data analysis cycle interaction between mentor teachers, university supervisors and teacher candidates. The outers circle represents the cycle for a teacher candidate, whereas the inner circle represents the actions of the cooperating teacher and university supervisor.

Organizing Sustainable Third Space Environments

An essential part of the student teaching experience is the development of reflective practices within teacher candidates. Effective student teaching experiences are based on collaborative practices, open communication and the use of constructive feedback to enhance teaching and increase student achievement. Even when relationships between universities and P12 environments thrive and there is a strong foundation for an effective third space, each semester there are a new set of individuals entering the experience. These individuals do not have the same background or history as those who have entered previously. Each has his or her own story that is brought to the experience.

The interaction between the mentor teacher, university supervisor, and teacher candidate impacts growth. Therefore, part of sustaining a culture of improvement within third space hinges on the ability to jump start each triad at the start of the semester.

In fact, the overall structure can be aligned with the revised Bloom's Taxonomy (Armstrong, 2016). The outline below showcases the six cognitive processes in connection to the tasks that build the capacity for collaboration, communication, and constructive feedback. The idea behind the alignment is that just like students, mentor teachers, teacher candidates, and university supervisors need to access learning on a variety of cognitive levels throughout student teaching. The higher-order thought can then be layered to scaffold the learning and build up. This supports the concept that evaluation during student teaching focuses on the growth of the teacher candidate to enhance student achievement.

One way to build in the support would be through a team development session at the start of the semester. This would allow an opportunity for mentor teachers, university supervisors, and teacher candidates to learn, share, and begin to build relationships.

- Remember: Share the final evaluation tool language with university supervisor, mentor teachers, and teacher candidates.
- Understand: Unpack the final evaluation tool language. This could be done through cooperative learning and/or nonlinguistic representations.
- Apply: Identify the evidence that could be observed for each final evaluation item. Align the evidence with the formative assessment tool language. Use this to create a resource for mentor teachers, university supervisors, and teacher candidates to use throughout the semester.
- Analyze: Watch a video clip on a sample lesson. Analyze the video using the formative evaluation tool as a team. Discuss the evidence witnessed and the reasons for why there are differences amongst the team members. Analysis continues as mentor teachers and university supervisors collect evidence in between formative and summative evaluations, while teacher candidates reframe thinking to adjust teaching.
- Evaluate: After the initial practice together, evaluation is demonstrated through mentor teacher and university supervisor formative and summative evaluation. Candidates cycle through self-evaluation.
- Create: For teacher candidates, the creation comes from reflecting upon and implementing the feedback. For mentor teachers and university supervisors, the creation comes from determining how best to support the teacher candidate

through the next set of goals. This continuous cycle of data analysis continues throughout the experience and supports a teacher candidates' ability to move through the cycle independently after student teaching.

Summary

In education, students deserve the best, therefore what teachers do matters. It is this culture of excellence that instills hope and models thinking big and acting now. This is why student teaching is so important for teacher candidates. They need to leave the experience able and ready to set goals and improve practice.

The results of this research indicated having two different, but aligned, student teaching assessment tools positively impacted the feedback provided to teacher candidates during student teaching. In addition, it was also found that the interaction between the formative and summative assessment tools provided different benefits to teacher candidates in relation to long and short term goal setting, productive conversation, and teacher candidate growth. The use of the two tools also provided evidence of teacher candidate growth. The skills demonstrated by teacher candidates at the conclusion of the teacher preparation program showed evidence that feedback informed growth. Creating a common lexicon to strengthen third space and guide teacher candidate decision leads to better feedback and more support for students.

Unfortunately, the nature of the data does not allow determination as to whether the same patterns can be found within the mentor teacher's formative and summative assessments nor does it look at the correlation to student achievement. These two concepts could be explored in further research studies.

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Appendix A

Standard 1: Student Development

Attributes	Observable Evidence
Standard 1.1: The teacher candidate understands how students grow and develop. • Reads, reviews and applies additional resources to lessons • Plans with understanding of the typical developmental characteristics of students as a whole • Understands the role of language and culture in learning and knows how to modify instruction to make language comprehensible and instruction relevant, accessible, and challenging **Standard 1.2: The teacher candidate recognizes that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas.** • Develops lessons to meet all learning styles and social/behavioral needs • Displays sensitivity to cultural, behavioral, and academic issues • Collaborates with families, communities, colleagues, and other professionals to promote learner growth and development **Standard 1.3: The teacher candidate implements developmentally appropriate and challenging learning experiences.** • Plans are implemented to modify needs of the students ○ For example: high ability, SPED, ELL, etc. • Plans consider potential misconceptions and/or questions that may arise • Uses data to create flexible groups	***Observable candidate behaviors:*** **Activates prior knowledge and background** • Starts lesson with activities from previous classes • Uses attention getters/anticipatory sets to begin lessons (video clips, games, questions, etc.) **Builds topics of student interest and need into lessons** • Implements lessons with students' interests in mind • Connects lessons to personal experiences and backgrounds (schema) • Makes cultural connections relevant to students • Gathers formal and informal information about students • Determines what student know, need to know, and want to know (KWL, interest inventories, etc.) **Makes intentional efforts to meet student needs** • Varies learning experiences and activities within a lesson • Uses flexible groupings • Connects objectives and builds upon previous content • Takes notes or keeps records on student learning to determine next steps for instruction • Uses age appropriate strategies in lesson implementation • Modifies instruction and materials to meet student needs • Asks varying levels of questioning

Standard 2: Learner Differences

Attributes	Observable Evidence
Standard 2.1: The teacher candidate understands individual differences and diverse cultures and communities. • Consults and collaborates with colleagues about interests and learning needs • Uses information gathered to support student needs in the classroom (UDL/differentiation) **Standard 2.2: The teacher candidate ensures inclusive learning environments that enable each student to meet high standards.** • Engages learners in a variety of learning experiences to capitalize on strengths and develop in areas of weakness • Creates an environment where all learning styles and needs are addressed • Incorporates tools of language development into planning • Materials and resources reflect the population within the classroom	***Observable candidate behaviors:*** **Implements developmentally appropriate and challenging learning experiences** • Delivers instruction to address each student's diverse learning strengths and needs • Creates opportunities for students to demonstrate his/her learning in different ways (e.g. having a student explain a concept orally instead of writing, or creating a project that demonstrates understanding of a concept rather than writing a report) • Makes appropriate and timely adjustments within lessons o For example: changes pacing for individual rates of growth, modifies grouping, adjusts task demands, increases communication, modifies response and assessment modes **Identifies and supports language demands** • Incorporates tools of language development into instruction • Includes strategies for making content and academic language accessible to linguistically diverse students o For example: peer buddies, wait time, modeling, rephrasing, songs, movement, patterns, visual representations, acronyms, etc.

Standard 3: Learning Environment

Attributes	Observable Evidence
Standard 3.1: The teacher candidate works with others to create environments that support individual and collaborative learning. • Establishes an environment of collaboration and respect that values individual differences **Standard 3.2: The teacher candidate creates environments that encourage positive social interaction, active engagement in learning, and self-motivation.** • Establishes an environment where students feel safe and welcome in the classroom **Standard 3.3: The teacher candidate manages student behavior to promote a positive learning environment.** • Organizes the learning environment to promote student engagement and productive learning time o For example: time, space, equipment, material access and/or distribution, stop and start signals, etc.	**Communicates and enforces behavior expectations** • Reinforces expectations for student interaction with/without peers • Communicates expectations in multiple ways (verbal, visual, nonverbal, etc.) • Revisits rules as needed **Fosters positive learning environment that supports student engagement** • Creates purpose and meaning for learning • Provides opportunities for sharing and collaboration during lessons • Encourages all students to participate (to include alternatives to hand raising and group work) **Uses strategies for transitions that minimize problems and maximize instructional time** • Uses age-appropriate transitions • Engages students in smooth and non-disruptive transitions between and within lessons • Provides practice/review opportunities for students **Uses wait time** • Manages response rates **Monitors, paces and adjusts instruction as needed** • Students' responses impact but do not disrupt instructional delivery • Appropriate adjustments are made to the lesson keeping the fidelity of the intended target/objective **Provides opening and closing to lessons** • Objective(s) are clearly defined in both lesson opening and closure **Exhibit mobility during lessons and uses proximity control** • Teaches in different areas of the classroom • Occupies all quadrants of the room • Is strategic and intentional with proximity **Exhibits awareness of the classroom environment** • Acknowledges positive behaviors • Monitors the classroom climate and makes adjustments as needed • Addresses poor behavior as it occurs • Monitors progress of behavioral expectations **Exhibits mutual respect between self and students** • Utilizes praise and positive reinforcement to motivate students • Provides choice

	• Uses respectful, confident, and controlled responses • Considers the needs of individual students (fair is not equal) **Maintains the attention of the classroom** • Provides verbal and nonverbal signals to reinforce/redirect behavior ○ For example: smiles, high fives, thumbs up, gives verbal acknowledgement, praise, uses proximity, eye contact, attention getters, signals, etc.
Observable student behaviors: • *Students follow directions.* • *Students are on task.* • *Students respond to redirection.* • *Students transition quickly.* • *Students know the expectations.* • *Students follow routines and procedures.*	

Standard 4: Content Knowledge

Attributes	Observable Evidence
Standard 4.1: The teacher candidate understands the central concepts, tools of inquiry, and structures of the discipline(s) s/he teaches. • Plans ahead of instruction delivery • Previews and reads all material before teaching and presenting to students • Searches for additional information and researches concepts as necessary • Plans for potential misconceptions that students may have or questions that may occur **Standard 4.2: The teacher candidate creates learning experiences that make the discipline accessible and meaningful for students to assure mastery of the content.** • Applies methods of inquiry and questioning to promote deep and meaningful learning experiences • Consults and collaborates with other educators to make academic language accessible to students with different linguistic backgrounds **Standard 4.3: The teacher candidate integrates Nebraska Content Standards and/or professional standards within instruction.** • Writes objectives that align with district/state standards • Develops long range or unit planning based on district/state standards	***Observable candidate behaviors:*** **Understands subject content and uses tools of inquiry in lesson delivery** • Assists students in making connections within and across content areas • Applies methods of inquiry to promote learning experiences • Models and guides students through learning in a logical and sequential manner • Recognizes misconceptions • Incorporates questioning that promotes inquiry, thinking, and conjecture **Articulates accurate content vocabulary and academic language that is clear, correct, and appropriate to students throughout the lesson** • Uses academic vocabulary • Creates opportunities for students to practice and apply academic language **Communicates accurate concepts to students and provides accurate answers to questions** • Communicates accurate concepts in multiple ways • Answers questions accurately • Seeks to find accurate information and guide students to answers **Teaches to the objective** • States and posts objectives • Makes reference to the objective throughout the lesson _____
Observable student behaviors: • *Students can explain the objective of the lesson* • *Students use academic vocabulary in appropriate contexts*	

Standard 5: Application of Content

Attributes	Observable Evidence
Standard 5.1: The teacher candidate understands how to connect concepts across disciplines. • Engages students in applying content knowledge and skills in authentic contexts **Standard 5.2: The teacher candidate uses differing perspectives to engage students in critical thinking, creativity, and collaborative problem solving related to authentic, local, and global issues.** • Engages students in learning and applying the critical thinking skills used in the content area(s)	***Observable candidate behaviors:*** **Evidence that learning activities support and deepen learning** • Makes connections between curriculum and authentic contexts • Provides opportunities for students to apply concepts to real world situations • Develops students' diverse social and cultural perspectives to expand understanding • Guides students in gathering, organizing and evaluating information and ideas from different perspectives and sources • Implements projects that guide learners in analyzing the complexities of an issue, topic, or question • Develops learners' communication skills within multiple disciplines or subject areas **Students are actively engaged in critical thinking and collaboration** • Creates novel approaches to solving problems (ie. model making, visual illustration, metaphor, choice boards, analogies, journal, etc.) • Supports literacy development across content areas • Creates reading and writing opportunities across all content areas • Structures interactions among students to support learning • Asks probing questions to deepen understanding (ie. Why?, How do you know?, etc.) • Encourages students to ask questions • Expects students to apply knowledge

Observable student behaviors:

- *Students make choices about topics, activities within the classroom and/or ways to present*
- *Students use knowledge across subject areas*
- *Students talk with each other about what they are learning/doing*
- *Students work collaboratively in groups*
- *Students seek answers to questions and explain his/her thinking in a variety of ways*
- *Students use problem solving and reasoning skills in all subject areas*
- *Students analyze, synthesize, and evaluate ideas, issues, and topics of study*

Standard 6: Assessment

Attributes	Observable Evidence
Standard 6.1: The teacher candidate understands multiple methods of assessment. • Balances the use of formative and summative assessment as appropriate to support, verify, and document learning • Designs assessments that match learning objectives • Engages in professional conversations with colleagues to improve • Interprets results accurately • Provides ongoing feedback to students on progress and performance **Standard 6.2: The teacher candidate uses multiple methods of assessment to engage students in his/her own growth, to monitor student progress, and to guide the teacher candidate's and students' decision making.** • Uses data from multiple types of assessments to draw conclusions about learner progress • Uses data analysis to guide future instruction to meet all learner needs • Creates digital and/or other records of student performance to monitor each student's progress • Differentiates assessments	***Observable candidate behaviors:*** **Implements formative assessments (or summative) that measure lesson objectives** • Implements required accommodations in assessments and testing conditions for students with disabilities and language learning needs • Checks for student understanding throughout the lesson • Uses multiple formative assessments • Matches learning goals with classroom assessment • Gives students multiple practice opportunities • Provides varied opportunities to showcase learning • Balances the use of formative and summative assessment **Uses assessments the engage students in his/her growth and decision making** • Makes students aware of the criteria and performance standards by which his/her work will be evaluated • Celebrates learning • Looks at student performance data after a lesson • Circulates and documents learning • Reteaches and enriches when necessary **Helps students understand and use feedback** • Provides students with specific and timely feedback • Adjusts instruction according to student responses

Observable student behaviors:

- *Students use technology and other methods beyond paper and pencil to show learning (ie. white boards, clickers, plickers, thumbs up thumbs down, exit tickets, post its, projects, etc.)*
- *Students share knowledge throughout the lesson (ie. ask and answer questions, KWL charts, set goals*
- *Students are engaged in activities that allow them to share his/her thinking (ie. talk moves, creation of anchor charts, Kagan strategies, etc.)*
- *Students demonstrate involvement and understanding of his/her own learning (ie. goal setting, self-assessment, rubrics, etc.)*

Standard 7: Planning for Instruction

Attributes	Observable Evidence
Standard 7.1: The teacher candidate plans instruction that supports every student in meeting rigorous learning goals. • Plans with the end in mind • Learning outcomes show evidence of high expectations and rigor • Uses data from formative assessments when planning **Standard 7.2: The teacher candidate draws upon knowledge of content areas, curriculum, cross-disciplinary skills, technology, and pedagogy.** • Plans with provided curriculum materials/content standards • Seeks assistance to identify resources and refine plans • Integrates technology resources to enhance instruction **Standard 7.3: The teacher candidate draws upon knowledge of students and the community context.** • Identifies students with similar strengths and/or needs and groups them for additional support • Considers the input of students, colleagues, families, and the larger community to inform instruction and foster relationships	***Observable candidate behaviors:*** **Plans, connects, and sequences common learning experience and performance tasks linked to learning objectives** • Sequences learning experiences in such a way that learning is meaningful and makes sense • Links strategies and activities within a lesson to the objective **Plans to support varied learning needs** • Pre-teaches when needed • Reviews before moving onto the next activity • Provides enrichment/challenging activities when applicable • Differentiates instruction in order to meet the needs of all students **Materials readily accessible for use** • Materials are prepared and organized ahead of the lesson • Materials used enhance and support the learning objective **Lesson is detailed and indicates thorough thought and reflection (ie. draws upon knowledge of the students or community)** **Makes content relevant to learners** • Uses a variety of resources to support and enhance learning • Engages in on-going assignments/projects • Uses strategies for tactile, auditory, and visual learners • Asks varied levels of questions to assess student understanding • Activates prior knowledge • Uses post-it notes with preplanned questions at varied levels • Develops hands-on lessons • Utilizes manipulatives and experiments to enhance learning • Generates thoughtful and meaningful conversations through talk moves and Kagan strategies

Standard 8: Instructional Strategies

Attributes	Observable Evidence

Standard 8.1: The teacher candidate understands a variety of instructional strategies.
• Prepares students to use specific content-related processes and academic language as appropriate to the learning objective
• Analyzes individual student needs as well as patterns across groups of students and uses instructional strategies to respond to those needs (language, thinking, processing)
Standard 8.2: The teacher candidate uses a variety of instructional strategies to encourage students to develop deep understanding of content areas and his/her connection and to build skills to apply knowledge in meaningful ways.
• Utilizes a range of developmentally, culturally, and linguistically appropriate instructional strategies
 	
Standard 8.3: The teacher candidate utilizes available technology for instruction and assessment.
	Observable candidate behaviors:
	
	Actively engages students in learning opportunities
	• Directly involves students in the learning using active engagement strategies (e.g. partner work, pair share, performance tasks, Kagan strategies, Talk Moves, etc.)
	
	Gradual release of responsibility and pacing are evident
	• Varies role within the instructional process (e.g., instructor, facilitator, coach, audience) in relation to the content and purposes of instruction
	
	Communicates clearly to the students
	• Delivers content information and task directions without confusing students
	
	Implements formative assessment that match the learning objective
	• Uses assessment throughout the lesson to check understanding
	
	Utilizes a variety of appropriate strategies
	• Expands learners' communication through speaking, listening, reading, writing, and other modes
	
	• Incorporates strategies to build group work skills
	  • Think. Pair. Share.
	  • Think Ink Pair Share
	  • Kagan Strategies
	
	• Differentiates content
	  • Jigsaw
	  • Student experts
	
	• Differentiates process
	  • Brain breaks
	  • Flipped classroom
	  • Games
	  • Graphic organizers
	  • iPads/computers
	
	• Differentiates products
	  • Activity menus
	  • Choice boards
	  • Projects
	
	Questions are framed to promote critical thinking with all students

	• Poses questions that elicit critical thinking skills such as inference making, comparing and contrasting, analyzing, synthesizing, and evaluating **Differentiation reflects the needs and interests of students** • Models the use of non-linguistic representations, concept mapping, and writing to show how students can express his/her understanding **Elicits student responses that require higher-level cognitive processes** • Uses all levels of Bloom's Taxonomy **Utilizes technology to enhance instruction** • Engages learners in using a range of technology tools to access, interpret, evaluate, and apply information _____
Observable student behaviors: • *Students evaluate the trustworthiness of sources and organize the information* • *Students participate in respectful, constructive discussions* • *Students make inferences, compare, contrast, and evaluate information* • *Students evaluate, interpret, and apply information* • *Students are actively involved in discussions and tasks throughout the lesson*	

Standard 12: Professional Dispositions

Attributes	Observable Evidence
Standard 12.1: The teacher candidate demonstrates passion, self-awareness, initiative, and enthusiasm. **Standard 12.2: The teacher candidate demonstrates skill in interpersonal relationships, reflective response to feedback, and displays evidence of appropriate social awareness.** **Standard 12.3: The teacher candidate practices good judgment, flexibility, problem-solving skills, professional communication, and organization.** **Standard 12.4: The teacher candidate maintains a professional demeanor and appearance, and displays dependability, punctuality, and perseverance.**	***Observable candidate behaviors:*** **Demonstrates enthusiasm when teaching through nonverbal communication (ie. smiles, gestures), tone of voice, and volume** • Nods • Uses a caring tone and body language • Shows excitement • Smiles • Makes eye contact • Greets students as they enter • Adds humor to lessons • Models positive behavior • Uses students' names • Knows students' academic needs and personal interests • Provides positive reinforcement **Exhibits confidence, command, and control** • Demonstrate flexibility as necessary • Controls gestures and signals • Uses a professional speaking voice and stance • Moves throughout the room • Demonstrates a positive presence and command of the room **Actively seeks, accepts, and implements feedback** • Takes feedback from prior coaching sessions and implements suggestions • Invites others into room to watch/give feedback • Changes teaching to show implementation of feedback • Asks for improvements • Continually reflects on lessons **Models professionalism** • Is punctual and dependable • Is prepared and organized • Dresses professionally • Follows through on commitments • Models ethical practice

Appendix B

COVER LETTER

Title of this Research Study: Comparing Formative and Summative Instruments: What Tools Inform Practice and Guide Candidate Decision Making

IRB PROTOCOL #033-17-EX

You are being invited to participate in the study named above. The purpose of this mixed method study is to compare the use of formative (Observation Summary) and summative assessment (Final Evaluation) tools used to evaluate teacher candidates during student teaching and explore how the use of these two tools impacts the feedback provided and implemented by teacher candidates for reflection and professional growth.

You are being invited to participate because you are supervising a student teacher in TED 4600-001, TED 4600-002, TED 4650-001, TED 4640-001, SPED 4700 or SPED 4750. If you decide to participate, you will be asked to agree to the following:

- Complete an on-line survey at the conclusion of the experience
- Complete your normal supervisor duties as assigned.

No discomforts or risks are foreseen.

If assessments are better aligned to feedback and the implementation by student teachers, student teachers will show more growth throughout the semester and be a stronger first year teacher. Ideally, this could positively impact student achievement.

The results of this study will not be released in a form that will identify you. Your name will not be used and it will be replaced by an appropriate pseudonym. All documents will be kept in the investigator's office where no one else will have access to the data collected in this project.

If you have any questions or concerns, please feel free to contact the Principal Investigator, Christina Wilcoxen at cwilcoxen@unomaha.edu.

Appendix C

Formative Assessment (Observation Summary)

Observation Form *Teacher Candidate: _____ School: _____ Grade/Topic: _____* *Observation #: _____ Date: _____Supervisor: _____* **Observation Markings** **(+) Observed with defined evidence** **(/) Observed with suggestions for improvement** **(-) Not observed or evident**		**Supporting Evidence**
Standard 1 **Student Development**		
Builds topics of student interest into lessons (1.2)		
Activates prior knowledge (1.3)		
Makes intentional efforts to meet all learner's needs (1.3)		
Standard 2 **Learner Differences**		
Implements developmentally appropriate and challenging learning experiences (2.2)		
Identifies and supports language demands (ie. makes academic language accessible to students with varied linguistic backgrounds) (2.2)		
Standard 3 **Learning Environment**		
Communicates and enforces behavior and academic expectations (3.1)		
Fosters positive learning environment that support student engagement (3.2)		
Uses strategies for transitions that minimize problems and maximize instructional time (3.2)		
Uses wait time (3.3)		
Monitors, paces and adjusts instruction as needed throughout the lesson (3.3)		
Provides opening and closing to lessons (3.3)		
Exhibits mobility during lessons and uses proximity control (3.3)		
Exhibits awareness of classroom environment (reads students' nonverbals, scans the classroom, does not ignore behaviors) (3.3)		
Exhibits mutual respect between self and students (3.3)		
Maintains attention of the classroom (3.3)		
Standard 4 **Content Knowledge**		
Understands subject content and uses tools of inquiry in lesson delivery (4.1)		
Articulates accurate content vocabulary and academic language that is clear, correct, and appropriate to students throughout the lesson (4.2)		
Communicates accurate concepts to students and provides accurate answers to questions (4.2)		
Teaches to objective(s) (4.3)		

Standard 5 **Application of Content**		
Evidence that learning activities support and deepen learning (for example, engages students with content from more than one perspective) (5.2)		
Students are actively engaged in critical thinking and collaboration (5.2)		
Standard 6 **Assessment**		
Implements formative assessments (or summative) that measure lesson objective(s) (6.1)		
Uses assessments to engage students in his/her growth and decision making (6.2)		
Helps students understand and use feedback (6.2)		
Standard 7 **Planning For Instruction**		
Plans, connects and sequences common learning experiences and performance tasks linked to the learning objectives (7.1)		
Plans to support varied student learning needs (7.1)		
Materials readily accessible for use (7.2)		
Lesson is detailed and indicates thorough thought and reflection (ie. draws upon knowledge of students or the community) (7.3)		
Standard 8 **Instructional Strategies**		
Actively engages students in learning opportunities (Pair Share, Kagan, Talk Moves, EEKK) (8.1)		
Gradual release of responsibility and pacing are evident (8.1)		
Communicates clearly to students (8.1)		
Implements formative assessments that match learning objective (8.2)		
Utilizes a variety of appropriate strategies (8.2)		
Questions are framed to promote critical thinking with all students (8.2)		
Differentiation reflects the needs and interests of students (8.2)		
Elicits student responses that require higher-level cognitive processes (8.2)		
Utilized technology to enhance instruction (8.3)		
Standard 12 **Professional Dispositions**		
Demonstrates enthusiasm when teaching through nonverbal communication (i.e. smiles, gestures), tone of voice and volume (12.1)		
Exhibits confidence, command and control (12.1)		
Actively seeks, accepts and implements feedback (12.2)		

Guiding questions post observation:

- How do you know your students learned? What evidence do you have?
- How will you use what you learned about your students today to plan for tomorrow? (formative assessment / impact and responsibility for student learning)
- What was the strongest part of your lesson? Why?
- What would you change in your lesson? Why?
- What specific examples do you have of growing professionally?
- How have you connected and collaborated with colleagues and families outside of the classroom?

Goal(s):
Pick 1-3 areas from above to focus on developing prior to the next observation.

Teacher Candidate Signature _____

University Supervisor Signature _____

Mentor Teacher Signature _____

Appendix D

Nebraska Clinical Practice Evaluation - Midterm and Final Assessment
(Student Teaching Experience)

Name of Teacher Candidate: _____ Date of Evaluation: _____ Endorsement Area: _____

Name of College/Univ. Supervisor: _____ Name of Cooperating Teacher/Mentor: _____

Directions: Please indicate your rating of the teacher candidate's ability to **effectively demonstrate** each standard, including qualitative comments to support your ratings. Use the following performance descriptors to complete the evaluation:

Consistent	The teacher candidate consistently demonstrates the Standard.
Frequent	The teacher candidate frequently demonstrates the Standard.
Occasional	The teacher candidate occasionally demonstrates the Standard.
Rare	The teacher candidate rarely demonstrates the Standard.

Guidelines http://www.education.ne.gov/EducatorPrep/IHE/ClinicalExperienceEvaluation/Guidelines-Examples.pdf

	Consistent	Frequent	Occasional	Rare
Standard 1: Student Development				
Standard 1.1: The teacher candidate understands how students grow and develop.				
Standard 1.2: The teacher candidate recognizes that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas.				
Standard 1.3: The teacher candidate implements developmentally appropriate and challenging learning experiences.				
Standard 2: Learning Differences.				
Standard 2.1: The teacher candidate understands individual differences and diverse cultures and communities.				
Standard 2.2: The teacher candidate ensures inclusive learning environments that enable each student to meet high standards.				
Standard 3: Learning Environments				
Standard 3.1: The teacher candidate works with others to create environments that support individual and collaborative learning.				
Standard 3.2: The teacher candidate creates environments that encourage positive social interaction, active engagement in learning, and self-motivation.				
Standard 3.3: The teacher candidate manages student behavior to promote a positive learning environment.				
Standard 4: Content Knowledge				
Standard 4.1: The teacher candidate understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches.				
Standard 4.2: The teacher candidate creates learning experiences that make these aspects of the discipline				

	Consistent	Frequent	Occasional	Rare
accessible and meaningful for students to assure mastery of the content.				
Standard 4.3: The teacher candidate integrates Nebraska Content Standards and/or professional standards within instruction.				
Standard 5: Application of Content				
Standard 5.1: The teacher candidate understands how to connect concepts across disciplines.				
Standard 5.2: The teacher candidate uses differing perspectives to engage students in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues.				
Standard 6: Assessment				
Standard 6.1: The teacher candidate understands multiple methods of assessment.				
Standard 6.2: The teacher candidate uses multiple methods of assessment to engage students in his/her own growth, to monitor student progress, and to guide the teacher candidate's and student's decision making.				
Standard 7: Planning for Instruction				
Standard 7.1: The teacher candidate plans instruction that supports every student in meeting rigorous learning goals.				
Standard 7.2: The teacher candidate draws upon knowledge of content areas, curriculum, cross-disciplinary skills, technology, and pedagogy.				
Standard 7.3: The teacher candidate draws upon knowledge of students and the community context.				
Standard 8: Instructional Strategies				
Standard 8.1: The teacher candidate understands a variety of instructional strategies.				
Standard 8.2: The teacher candidate uses a variety of instructional strategies to encourage students to develop deep understanding of content areas and his/her connection and to build skills to apply knowledge in meaningful ways.				
Standard 8.3: The teacher candidate utilizes available technology for instruction and assessment.				
Standard 9: Professional Learning and Ethical Practice				
Standard 9.1: The teacher candidate engages in ongoing professional learning.				
Standard 9.2: The teacher candidate models ethical professional practice.				
Standard 9.3: The teacher candidate uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (students, families, other professionals, and the community), and adapts practice to meet the needs of each student.				
Standard 10: Leadership and Collaboration				
Standard 10.1: The teacher candidate seeks opportunities to take responsibility for student learning.				
Standard 10.2: The teacher candidate seeks opportunities, including appropriate technology, to collaborate with students, families, colleagues, and other school professionals, and community members to ensure student growth.				

	Consistent	Frequent	Occasional	Rare
Standard 11: Impact on Student Learning and Development				
Standard 11.1: The teacher candidate works to positively impact the learning and development for all students.				
Standard 12: Professional Dispositions				
Standard 12.1: The teacher candidate demonstrates passion, self-awareness, initiative and enthusiasm.				
Standard 12.2: The teacher candidate demonstrates skill in interpersonal relationships, reflective response to feedback, and displays evidence of appropriate social awareness.				
Standard 12.3: The teacher candidate practices good judgment, flexibility, problem-solving skills, professional communication and organization.				
Standard 12.4: The teacher candidate maintains a professional demeanor and appearance, and displays dependability, punctuality, and perseverance.				

*Evaluation standards listed are based on Council of Chief State School Officers Interstate Teacher Assessment and Support Consortium (InTASC) Model Core Teaching Standards, 2011.

Comments (if any)