

Teachers Taking Action with Student Perception Survey Data

by

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## ABSTRACT

As scrutiny of teacher effectiveness increases, there is a greater call for multiple instruments to measure teacher effectiveness and provide robust feedback to support teacher growth and development. Student perception surveys, questionnaires completed by K-12 students about their teachers, have increasingly been used to evaluate teachers and provide feedback. Situated in the Mary Lou Fulton Teachers College (MLFTC) at Arizona State University, this action research study used Attribution Theory, Sensemaking Theory, and research on teacher emotion to 1) document the experiences of pre-service teachers as they related to the administration and subsequent results from a student perception survey (SPS), and 2) examine the influence of two online professional development modules created to prepare teachers for the SPS process and make sense of the results. Teacher candidates participated in the SPS process in their final, year-long residency. Results from the mixed-methods study provided evidence that pre-service teachers had both positive and negative experiences that were influenced by the SPS results they received from their students. Also, depending on the results they received, teacher candidates either attributed the cause of the results to themselves or to characteristics of their students. Results from the study also indicate that teacher candidates use few strategies to make sense of the results and used those strategies to varying degrees. Pre-service teachers indicated that they regarded the modules as helpful in the sense-making process. Furthermore, evidence indicates that pre-service teachers value their students' feedback.

## DEDICATION

This work is dedicated to Aylani Villa who is both my strength and inspiration in all things. I love you more than anything—in all the world, in all of space, and in all of time.

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## **Chapter 1**

### **Introduction**

My career in education started in a medium-sized, K-8 school in the metro-Phoenix area. I had the pleasure of teaching sixth-grade in a friendly, close-knit urban neighborhood. Since I was a non-traditionally certified teacher, my forays into the field of education played out in this context: first classroom observations, first performance evaluations, and, of course, the first time receiving my students' scores on the state standardized accountability test. I remember all of these experiences and the accompanying emotions as if they were yesterday: the trepidation, nervousness, anxiety, embarrassment, judgment and even, at times, shame. Fortunately, I had competent and caring colleagues and administrators who eventually helped me process such experiences and emotions in positive, affirming ways. Don't get me wrong, those first experiences, and even later ones, weren't without their tough, uncomfortable, or even acutely personal moments. But in each instance, I faced the data and my emotions. Ultimately, I was able to move forward for the benefit of my students and my own development. Over the years, school leadership coached me to view such forms of feedback as positive, productive opportunities for learning, and essential to my development as a professional educator.

Around the time I began to transition out of the classroom and into other school leadership roles, a new type of data and form of feedback began to emerge in the field of K-12 education. It was "student voice" data and it was collected through student perception surveys (Bill & Melinda Gates Foundation, 2012, 2013; Burniske & Meibaum, 2012; Ferguson, 2010). Though capturing student perspective through survey instruments had been an established practice in the field for decades, these student

perception surveys were different in a few ways. First, these new student surveys were “off the shelf” large scale instruments (Bill & Melinda Gates Foundation, 2012, 2013; Burniske & Meibaum, 2012). Most of the previous student perception surveys that teachers or schools had used were small scale and often written by the teacher or schools themselves (Bill & Melinda Gates Foundation, 2012). Educators would survey students about the success of a particular unit or their opinions on the school’s culture. Student perception surveys however, are specifically designed around constructs that aim to measure teacher effectiveness (Bill & Melinda Gates Foundation, 2012, 2013; Burniske & Meibaum, 2012; Ferguson, 2012; Kane & Staiger, 2012; National Council on Teacher Quality [NCTQ], 2013).

One other important difference is that districts and states have tied the results of these new student perception surveys to teacher professional development and/or formal evaluations (Bill & Melinda Gates Foundation, 2012, 2013; Burniske & Meibaum, 2012; NCTQ, 2013). Though previous survey efforts have provided rich data for schools and teachers, the data collected was informally used to focus school or teacher efforts in areas of improvement. In regards to this newest type of survey, educators have formalized most of those informal practices into protocols and processes for professional development and high-stakes evaluations (Bill & Melinda Gates Foundation, 2012; Burniske & Meibaum, 2012; Ferguson, 2012; Kane & Staiger, 2012).

### **Student Perception Surveys**

After reading how student perception surveys diverge from previous practices, one might wonder, “How did these things come into existence?” Institutions of higher education have used student perception surveys (SPS) since the early 20<sup>th</sup> century

(Aleamoni, 1999). These surveys are used in a variety of ways. Some universities use them to provide feedback to faculty, others as a measure of teaching effectiveness for tenure and promotion, and also in some instances, as information for students to use in choosing faculty and classes for their coursework (Marsh, 1984). Their use in the K-12 setting has really been in response to the era of accountability (LaFee, 2014). In the last two decades, policy and law-makers have demanded greater oversight and demonstration of effectiveness by teachers in K-12 education (NCTQ, 2013, 2015). In doing so, most states and districts have tied observation evaluations and student objective data scores to ranked categories of teacher effectiveness (Darling-Hammond, Amrein-Beardsley, Haertel, & Rothstein, 2012; NCTQ, 2013, 2015). Many critics to these policies argue that performance evaluations are subjective and unreliable because they capture just a snapshot of one aspect of a teacher's abilities (Bill & Melinda Gates Foundation, 2012, 2013; Darling-Hammond et al., 2012; Ferguson, 2012). Critics of the use of student objective data argue that the testing instruments themselves may be unreliable and that achievement scores are influenced by much more than a single teacher (Berliner, & Glass, 2014; Darling-Hammond et al., 2012).

Many have argued that there is no one perfect measurement for evaluating K-12 teacher effectiveness, and that a multiple measurement structure is necessary (Bill & Melinda Gates Foundation, 2012, 2013; Burniske & Meibaum, 2012; Darling-Hammond et al., 2012; Ferguson, 2012; Follman, 1992; Goe, Bell, & Little, 2008; NCTQ, 2013). Multiple measurement supporters argue that each measurement has a strength that can offset the weaknesses of the other measurements (Bill & Melinda Gates Foundation, 2012, 2013; Burniske & Meibaum, 2012; Darling-Hammond et al., 2012; Ferguson,

2012; Marshall, 2012; NCTQ, 2013), and that through triangulating these results, teachers can be effectively, accurately, and reliably evaluated (Bill & Melinda Gates Foundation, 2012, 2013; Ferguson, 2012).

Around 2009, the Bill and Melinda Gates Foundation created the Measures of Effective Teaching (MET) Project. As a three-year study, the MET Project's purpose was to "determine how to best identify and promote great teaching" (Bill and Melinda Gates Foundation, 2013). The study specifically examined three measurements of teacher effectiveness: teacher observations, student achievement gains, and student perception surveys. The MET Project used one specific student perception survey, Tripod. Dr. Ferguson created the Tripod in 2001 (Bill & Melinda Gates Foundation, 2012, 2013). This particular SPS evaluates teacher effectiveness through the measurement of seven constructs: care, confer, captivate, clarify, consolidate, challenge, and classroom management (formerly control) (Bill & Melinda Gates Foundation, 2012; Crow, 2011; Ferguson, 2010, 2012). Though the MET Project used this specific survey instrument, there are others such as YouthTruth, My Student Survey, and iKnowMyClass that aim to measure aspects of teacher effectiveness (Bill & Melinda Gates Foundation, 2012; Schulz, Sud, & Crowe, 2014). The authors of the final MET Project findings stated that evaluation of teacher effectiveness should come from multiple measurements (Bill & Melinda Gates Foundation, 2013). The three they recommend are observations, student achievement data, and student perception surveys.

Proponents of the use of student perception surveys argue that they incorporate the perspective of the most important stakeholder of all, that of the student (Ferguson, 2012; Kane & Staiger, 2012). Incorporating the student perspective, so the argument



goes, increases the reliability of this measure because formal observations and student achievement gains rely on few or a singular instance of measurement. However, SPS rely on students who have had hours upon hours' worth of interaction with the teacher and the classroom environment (Kane & Staiger, 2012). This level of exposure to the teacher's actions means that students can provide a more accurate view of the teacher's consistent abilities (Ferguson, 2012; Kane & Staiger, 2012).

Some teachers, however, have opposed the idea of the use of student surveys for feedback and/or the evaluation of teacher effectiveness. One argument these individuals make is that student perception surveys may not be developmentally appropriate for children (Aleamoni, 1999; Dretzke, Sheldon, & Lim, 2015). Specifically, small children may not have developed the cognitive ability to evaluate their teachers' effectiveness nor clearly communicate such information through surveys (Balch, 2012; Dretzke et al., 2015). Furthermore, some teachers question whether students of any age are aware of or able to recognize some effective teaching practices (Dretzke et al., 2015).

### **Student Voice Research**

Research regarding data from student perception surveys has fallen into two main buckets: examining the reliability of such data and teachers' opinions on the use of such surveys. During the three-year study of the MET Project, researchers closely examined the use of student voice to evaluate teacher effectiveness. Dr. Ferguson, the creator of the Tripod survey used in the MET Project, argues that students can identify good teaching when they experience it (Ferguson, 2012). The authors of the MET Project found that whenever the Tripod student survey results were combined with any of the observation instruments, it improved the correlations with student achievement gains (Kane &

Staiger, 2012). Furthermore, teachers who performed better on the multiple measures also had better outcomes on other assessments, student effort, and student emotional attachment.

One study conducted by Dretzke, Sheldon, and Lim (2015), investigated the thoughts and opinions of K-12 teachers whose district used student surveys as a component of its teacher evaluation system. These researchers found that teachers felt that student feedback would provide valuable information that could help them improve. They also found that as a teacher's grade level increased, so did their level of support of the student surveys, which mirrored results from two previous studies (Kauchak et. al., 1985; Schwab & Iwanicki, 1988). Specifically, teachers indicated that younger students were less capable of differentiating between more or less effective teachers (Dretzke et al., 2015). Secondary teachers also had reservations about the use of student perception data. These teachers were more likely to report concerns about students giving revenge scores or give low scores for classes that were difficult. The researchers also noted that the content areas that a teacher taught also related to their responses. Specifically, teachers who taught in the areas of the arts or physical education were concerned with the limited amount of time they had with students and how that would affect their scores. Over the course of the study, the researchers also noted that support of including student perception survey results within the teacher evaluation system decreased. They had become increasingly distrustful and skeptical of the usefulness of the data to improve teacher performance and its validity.

## **Student Voice in Action**

With the publication of the MET Project results, many states and individual districts have begun to incorporate student perception surveys into their teacher evaluation and development systems (Schulz, Sud, & Crowe, 2014). Some states and districts have adopted outright, off-the-shelf survey instruments like Tripod, iKnow My Class, My Student Survey, Panorama, and YouthTruth (Bill & Melinda Gates Foundation, 2012). Other states and even institutions of higher education have used those surveys as a springboard to create their own version of a local student survey (Schulz et al., 2014). A report from the National Council on Teacher Quality (2013) reported that 17 states allow for or require the use of some form of survey instrument to be included in teachers' evaluations. Twelve of those states specifically identify student surveys in particular. Some of the states that use or allow for the use of student surveys in teacher evaluation are Alaska, Colorado, Connecticut, Georgia, Hawaii, Iowa, Massachusetts, Mississippi, Missouri, New Mexico, New York, and Utah (NCTQ, 2013).

Additionally, others have begun to call for multi-measurement evaluation of effectiveness in relation to pre-service teachers and the teacher preparation programs they attend. Specifically, the Council for Accreditation of Educator Preparation (CAEP) stipulated that teacher preparation programs had to evaluate their graduates through means of multi-measurement (CAEP, 2013). Student surveys explicitly appear on this policy change list (CAEP, 2013).

## **Student Voice in a Local Context**

The Sanford Inspire Program is a gift funded program within the Mary Lou Fulton Teachers College at Arizona State University. The program's mission is that,

*“Each child deserves an inspirational teacher; one who possesses excellent instructional and relationship building skills. We design resources to support teachers in working toward educational equity. That is, developing the knowledge, skills, and mindsets to support the academic and social success of each student”* (Sanford Inspire Program, 2016, Our Mission).

One way the SIP helps develop inspirational teachers is through On-Demand Modules, online professional development resources designed to support personalized professional development for in-service and pre-service teachers. The developers of the SIP began considering the use of a student perception survey to aid teachers in finding modules to aid in their specific personalized professional development. In 2013, amongst the building interest and increasing support for the use of student voice in teacher evaluation and development, the SIP created a student perception survey instrument.

Creating a local, Sanford Inspire Program student perception survey provided a way for the organization to offer teachers two things: 1) a useful tool to collect student feedback and 2) an immediate means of accessing relevant professional development based on results of the student survey. The SIP survey includes six main constructs: learning environment, planning, delivery, motivation theory, motivation engagement, and student growth and achievement. These six constructs directly relate to four of the five main branches of Sanford Inspire Program framework, which is solely an organizational structure for all of the SIP resources. The four branches of the framework that relate to these constructs are *learning environment, planning and delivery, motivation, and student growth and achievement*.

The SIP Student Voice Survey was validated through a two-step process. First, the team's Management Research Analyst created a technical report internally. The technical report used the responses of 1,218 elementary-level students from 43 different classrooms (V. Simmons, personal communication April 7, 2017). The team ran a Confirmatory Principal Components Analysis with a Varimax (with Kaiser Normalization) rotation on all of the data (V. Simmons, personal communication April 7, 2017). Through that analysis, the Kaiser criteria for eigenvalues confirmed the six constructs (Tabachnick & Fidell, 2007). Finally, the SIP team's Management Research Analyst measured the internal reliability of the items within each construct and the entire survey (Cronbach, 1951). Each construct had an Alpha of .785 or higher which is acceptable (Nunnally, 1978). Finally, the SIP gave the data and technical report to Dr. C. Lloyd, Senior Research Analyst within the college who reviewed the results, applied the same tests, and confirmed the findings (V. Simmons, personal communication, April 7, 2017).

Under the expressed wishes of the donor of the program, T. Denny Sanford, all resources created by the Sanford Inspire Program (SIP) are publicly available and free of charge to all teachers, districts, and other teacher preparation programs. According to V. Simmons, Management Research Analyst for the Sanford Inspire Program (personal communication, April 12, 2016), over the past two and a half years, the SIP survey has been taken by a total of 3,053 students for over 200 teachers. These students and teachers come from local partners who have decided to use the SIP student survey as another data point to inform teacher professional development. The Sanford Inspire Program's involvement in the survey implementation has consisted of training and consulting

partnering schools and leaders on the survey protocol, and creating individualized links to the survey.

### **A Problem Arises**

During a meeting in the summer of 2015, a local district partner inquired about what Sanford Inspire Program resources existed to support teachers in understanding the results from the SIP student survey and ideas on how to take next steps. I told the local partner that I would look into the matter and share whatever resources we had related to supporting teachers specifically in regards to the SIP student survey. After a brief investigation, it became clear that the only resources we had created in relation to the SIP student survey were an introductory video to the process of giving the student surveys, the student surveys themselves, and the corresponding teacher reports. The Sanford Inspire Program had not created any other resources to support our partners in the use of the student surveys beyond a detailed guide for the survey's protocol. Upon further investigation, we had not investigated into teachers' experiences or reactions to the student surveys, the results, or even what actions they may have taken based on the results. Up to this point, once the surveys were finished, we emailed the individual reports to the teacher and/or school/district leadership. Structurally, we completely relied on our school/district partners to frame the purpose for the surveys, how to make sense of and experience the results, and take action with them. We did not even have a clear picture of how our district partners had bookended the experience for their teachers.

I began a search of the literature to better understand the experience of other teachers as they went through the student survey process. What I found was a lot of literature on why student surveys should be part of a multiple measure structure for

teacher evaluation and what weight the results should carry. What I did not find was much literature summarizing how teachers felt about the student survey results, the process in general, or even what actions it prompted. One paper, discussed earlier, by Dretzke, Sheldon, and Lim (2015) surveyed Minnesota teachers, about their perceptions of SPS. Many districts and states had created resources to help teachers through the process of using student perception surveys. Some even mentioned that results from multiple focus groups with a variety of teachers informed the creation of specific resources (Colorado Education Initiative, 2016; Denver Public Schools, 2013a, 2013b). However, none of these organizations had published or made public the results of those focus groups. It was clear that there was a gap in the literature and it was an important gap. This type of data and feedback for teachers was clearly trending as more and more districts and states adopted it. What were unclear was how teachers were experiencing the process and results, how to best frame the experience for them, and what could be done to help make sense of the data so teachers could act upon it.

### **A Problem Defined: Insights from an initial pilot study**

I decided to better understand my local situation in regards to the use of and teachers' experiences with student perception surveys. Informally, I spoke with a few district partners as to how they had framed the experience for teachers and what kinds of reactions they had witnessed. I reached out to our partners within the teachers college who had used the student perception surveys with their pre-service teachers. Their comments led me to believe that teachers were experiencing a range of emotions based on the reactions they had witnessed. Furthermore, I was led to believe that very little "framing" had been done to prepare teachers for the process. Most of the preparation

focused on implementing the survey protocols accurately. Little had been done to help teachers understand the results or even act upon them.

After gathering this initial bit of information, I felt it was necessary to formally gather data from pre-service teachers themselves. In the spring of 2016, I began reaching out to partnering organizations, schools, and districts who had used the Sanford Inspire Program Student Survey and had provided the results to their teachers. Through these partnering organizations I asked for teacher volunteers to share their experiences via a semi-structured interview.

Some tentative findings from this first round of interviews support my first round of informal surveys. Teachers themselves or their colleagues are experiencing a range of emotions. Most teachers mention a feeling of curiosity or intrigue, while some additionally describe negative feelings of inadequacy and failure. Other teachers have described no negative emotions but general feelings of confusion about the purpose of the student perception surveys.

Another theme that has emerged through the data is that teachers are finding the results to be ambiguous and therefore in-actionable. Many teachers mention that they did take some form of action in their classroom practices in response to the SPS data. However, most of this was done because the results complimented or aligned with previously given feedback from instructional leaders or coaches. Most of the teachers felt that how the results were reported was in-actionable; there was just enough information to tell them something but not enough for them to take any further, specific action. These findings support the initial responses provided by pre-service teachers and the concerns voiced by my colleagues and local partners.



## **Chapter 2**

### **Theoretical Perspectives and Research Guiding the Study**

The theoretical perspectives and other scholarly literature that have guided this study are presented in this chapter in two sections. The first section describes two theoretical frameworks, attribution and sensemaking theory, and research studies that informed the analysis and design of this study. The second section explores theories and research literature that specifically informed the design of the intervention as well as the overall study. This section will summarize and address topics such as teacher emotion, and incremental and fixed mindset theory.

#### **Attribution Theory**

When talking about data-based decision making or even the process that teachers use to make sense of data in order to decide whether or not one should take action, ideas of causation generally arise (Bertrand & Marsh, 2015, Seifert, 2004; Weiner, 1985, 2010, Woodcock & Vialle, 2011). The act of assigning cause and effect are frequent mental leaps that teachers, students, and people in general make daily (Seifert, 2004; Weiner, 1985, 2010, Woodcock & Vialle, 2011). Attribution theory is particularly helpful in relation to the issues of interest to this study because it focuses on the act of individuals explaining and assigning cause to events (Hewstone, Finchman, & Jaspars, 1983; Weiner, 1985, 2010). Weiner defined the process that a person goes through to explain a particular result (Weiner, 1985). First, the person experiences an event (e.g. receive an award, win a game, a lesson going worse than expected, or fail a test). Next, the person feels some general, either positive or negative, emotion in response to the event.

Attributions of causes for the event happen after the emotional response. The emotions that arise then influence the subsequent actions of that person.

These attributions all have causal antecedents, which are the factors that can influence how attribution is given to different events. These antecedents may include personal characteristics of the person making the attributions (past experiences with failure or success), aspects of the circumstances of the event (e.g. illness, disruptions, less than ideal settings), and making comparisons to the results or outcomes of others. While people may attribute certain causes to an event, it is the individual perception of those causes and characteristics that will dictate the personal motivation and subsequent actions.

Attribution theory also distinguishes three major facets or dimensions of attributions themselves. These dimensions of the causes themselves influence how a person perceives the cause and therefore also influences motivation and subsequent actions (Seifert, 2004; Weiner, 1985, 2010). One such characteristic is *locus of causality*, which aims to identify where the cause originated. Did the cause stem internally from the person or did it originate externally from someone or somewhere else. A second dimension of attributions is its *stability*. This describes whether or not the person believes the cause of something is permanent or transitory and can therefore change. The final characteristic is *controllability*. Controllability speaks to the belief that the cause can be influenced or affected and to what degree a person believes they can control that cause.

**Attribution theory and student perception survey data.** Attribution theory aligns with my study and current problem of practice in a few ways. First, as stated previously, teachers are receiving the aggregate results of their students' opinion on their

teaching. As teachers examine and interpret these results, they are, consciously or subconsciously, reacting to these outcomes emotionally and attributing causes to the data. As Weiner and Seifert established, perceptions around origins, changeability, and controllability of causes, influence individual's emotional responses and behavioral consequences (Seifert, 2004; Weiner, 1985, 2010). Research question one of the current study inquiries into the emotional experiences of pre-service teachers as it relates to the SPS process. Weiner has established that once an individual experiences an event or outcome, they have an emotional reaction, and, furthermore, that emotional response directly relates to the attributions they give to that event.

Research question two of the current study asks how pre-service teachers make sense of and take action with student perception survey data. As stated previously, Weiner and Seifert have both established that the motivation and subsequent actions that a person takes in response to an event are connected to the attributions, perceived attribution characteristics, and causal antecedents (Seifert, 2004; Weiner, 1985, 2010). Additionally, one could argue that making sense of any data would involve speculation around the causes of the condition of those data. Research questions three and four of this study specifically ask how the student perception survey module has improved teacher views of the use of those surveys to inform their professional development and whether it helped them make sense and take action in response to their own data. These questions are specifically asking whether or not teachers can attribute some positive aspect of influence to the SPS module they experienced.

**Studies based on attribution theory.** Attribution theory has been used in many different studies over the past few decades. Among those studies, a few have employed

attribution theory in an effort to specifically understand student and teacher motivation and actions. Most relevant to the current study, are applications of attribution theory to situations where teachers were deciphering causal relationships between student data and teacher and student actions. Bertrand and Marsh (2015) specifically used attribution theory to analyze and organize teacher's actions and responses as they made sense of their own students' academic data. Using a combination of Weiner's (1985) three dimensions of attribution-- locus of causality, controllability, and stability-- Bertrand and Marsh (2015) identified four mental models that teachers used when attributing causes for the outcomes of student data. They categorized the four mental models as instruction, student understanding, nature of test, and student characteristics (i.e., students' stable traits). These researchers noticed that the four models allowed teachers to gain an understanding of what the data were "saying" which then informed their "choice of next instructional steps" (Bertrand & Marsh, 2015, p. 887). The researchers found that though teachers most often attributed student outcomes to the teacher's own instruction, some of the other attributions, found in the other three mental models, are particularly problematic. Teachers therefore who have attributed outcomes to "stable student characteristics" may not have reflected deeply on their role in the data outcomes.

Bertrand and Marsh (2015) conclude that specific student populations may therefore receive inequitable service and support due to lowered expectations. Furthermore, they question the many policies and initiatives that emphasize data-use. These policies and initiatives are not inherently bad, but may reinforce certain teacher biases and therefore perpetuate low expectations for certain student populations. Intense,

critical reflection for teachers could cause them to interrogate these implicit biases for the overall benefit of students.

Bertrand and Marsh (2015) indicated that their findings were cause for “hope and concern” (p. 887). The concern stemmed from the fact that the beliefs and expectations that teachers had of certain groups of students, specifically students learning English as a second language and those in special education, influenced their sensemaking and attributions during data analysis. Since these beliefs are so variant, then it would be expected that teachers would not only interpret the data differently based upon the model they held (i.e., the attributions they made for student data), they would then take a wide range of next steps. Furthermore, if teachers attribute the data to “stable traits” as identified in mental model four, then the odds of them taking any instructional actions to help support those students is highly unlikely.

Bertrand and Marsh’s study has framed the act of analyzing student data within the context of attribution theory and therefore highlights the preconceptions and traits that each teacher brings to analysis of such data. Furthermore, the study highlights the relationship between causal inferences and follow-up actions. It is less likely that a teacher will follow up with an action if the causes of the data appear unstable, uncontrollable, or even out of a teacher’s locus of causation. Bertrand and Marsh’s (2015) study explores the important role that attributions play in interpreting and acting upon student academic data. This current study builds upon that body of work by examining teacher sensemaking and attributions but in respect to a different form of data, student perception survey data.

In another study, Woodcock and Vialle (2011) examined the different attributions and consequently, expectations that pre-service teachers made in regards to the performance of students with a learning disability (LD). These researchers argue that Weiner's attribution theory "contends that the teachers' perceptions of their students' behavior can influence future expectations and responses to students" (p. 224). Furthermore, these researchers cited literature demonstrating that when students fail or have negative or unexpected outcomes, teachers often attribute those causes to the student (Clark, 1997; Kelley & Michaela, 1980). By attributing the cause of the negative outcome elsewhere, "teachers do not have to expend emotional energy in self-examination or be held responsible for the student's failure" (Woodcock & Vialle, 2011, p. 225). Conversely, however, teachers often attribute student success to the teacher's influence (Bennett & Bennett, 1994). One study in particular showed that teachers were more likely to attribute student success to the teacher if the students involved were identified with special education needs (Rolison & Medway, 1985).

Woodcock and Vialle (2011) used a survey instrument that included eight vignettes describing hypothetical boys who had taken a classroom test and failed. The vignettes did not describe why the student failed but only provided short statements about the students' abilities, their typical effort, and their academic performance. After surveying 400+ pre-service teachers, the researchers found that teachers often believed that LD students had less ability than their peers without an LD did. Furthermore, the researchers found that teachers felt that LD students should have lower expectations than their non-LD peers should. The researchers conclude their article by highlighting the implications of their findings. They stated that it was important for educators, "to

understand the importance and impact that their attributions can play,” (Woodcock & Vialle, 2010, p. 236).

Woodcock and Vialle’s (2011) findings are important to my study because they emphasize the weight of teachers assigning attribution during data analysis. Both their study and Bertrand and Marsh’s (2015) study highlight the relationship between the attributions and subsequent teacher motivation and action. Woodcock and Vialle (2011) demonstrated that implicit biases have played a role in how teachers interpret data and situations with students of certain subpopulations. Knowing the local student population where teachers will be participating in the SPS process, these teachers will have students from both populations highlighted in these studies: English Language Learners (ELLs) and students with special needs. Both of these studies better clarify the hefty weight that teacher-given-attributions can carry. Thus, it is relevant to ask whether teachers will be predisposed to disregard some or most of the SPS data they receive due to the characteristics or “labels” their own students carry within their classroom.

### **Sensemaking Theory**

Sensemaking is the process that individuals or groups of individuals use to make meaning of nebulous information or experiences (Weick, 1995, 2011). Karl Weick, the theory’s main proponent, has created a sensemaking model that includes seven distinct elements. These seven properties help unpack the ambiguous process of making sense and providing a guide for analyzing instances of sensemaking (Weick, 1995, 2011). The seven properties are grounded in identity construction, retrospective, focused on and by extracted cues, driven by plausibility rather than accuracy, enactive of the environment, social, and ongoing (Weick, 1995, 2011).

The first property, *grounded in identity construction*, highlights how life experiences shape individuals, which in turn affects how they view the world. As such, a person's identity is always under construction while simultaneously influencing the world around them. The second property of *retrospection* highlights the comparative nature of sensemaking. When making sense of current events, individuals use past experiences for comparisons. An individual's previous experience will dictate what they currently extract and focus on in the present situation. This *extraction and focusing on particular cues* of the current situation rather than all cues is the third property of sensemaking. Not all cues can be taken into consideration and part of the sensemaking process is to allow what is perceived to be "relevant" and "important" information rise to the forefront whereas others are left behind and ignored. The fourth property deals with *plausibility* versus accuracy. It emphasizes our tendencies to make sense of an event up to the point of it being plausible and not any further. Additionally, some aspects that are accurate may be disregarded or rejected because they don't fit in well with what is already accepted, plausible sensemaking. The fifth element is the *enacting of the environment*, which establishes the role of the surroundings and the impact it has on the process of sensemaking and the sensemaker. The *social* property identifies how people and social structures directly and/or indirectly play a role in all sensemaking. The seventh and final property is *ongoing*. This establishes that sensemaking is a continuous process. Though distinct moments of sensemaking can occur by noticeable disruptions or ambivalent events, sensemaking never ceases (Weick, 1995).

**Educational studies based on sensemaking theory.** Bertrand and Marsh (2015) utilize sensemaking theory in their study that examined how teachers analyze and



interpret student academic data. They placed attribution theory within the context of sensemaking theory. The three characteristics of attribution theory, as described earlier, are framed as a central part of the overall meaning making process that teachers use to interpret academic data. The researchers felt that sensemaking theory helps provide insight into how attributions are assigned to different causes and how interpretation and data analysis happens in particular ways (Bertrand & Marsh, 2015). The process of making meaning of data and assigning causes to such data was of central importance to their study.

Other authors have situated sense-making as a central lens to examining how educational policies are interpreted and enacted (Penuel, Fishman, Gallagher, Korbak, & Lopez-Prado, 2009; Spillane, 2012; Spillane, Reiser, & Reimer, 2002). Penuel et al examined how teachers made sense of a statewide standards and curriculum change (2009). They found that the experience and knowledge that teachers had of the previous set of standards heavily influenced their understanding, adoption, and enactment of the new standards. This study emphasized some of Weick's seven elements of sensemaking theory (1995). Furthermore, many teachers in Penuel et al.'s (2009) study interpreted some of the new standards as just reworded versions of the old set of standards even though they were meant to be different. Teachers reflected on their past experiences with standards and the content area and used those as a point of comparison for the new standards. The element of extracted cues, which is informed by the element of retrospection, caused some aspects of the new standards to stand out to teachers versus others. The element of plausibility comes into play because the teachers made enough sense of the new standards to the point of probability and not beyond. Even when some

of the teachers were presented with professional development or materials that contradicted their initial understandings, they still taught the standards as they originally interpreted them. The social aspect of sensemaking was employed as the teachers interacted with representatives from the state in training on the standards and as they planned for and executed the lesson plans centered on the new standards with their students.

Spillane et al. (2002) noted similar aspects to teacher sensemaking. These researchers highlighted that often, during the process of interpreting new information, teachers use that information to supplement rather than supplant preexisting information. Furthermore, they present the work of Maris (1975) as instrumental in considering the complex process of cognitive growth. Maris identifies three levels of social change. The first level of change involves little to no change in the teacher's instructional practices or beliefs. The second level of change requires some growth from the teacher but preexisting beliefs and expectations can remain intact. The third level of change involves the greatest amount of growth and "loss" for the teacher. At this level of social change, the teacher must discredit, alter, and restructure extant schemas which involves ingrained beliefs, expectations, and practices which makes it the most difficult to achieve (Maris, 1975). Spillane et al.'s (2002) examination of teacher sensemaking highlights Weick's (1995) elements of retrospection, plausibility, and socially embeddedness.

These three studies and articles help establish that teacher beliefs and past experiences frame and influence the meaning that is "made" when analyzing student data. Whereas often sensemaking is viewed and presented as "detached", rational, and objective, these authors highlight how one's previous experiences and even current roles

and beliefs influence how information is interpreted and then acted upon. This holds great relevance for the proposed study related to student perceptions surveys. Though the data that teachers will be working with are different, they will still need to make sense of what the results from the student perception surveys mean. As they are making sense of these numbers and concepts, they will be drawing upon previous experiences and beliefs to aid in their meaning making.

### **Scholarly Literature That Informed the Intervention**

The following section explores relevant, scholarly literature that informed the intervention of the present study: the *Preparing for Student Perception Surveys* and the *Taking Action with Student Perception Survey Data* online modules. This literature provided the basis for the content that will be covered in the modules and provides support to the claims and statements made within. Topics covered in this section are data-based decision-making, teacher emotions, and incremental and fixed mindset theory.

#### **Data-based Decision Making**

The late 1990's ushered in an important era in the field of education-- the era of high-stakes accountability (Cochran-Smith & Lytle, 2009). Our current time period of hyper-focus on standardized tests, tracking student achievement, evaluating teacher effectiveness, and accountability policies has caused some terms to become ingrained into the lexicon of the teaching profession: "outcomes, results, effectiveness, evidence, monitoring systems, test scores, adequate yearly progress, and bottom lines" (Cochran-Smith & Lytle, 2009, p. 9). In a similar vein, the phrase and concept of data-based decision-making has taken up permanent residence in the field (Honig & Coburn 2008; Wayman, Cho, & Johnston, 2007). The process of taking data--test scores, percentages,

assessment reports-- and translating that into knowledge, often has been presented as a straightforward, communally agreed upon process of transmission (Cochran-Smith & Lytle, 2009; Spillane, 2012). However, others have problematized this vision making a clear distinction between what are data and what is information (Schildkamp & Kuiper, 2010). Data has been defined as, “a set of discrete, objective facts about events” (Davenport & Prusak, 2000, p. 2). Meaning that data alone holds no judgement or meaning and therefore are in-actionable in and of itself (Cousins & Leithwood, 1993). In a recent study, Datnow, Park, and Wohlstetter (2007) reported that teachers found the process of collecting data to be easier than reading and using the data. Which means that the difficult part of data-based decision making is the sensemaking, attribution process that teachers use to interpret data into actionable information (Schildkamp & Kuiper, 2010). Schildkamp and Kuiper (2010) define data-driven decision making in their study as, “systematically analyzing existing data sources within the school, applying outcomes of analyses to innovate teaching, curricula, and school performance, and implementing (e.g. genuine improvement actions) and evaluating these innovations” (p. 482). Policy makers and educational leaders have increasingly placed their faith and efforts in the “power of data to move practice” (Spillane, 2012, p. 113).

The current concept of data-based decision making is extremely relevant to this study because it is intrinsically linked to the current era of accountability and the plethora of education policies and structures that stem from that idea. Data-based or data-driven decision making is most commonly used to describe how teachers interpret or purposefully use student achievement or test score data to make instructional or high-stakes decisions (Cochran-Smith & Lytle, 2009; Datnow et al., 2007; Davenport &

Prusak, 2000; Schildkamp & Kuiper, 2010). As it relates to my current problem of practice, intervention, and study, teachers are being asked to interpret SPS data and translate it into some form of information or knowledge that can be acted upon. Fundamentally, this task of making meaning may be difficult for teachers because it is such a new form of data. However, some authors have contended that translating or interpreting data into knowledge is an ambiguous process which can be problematic and difficult (Datnow et al., 2007; Davenport & Prusak, 2000; Schildkamp & Kuiper, 2010). Though there are many policies that exist mandating or encouraging the use of data-based decision making, the process of knowledge making itself is not standardized contrary to how it is presented (Bertrand & Marsh, 2015; Schildkamp & Visscher, 2010; Spillane, 2012). This becomes especially clear and important as we reflect on the studies by Woodcock and Vialle (2011) and Bertrand and Marsh (2015) whose work has demonstrated the influence of implicit bias in the knowledge making process.

### **Teacher Emotions**

If someone were to examine almost any set of teaching standards or evaluation rubric, they might walk away with the impression that teaching is a cognitively dominant profession (Hargreaves, 1998; Zembylas, 2003). However, the literature surrounding teacher emotion has grown immensely over the past twenty years which counters that view of teaching (Day & Leitch, 2001; Hargreaves, 1998; O'Connor, 2008; Schmidt, 2000; Zembylas, 2003). Hargreaves (1998) argues that teacher emotion has been ignored and underplayed in the current era of educational reform. Furthermore, he argues that the emotional dimension is, “one of the most fundamental aspects of teaching and of how teachers change” (p. 835).

The acts of teaching and learning are social activities that are immersed in emotional experiences (O'Connor, 2008). Hargreaves (1998) further argues that the concept of good teaching, “is charged with positive emotion” (p. 835). Good teachers build caring relationships with students and passionately teach about content in a way that inspires their students. But many argue that there has been a concerted effort to strip emotion from the education and that some unspoken rules about good and bad emotion have emerged in the profession (Hargreaves, 1998; O'Connor, 2008; Schmidt, 2000; Zembylas, 2003). This over-rationalization or technicization perpetuates an emotionally detached image of teaching (Day & Leitch, 2001; Zemblayas, 2003). Zemblayas (2003) argues that society should stop policing teacher emotion and/or stripping the profession of its affective elements, but rather recognize its existence and its empowering potential.

Furthermore, there are aspects of affect that stem from one's personal self-image. Spillane et al., (2002) specifically examine how the maintenance of positive self-image can impact teachers' willingness to and the degree of adopting new policies. Judgments about one's practices can trigger emotional and potentially defensive responses, meaning that teachers may be more willing to “see” and act upon data that affirms their current practices and disregard or ignore disaffirming data.

The researchers of that same study emphasize the importance of policymakers to communicate clearly the intent and “spirit of the policy” (Spillane, et al., 2002, p. 420). They argue that framing the policy better for teachers who must implement it can help in the adoption of new policies. In one manner, new policies can have the appearance that what teachers were doing previously was “wrong” or less effective. By accepting the new

policy, teachers may feel forced to accept these ideas, which have negative consequences for their personal and professional self-image and self-esteem.

The literature surrounding teacher emotion is important to my study for a few reasons. The first reason is that in my personal experience some teachers have had very strong, negative emotional reactions to the SPS data that they received. The results personally offended some teachers and even a few mentioned crying. To overlook or disregard these strong emotional responses would be to continue underplaying or disregarding the importance or existence of emotion in the education field (Hargreaves, 1998). Moreover, ignoring this aspect of teacher reaction would be to ignore an essential form of information that can be used to further make sense of the data.

Additionally, the literature that emphasizes the importance of framing policy as empowering and informative reinforces the importance of how the policy of using SPS data has been poorly communicated and implemented within the teacher participants' contexts. This aspect of the teacher experience can color how the SPS policy was interpreted by teachers, how they communicated that information to students, how they interpreted the resulting data, and then acted upon it.

### **Incremental and Fixed Mindset Theory**

Incremental and fixed mindset theory is closely related to attribution theory because it frames individuals' concepts of intelligence and ability into two main categories of causes; incremental or fixed. These two visions for how people view their abilities then influence what control and power they perceive themselves to have in changing those abilities (Blackwell, Trzesniewski, & Dweck, 2007; Dweck, 2006; Yeager, & Dweck, 2012). In early work on mindsets, researchers wanted to examine why

some unlikely students succeeded and achieved greater academic gains than other, seemingly more intelligent students (Dweck, 2006). They found the existence of two general types of mindsets (Blackwell et al., 2007; Yeager, & Dweck, 2012). The first is a “fixed mindset” which denotes that a person is born with certain innate abilities and those are constant in one’s life. The second is an “incremental mindset” which describes a belief that a person can improve their abilities with time and work (Blackwell et al., 2007; Dweck, 2006; Yeager, & Dweck, 2012). The relationship between these mindsets and attribution theory are clear. For an individual of a fixed mindset, according to attribution theory, they would believe that any attributions stemming from their ability has an internal locus of causation but is uncontrollable and permanent (Weiner, 1985). For a person of an incremental or growth mindset, attribution theory would characterize any attributions stemming from the teacher’s ability would be viewed from an internal locus of causation that is controllable and changeable (Weiner, 1985).

In their early work, Dweck and her colleagues focused mindset theory on people’s beliefs on intelligence and how that related to their academic abilities. All of their studies demonstrated that students with a growth mindset showed academic growth. Furthermore, they viewed mistakes and challenging work as positive opportunities for growth and development. On the flip side, those who had fixed views of intelligence tended to avoid challenging work and often would lie about their scores in order to maintain an outward appearance of being “intelligent” (Dweck, 2006; Yeager, & Dweck, 2012). In follow-up studies, Blackwell et al. (2007) designed interventions and studies that examined whether or not people could shift their mindsets from a fixed mindset to one that is more growth oriented. They also examined what influence that shift would



have on the students' achievements. The researchers found that intentional interventions could lead people to modify their mindsets towards a more growth orientation and that doing so often induced higher achievement (Blackwell et al., 2007; Dweck, 2006; Yeager, & Dweck, 2012).

Dweck's incremental and fixed theory has more recently been applied to other aspects of a person's identity beyond just intelligence. More recent lines of research conducted by Dweck and her colleagues as examined how the two forms of mindsets related to concepts of personality and talent (Dweck, 2006; Yeager & Dweck, 2012). There are some educators who believe that teaching is a talent that you either do or do not have (Dweck, 2006). Professional development, from this perspective, is more of a "refresher" course used to affirm one's current practices rather than altering them. A teacher who has a fixed mindset about their teaching talent could be more apt to view SPS data with a "self-affirming bias" (Spillaine, et al., 2002), meaning that they may see in the results only what affirms their beliefs and current practice and ignore or discredit what disaffirms it. Therefore, it is important for teachers to develop or have a growth mindset perspective in order to get more out of the use of SPS results beyond just affirming their current practices or beliefs.

## **Chapter 3**

### **Methods**

This chapter covers the methods that were used to collect and analyze data in this study. It includes a short description of the study's purpose, research questions, research design, study participants, instruments used to collect data, procedures, and methods of analysis.

#### **Purpose**

The purpose of this action research study was to document the experiences of pre-service teachers' as they related to the administration and subsequent results from a student perception survey (SPS) given to their K-12 students about their teaching practices. An additional purpose to this action research study is to examine the influence of two online professional development modules about student perception surveys on pre-service teachers in a large teacher preparation program. Recall that there is not much literature on the experiences that teachers have in relation to SPSs and that early rounds of investigation have uncovered that some teachers have had very strong, negative reactions to the experience, found the data to be in-actionable, and were confused about the purpose of the SPS in general. Specifically, the four questions that drove the study were the following:

- Research Question 1 (RQ1): What are the emotional experiences of pre-service teachers throughout the student perception survey (SPS) process?
- Research Question 2 (RQ2): How do pre-service teachers make sense of and take action with student perception survey data?

- Research Question 3 (RQ3): How do the SPS modules help teachers make sense of and take action with student perception survey data within their classrooms?
- Research Question 4 (RQ4): How do the SPS modules help improve teacher views of using student perception survey data to inform their continued professional development?

### **Research Design**

This study used a blend of sequential and concurrent qualitative-quantitative mixed methods (Teddlie & Yu, 2007). The study has six major phases, see Table 1. The first phase included collecting and analyzing qualitative data related to teacher experiences as they pertain to SPS. Phase two involved using the information gleaned from phase one to inform the creation of an intervention, namely the two online professional development modules about student perception surveys and the creation of two quantitative and qualitative survey instruments. Seven members of the Sanford Inspire Team reviewed the two SPS modules internally and the two survey instruments underwent rounds of review in phase three. Phase four occurred before K-12 students participated in the SPS process. Two things happened in phase four. First, the qualitative and quantitative data were collected from pre-service teachers as they completed the Pre-Module Survey. Then they participated in the first SPS module titled *Preparing for Student Perception Surveys*. In the fifth phase, pre-service teachers received their SPS results and participated in the second SPS module titled *Taking Action with Student Perception Survey Data*. Also, in this phase qualitative and quantitative data were collected through the Post-Module Survey. In the sixth and final phase of the study,

participants were invited to participate in a face-to-face, semi-structured interview where they were asked about the entirety of their experience with student perception surveys.

Table 1

The Six Phases of the Research Design	
Phase 1	Collect interview data on teacher's experience with the Sanford Inspire Program SPS.
Phase 2	Design two SPS modules and two qualitative and quantitative survey instruments based on phase 1 data.
Phase 3	Pilot test the two SPS modules and review the two survey instruments.
Phase 4	Pre- service teachers participate in Pre-Module survey and first SPS module before their K-12 students participate in the SPS process.
Phase 5	Pre- service teachers receive their SPS results. They participate in second SPS module and complete Post- Module survey.
Phase 6	Participants share the entirety of their experience with the SPS process through a semi- structured interview.

The use of both a sequential and concurrent qualitative-quantitative research design was intentional (Teddlie & Yu, 2007). Though there is some scholarly literature that describes the teacher perceptions of SPS's, there is practically no literature that describes the emotional experiences of teachers throughout the SPS process (Bill & Melinda Gates Foundation, 2012; Dretzke, Sheldon, & Lim, 2015). Early in the process of refining the Sanford Inspire Program student perception survey instrument, it became evident through anecdotal experiences with teachers that they were having a range of reactions, emotional and cognitive, to the collection of and use of SPS data. Since there was sparse literature on this subject in regards to K-12 teachers, the researcher needed to gather in-depth data on the teacher experience. The data gathered from this initial qualitative data collection, informed the creation of two surveys, a semi-structured

interview protocol, and the intervention of this action research study with the aim to improve the overall SPS experience for teachers.

This study is framed within a type of research called action research (Cochran-Smith & Lytle, 2009; Dana & Yendol-Hoppey, 2014; Stringer, 2007). Action research is a form of deep inquiry centered on a problem of practice experienced by the researcher in their local context (Cochran-Smith & Lytle, 2009; Dana & Yendol-Hoppey, 2014; Stringer, 2007). This type of research study allows for practitioners to investigate and respond to perceived local problems with the intent to improve or resolve the problem through iterative cycles of inquiry. Within this type of research, the researcher does not pretend or try to be separate or distant from the problem of practice or the participants. Action research recognizes that the researcher is embedded within the setting and does not demand that the researcher attempt to disentangle their experience or actions from those of others involved in the research (Stringer, 2007). Therefore, the researcher recognizes that within this study they are positioned as an action researcher.

### **Participants and Setting**

The participants included in this study are a diverse group of pre-service teachers who range in age and years of teaching experience, see Table 2. They all attend a local, large, state university and they are in their final year in a teacher preparation program. The university has placed them in two different school communities in a large metropolitan area.

Table 2

Demographic Information of Teacher Candidates Enrolled in Two Placement Settings

District Placement	A	B
Number of Teacher Candidates Enrolled	52%	48%
Identifies As	Female	45%
	Male	6%
Range of Years Teaching	1-3 years	1-15 years
Age Range	21-25 years old	21-46 years old

N=31

As described earlier, the Sanford Inspire Program (SIP) is a gift funded organization situated within the teachers college of a large, state university. The SIP creates online, non-facilitated professional development modules for teachers. These products are designed to be used within an already established structure or program at a partnering school or teacher preparation program. The SIP has partnerships with institutions and organizations that support in-service teachers that range from local schools, districts, and charter organizations to after school programs and some groups outside of the United States. Other SIP partnerships support the development of pre-service teachers like teacher preparation program of the college in which it is housed and other teacher preparation programs in colleges and universities nationally.

Since the SIP resources are not a part of a prescriptive program, there is no mandate that any partner must use the SIP student perception survey or the SPS modules. As such, a purposive convenience sample made up of volunteer participants was the sampling strategy used in this study (Teddlie & Yu, 2007). After receiving approval from

the university Institutional Review Board and college leadership, pre-service teachers who are often called teacher candidates, were invited to participate in the study through two online surveys and a face-to-face, semi-structured interview.

In an effort to collect data in order to address the research questions that guided this study, I partnered with two faculty members from the college who work out in district sites directly supporting the college’s teacher candidates. The position title for these faculty members is site coordinator. By closely working with two site coordinators, I was able to provide them guidance and information around the study procedures and timelines. Again, as stated before, none of the SIP products are mandated for teacher candidates or site coordinators to use. Therefore, the site coordinators will not be randomly sampled but be a purposive convenience sample made up of volunteer participants (Teddlie & Yu, 2007).

Table 3

Information About Teacher Candidate Participation in the Study

Number of Respondents for Pre-Module Survey	68%
Number of Respondents for Post-Module Survey	52%*
Number of Interviewees	19%

N= 31 \*Only 3 of the 15 teacher candidates in District Cohort B had their K-12 students complete the student perception survey and were able to continue with the rest of the study

In the college, each site coordinator supports a differing number of teacher candidates that ranges from 10 to 20 students. A total of 31 students between the two sites were invited to participate in the study. As for interview data collection, I collected a

total of six interviews ranging from 30 to 55 minutes in length. Again, these interviews were on a volunteer basis and therefore a purposive sample of convenience (Teddlie & Yu, 2007).

### **Data Collection Instruments and Procedures**

The researcher used three different instruments to collect data for this study: two survey questionnaires and a semi-structured interview protocol. Table 4 includes a listing of the instruments and which research questions they address.

Table 4

Data Collection Instruments and the Research Questions They Address

Research Question	Pre- and Post- Module Surveys	Interviews
What are the emotional experiences of pre-service teachers prior to, during, and after giving student perception surveys (SPS)?	X	X
How do pre-service teachers make sense of and take action with student perception survey data?	X	X
How and to what extent do the two SPS modules help pre-service teachers make sense of and take action with their student perception survey data?		X
How do the SPS modules help improve pre-service teacher views of using student perception survey data to inform their continued professional development?	X	X

### **Intervention**

The intervention that was implemented in this study was the use of two twenty minute, online, non-facilitated professional development modules which focused on the topics of student perception surveys. More specifically, the first module provided



teachers with background information on SPS, some identified benefits, and limitations of student perception surveys, and their current role in teacher evaluation and performance feedback. The second module provided teachers a structured process for reflecting on and making sense of their SPS results and identifying a means for taking action based on those data. These two SPS modules were used by two partnering teacher candidate cohort sites in the fall of 2016 and spring of 2017. An abridged outline of the two SPS modules can be found in the appendix along with a link to participate in the modules as well.

The format of the intervention is heavily influenced by the context and history of the Sanford Inspire Program (SIP). As described earlier in chapter one, the SIP is a gift funded program that has been tasked with creating resources to aid in the development of inspirational teachers. It was the expressed wishes of the gift donor that as many teachers as possible be influenced by this work. Some of the constraints of being a gift funded program, is to consider how our resources can live and influence teacher development beyond our local setting and past the expiration of our funding. Hence, all of the things we create are free, online, non-facilitated resources that individual teachers, teacher preparation programs, or schools can use to immediately support teacher growth and development. The online module format that has informed the general structure of the SPS module is called an On-Demand Module (ODM). The ODM format was designed and created to fulfill the SIP mission and has been used in the creation of 80 modules. All of the ODMs have been designed to be non-facilitated so that they can be flexibly accessed at any time and by anyone who has Internet. Though our ODMs are non-facilitated many schools and districts use them as a part of an arranged teacher

professional development or as support resources within a larger, facilitated learning experience that includes the ODMs.

As previously stated, the SIP resources are currently hosted on an online learning management system called Moodle. Through this particular online portal teachers can enroll into any one of our publicly available ODMs for free. After you enroll, you can immediately jump into the resource and learning can begin instantly. As mentioned previously, our resources are used in a variety of settings as both large scale teacher induction training and to support the personalized development of individual teachers. Many of our partners are large school organizations like teacher preparation colleges or districts. Both of whom directly partner with us on the procedures and processes necessary to support large amounts of teachers. Some of our users are individual teachers who have heard about our resources and want to enroll and participate for their own development.

The two SPS modules that make up the intervention for this study are similar to other resources created to support the sensemaking and reflection of teachers in states and districts who use SPS results as a part of teacher evaluation or formal performance feedback (Colorado Education Initiative, 2016; Denver Public Schools, 2013a, 2013b). The intervention also incorporates information on the Theory of Incremental and Fixed Mindsets, also known as growth mindset, that is discussed in the literature review in Chapter 2. This was formally integrated into the outline of the SPS module because it appeared to be an implicit theme in most of the resources, again, available to teachers in states that formally use SPS results for the development and evaluation of teachers. An outline for module one, *Preparing for Student Perception Surveys*, can be found in

Appendix E and a link to the live module can be found in Appendix M. An outline for module 2, *Taking Action with Student Perception Survey Data*, can be found in Appendix F and a link to the live module can be found in Appendix M. Table 5 includes a listing of other concepts that influenced the two SPS modules.

Table 5

Concepts That Influenced the Design of the SPS Modules and Their Purpose

Concept	Purpose
Incremental and Fixed Mindsets	Dweck (2006) and other colleagues have established that a growth mindset leads to people viewing failures or low scores as things they have control over if they work harder. Their potential for success is directly related to their desire and action to work hard.
Teacher Emotion	Hargreaves (1998) and others in the field of research on teacher emotion have established that teacher emotions is an undervalued and researched part of the teaching profession. Policy change and receiving of ambiguous or negative data can trigger negative responses.
Sense-making Theory	Weick (1995) describes how individuals often do not engage in the sense-making process unless something unusual, ambiguous, or negative happens that causes them to make sense. Receiving SPS data has the potential to be all three.
Attribution Theory	Weiner (1985) established that in the process of assigning causes to certain outcomes, individual's experience emotions to an outcome that then influences the attributions that will be give to it. These emotional cues can be helpful to teachers as they examine and reflect upon their unchecked attributions for SPS results.

Both of the SPS modules underwent at least eight rounds of in-house reviews amongst the SIP team members which included pilot testing of both modules. SIP team members who reviewed the module, gave rounds of feedback at the script, graphics, and production phase of the modules. The feedback from these reviews were used to inform any content or functionality changes for the module.

## **Study Procedures and Data Collection**

The study procedures for this action research project occurred over a period of 5 months from November, 2016 through March, 2017. A comprehensive outline of the sequence of important events in this study can be found in Appendix K. A short overview is provided below, followed by a more detailed description of procedures used across six phases of data collection.

In November, pre-service teachers were invited to participate in an online survey which had a combination of open-ended qualitative items and quantitative items in the form of questions with binary or Likert scale responses. Those who participated in the Pre-Module survey were asked an array of questions about their feelings about the SPS process, opinions on the use of student feedback, strategies on how they make sense of data, among other things. Immediately following the survey, teacher candidates participated in an online professional development module created to better explain the SPS process, prepare them for the results and potential emotional reactions, and direct them to begin making predictions about their results.

Through the months of November through January, these pre-service teachers had the student perception survey administered to their students. In March, they received their results and participated in the second SPS, online module. This module leads the pre-service teachers through a guided reflection process in order to assist them in making sense of the results and deciding on an action to take in the classroom in response to the data. Immediately following this module, teacher candidates were invited to participate in the Post-module survey that had a mix of open-ended qualitative items and quantitative items in the form of questions with binary or Likert scale responses. It asked a variety of

questions about their feelings after completing the SPS process, opinions on the use of student feedback, strategies on how they made sense of data, and what classroom actions they will take as a result. After the Post-Module survey, the researcher invited teacher candidates to participate in a semi-structured interview at a time that was convenient for them. The following section describes in more detail each of the data collection instruments and procedures used across the six phases of the study.

### **Phase One Data Collection Instruments and Procedures**

This study included two different interview protocols. The first set of interviews occurred during phase one of the study, which began in January of 2016 and continued through May 2016. The researcher created the phase one interview protocol to capture the teachers' experiences with the student perception survey process, the emotions they felt throughout, and how they made sense of the data. After communicating with volunteer pre- or in-service teachers via email or phone calls, the researcher met teachers at a time and location that was convenient for them. Within the preamble portion of the interview script, the researcher informed the teacher of the scope of the study and the purpose of this set of semi-structured interview questions. The researcher also asked the teacher if they consent to participate in the interview and have the audio recorded. The complete interview protocol is in Appendix A. The following are a few example items from the interview.

- What were your initial thoughts and opinions of them before your recent experience with one?
- Immediately after receiving the survey results, what were your initial thoughts and reactions?

- Did anything about the results surprise you?
- How did the results compare to your perceptions of your own skill as a teacher?

The entire interview consists of 24 questions and lasts about 30 to 40 minutes.

The semi-structured interview questions are around four constructs: knowledge and opinion of SPS prior to experiencing, notable experiences during the SPS process, making sense of and reacting to the SPS data, and final reactions and opinions to the use of SPS for teacher professional development.

After the concluding the interview, the researcher transcribed the audio recording and deleted any personally identifying information. A master list of participants and their coded transcripts are on a protected drive that can only be accessed by password. This list will be deleted six months after the conclusion of the study. The emailed the de-identified transcript to the participant's preferred email address to conduct member checking (Lincoln & Guba, 1985). The researcher informed participants that they were free to omit or add any statements as they saw fit. After they approved of the transcript, they emailed it back to the researcher or replied back their consent to use it as it is. The researcher conducted and transcribed a total of five interviews.

### **Phase Two and Three Data Collection Instruments and Procedures**

Neither phase two nor phase three involved the use of data collection instruments for the purposes of answering the research questions of this study. The focus of these two phases was on the creation of data collection instruments and the development of the two SPS modules that are the intervention of this study.

## **Phase Four Data Collection Instrument and Procedures**

Phase four of this research study consisted of the time when a pre-service teacher would participate in the first SPS module. Phase four also included when K-12 students would participate in the SPS process. The only data collection tools used in this phase is the Pre-Module Survey. This survey was a mix of binary, closed ended question, Likert scale items, and open ended questions. The researcher created the survey to uniquely capture the experience of teacher candidates but used aspects of survey items from related studies.

The researcher created the survey questionnaires online and teacher candidates completed them online. The researcher posted the survey links in the district placement teacher candidate cohort classrooms for dissemination. College leadership and IRB approved the student and granted the researcher permission to conduct the study.

The first page that the participant saw of both the Pre-Modules Survey was a short description of the scope and purpose of the study. Teacher candidates indicated their consent by continuing with the survey or opting out. The survey contained 4 demographic questions gathering information about the respondent's' identified gender, age, number of years of teaching, and grade level.

### **Pre-Module Survey**

A total of 12 binary, closed ended items were included on this survey. These 12 items were used to provide information around the teacher's affective experience with student perception surveys. A total of 8 Likert items were also included on the survey. These 8 items assessed two constructs including importance of student voice in teacher professional development (4 items) and teacher sensemaking of SPS data (4 items). The

survey also included 28 items that were open-ended. These 28 items gathered information around the teacher's affective experience (2 items), the teacher's sensemaking of the SPS process and results (2 items) and the attributions they apply to various versions of SIP SPS results (24 items).

Data from the survey was collected electronically. The complete protocol can be found in the appendix but below are a few example items.

- I value my students' perspectives on my teaching.
- Student perspective obtained through the use of student perception surveys is an important piece of data to collect.
- If this was your class, what strategies would you use to interpret the data?
- Based on the data, what immediate changes/make might you make? Why those specifically?

### **Phase Five Data Collection Instruments and Procedures**

Phase five of this research study consisted of the time when a pre-service teacher would receive their SPS results and participate in the second SPS module. The only data collection tools used in this phase is the Pre-Module Survey. This survey was a mix of binary, closed ended question, Likert scale items, and open ended questions. The researcher created the survey to uniquely capture the experience of teacher candidates but used aspects of survey items from related studies.

The survey questionnaires that were used in this study were tied to three of the four research questions as identified previously in Table 4. The surveys were created and completed online. The survey links were posted in the district placement teacher



candidate cohort classrooms and with site coordinators for dissemination. Permissions were granted by IRB and college leadership.

Just as with the Pre-Modules Survey, the first page the participant saw of the survey was a short description of the scope and purpose of the study. Teacher candidates indicated consent by continuing with the survey or opting out. Both surveys contain 4 demographic questions gathering information about the respondent's' identified gender, age, number of years of teaching, and grade level.

### **Post-Module Survey**

A total of 12 binary, closed ended items were included on this survey. These 12 items were used to provide information around the teacher's affective experience with student perception surveys. A total of 9 Likert items were also included on the survey. These 9 items assessed two constructs including importance of student voice in teacher professional development (5 items) and teacher sensemaking of SPS data (4 items). The survey also included 28 items that were open-ended. These 28 items gathered information around the teacher's affective experience (2 items), the teacher's sensemaking of the SPS process and results (6 items) and the attributions they apply to various versions of SIP SPS results (20 items).

Teacher candidates completed the surveys online and the researcher collected their responses electronically. The complete protocol can be found in the appendix but below you will find some example items.

- Data collected from student perception surveys should be used to inform school-wide teacher professional development.

- After participating in the SPS module, I now more highly value the role of SPS data in my professional development.
- What strategies did you use to interpret the data?
- Based on the data, what actions do you plan on making to your current practices?

Neither survey was previously piloted with teacher candidates.

### **Phase Six Data Collection Procedures**

The second set of interviews occurred after the pre-service teachers had completed the second SPS module and received their SPS results. Some of the interview questions from phase one were incorporated into the phase six protocol. This is because both protocols expressly tried to capture the entire experience of teacher candidates in every phase of the SPS process. The phase six particular interview protocol aimed at capturing the teachers' emotional experiences with SPS's, how they made sense of and used the SPS data, their experiences with the two SPS modules, and how they perceived its influence on their overall SPS experience.

To solicit interview volunteers I directly and personally invited teacher candidates by district placement. Through, faculty site coordinator support, I solicited volunteers via email and face-to-face communication when permitted. I communicated directly with any teacher candidate interested in being interviewed to coordinate a time and location that was convenient for them. Within the preamble portion of the interview script, I informed the teacher of the scope of the study, the purpose of this set of semi-structured interview questions as during collection of the first set of interviews. The following are a few example items from the interview.

- What specifically about the module helped you make sense your results? How so?

- What specifically about the module was not helpful? How so?
- Did you make any adjustments or take any actions in the classroom in response to the results? If so, what were they?

### **Data Analysis**

This mixed-method research design collected data in three forms: 1) transcripts from interviews, 2) qualitative open-ended responses from the Pre-Module and Post-Module survey questionnaires, and 3) quantitative data produced from Likert scale and binary close-ended items from the same Pre-Module and Post-Module survey questionnaires. The qualitative analysis methods are presented first and then the quantitative methods.

### **Qualitative Data Analysis**

The researcher designed the qualitative data from the interviews and open-ended responses from the surveys to aid in answering all four of the research questions. She used the constant comparative analysis approach to analyze all qualitative data: interviews and open-ended responses from the Pre-Module and Post-Module Surveys (Strauss & Corbin, 1998). The researcher transcribed the interviews. She gathered together and organized responses from the open-ended questions from the surveys by question. The researcher read through both sets of texts twice before any codes were assigned. The qualitative responses were coded in order to see recurring themes or trends across participants' experiences (Miles & Huberman, 1994). These themes formed the basis for a set of assertions that will answer all four of the research questions of the study.

As stated previously, for each interview transcript and for each set of open-ended responses, the researcher read the text through completely twice. Next, she uploaded the

texts into a computer program called HyperResearch that digitally assists in tracking codes and associated quotes. The third reading of the texts happened in this computer program. During this third reading, the researcher created codes to then label sections of the text. On the third reading, the researcher used open coding to assign codes to small or large chunks of texts (Corbin & Strauss, 2008). All of the participants' responses were coded. Some codes stemmed from the theoretical frameworks that have helped frame the study (Miles & Huberman, 1994). The researcher ensured a close connection between codes and theoretical frameworks in two ways. The first came through prior to the collection of data when the data collection instruments were designed. For example, headings in the interview protocols helped ensure that the participants were asked questions that would solicit comments already aligned to aspects of the theoretical frameworks. A second process of reviewing the major tenets or elements of each theory happened before reviewing a transcript or open-ended responses from the surveys. This helped ensure that the researcher kept important aspects of each theory fresh in mind during coding.

After coding all of the text, the researcher began to look for emerging themes across the codes to identify emergent patterns from the data (Miles & Huberman, 1994). She did this by printing a list of the codes to in order to review all of them collectively. The list was examined to see what connections or relationships occurred across the codes. In this process, the researcher recalled particular comments or remarks from different participants. These moments could have been memorable because the pre-service teacher had made a surprising statement, there was particularly strong emotion, or the interviewee confirmed something that other teacher candidates had mentioned.

Overarching themes emerged from my interpretation of the relationships across the codes. The researcher examined these emergent themes individually and as a group to see whether and how they addressed the four research questions. As previously mentioned, all of the qualitative data was used to answer all four of the research questions.

### **Quantitative Data Analysis**

The quantitative data from the surveys helped the researcher answer RQ1, RQ2, and RQ3. The researcher analyzed the quantitative data gathered from the surveys by utilizing the computer software program SPSS. This program aided in running reports on basic descriptive statistics and a dependent t-test, also known as a paired sample t-test. The researcher examined descriptive statistics at the individual item and construct level. This type of exploratory analysis was necessary because the survey questionnaire was not an established, previously used instrument.

The researcher also used SPSS to calculate bivariate correlations through the use of Pearson's correlation coefficient analyses, which is a statistical test used to determine if a relationship exists between two variables (Pearson, 1900; Smith & Glass, 1987). Noteworthy bivariate correlations with strong to very strong positive correlations with statistical significance of  $p < .005$  or less are presented in chapter 4 (Merrigan & Huston, 2008). These relationships revealed interesting connections between different survey items that are not easily seen by reporting simple percentages of participant responses.

The internal reliability of the construct *teacher value of student perception surveys* for both the Pre-Module and Post-Module Surveys was measured using Cronbach's alpha coefficient (1951). A computer software program called SPSS was used to run a Reliability Test on survey items that fell under this construct. The Cronbach

alpha coefficient for the construct *teacher value of student perception surveys* on Pre-Module Survey was .875 and the Post-Module Survey had an internal consistency of .911. Both of these coefficients are considered above the acceptable level of internal reliability (Cronbach, 1951).

### **Data Interpretation**

Throughout the study, the researcher analyzed quantitative and qualitative data simultaneously. She analyzed them in this manner because the data was collected simultaneously. Both surveys produced quantitative and qualitative data and some interviews, due to scheduling differences between the sites, were conducted before that last round of quantitative data was collected. Analysis of the two forms of data at the same time influenced how the researcher interpreted each. For example, as patterns and trends revealed themselves in the descriptive statistics from the survey items, that information became a lens for which the researcher used to examine aspects of the open-ended responses or transcripts. This provided opportunities to notice aspects of complementarity across the data and moments of disconfirmation.

The researcher used Erickson's (1986) process for data interpretation as a final step of analysis. Interpreting across qualitative and quantitative results, the researcher generated a list of tentative assertions related to the research questions. She then checked for supportive, opposing and disconfirming evidence of each assertion. Assertions that had supportive evidence from the data sources were kept. Assertions where opposing or disconfirming data was found were thrown out or reframed to better reflect the evidence.

## **Validity, Reliability, and Trustworthiness**

The researcher used a variety of procedures throughout this study to help establish validity, reliability, and overall trustworthiness. As previously described, all protocols for semi-structured interviews included a member check where respondents had the opportunity to alter, add to, or omit portions of the transcript. This process is called respondent validation and is also known as member checking (Flick, 2006). Furthermore, the process of constant comparative was used when creating a master list of codes in the coding portion of data analysis (Strauss & Corbin, 1998). These codes were kept and tracked in a master list within the computer program (Strauss & Corbin, 1998). Peer debriefing at points was used to enhance the validity and trustworthiness of the process and findings (Creswell, 2003). At times, the researcher reached out to individuals familiar with the study and its purpose, to review codes and themes that have been assigned. Finally, the diverse types of data collected in this study were used to triangulate the researcher's assertions and findings (Creswell, 2003). As stated earlier, Erickson's modified method was used to create, support, and reframe assertions that are supported by the range of data sources used in this study (1986). This helps support the trustworthiness of this study because the evidence is not coming from just one source of data but multiple pieces.

As an action research study, the researcher knows that the assertions that they make at the conclusion of this study apply to this context and situation. They make no claims to generalizability and fully recognize their own unique role and participation in this study from start to finish. Additionally, participants were made aware of the scope and purpose of this study at every point of data collection.

## **Chapter 4**

### **Data Results**

The previous chapter presented information on the study's design and methodology. This chapter provides results analysis in order to address the purpose of this study. It is important to remember that there is very little literature on the experiences that teachers have relating to SPSs. Furthermore, early rounds of investigation have uncovered that some teachers had very strong, negative reactions to the experience, found those data to be in-actionable, and were confused about the purpose of the SPS in general. Therefore, one purpose of this study was to document the experiences of pre-service teachers during the student perception survey (SPS) process. This would include the time leading up to the administration of the SPS survey and through receiving the subsequent results of that survey. The second purpose of the study aimed to explore the influence of two online professional development modules about student perception surveys on pre-service teachers. To best fulfill those two purposes, the following research questions were created to guide this current study.

- Research Question 1 (RQ1): What are the emotional experiences of pre-service teachers throughout the student perception survey (SPS) process?
- Research Question 2 (RQ2): How do pre-service teachers make sense of and take action with student perception survey data?
- Research Question 3 (RQ3): How do the SPS modules help teachers make sense of and take action with student perception survey data within their classrooms?



- Research Question 4 (RQ4): How do the SPS modules help improve teacher views of using student perception survey data to inform their continued professional development?

Three data sources, the Pre-Module Survey, Post-Module Survey, and semi-structured interviews, provided the data that informed interpretation in this chapter. More specifically, qualitative results come from three data sources: open-ended responses from the Pre-Module Survey, (b) open-ended responses from the Post-Module Survey, and (c) semi-structured interviews. The quantitative results come from a mix of binary and Likert scale items. The researcher used a total of 24 binary, closed-ended items to gauge pre-service teacher's affective experience with student perception surveys. Additionally, they used 20 Likert scale items to assess teacher candidate views of the use of student voice in teacher professional development and their views on making sense of, and taking action based on SPS results. I organized this chapter by research question. Data analysis for qualitative and quantitative results are presented collectively for each research question in turn.

**RQ1: What are the emotional experiences of pre-service teachers throughout the student perception survey (SPS) process?**

The Quantitative and qualitative results demonstrated that teacher candidates had a combination of positive and negative emotional reactions at all stages of this study. Meaning, that the pre-service teachers experienced a variety of emotions before they participated in the first SPS module, after they had participated in the second SPS module to make sense of their results, and even later during their semi-structured interviews.

**Quantitative results related to emotional response.** Before participating in the first SPS module, teacher candidates shared their emotional states via the Pre-Module Survey. Table 6 shows how teacher candidates responded when asked this question, “At this present moment, how are you feeling about the use of SPS data being used to inform your professional development?”

Table 6

Pre-Module: Feelings about the Use of SPS Data to Inform Professional Development

Response	Angry	Scared	Upset	Excited	Curious	Happy
Yes	4.8%	9.5%	0%	57.1%	90.5%	57.1%
No	85.7%	81%	90.5%	33.3%	9.5%	33.3%
No Response	9.5%	9.5%	9.5%	9.5%	0%	9.5%

Note: N=21

Even though over half of the teacher candidates marked positive feelings like *excited* (57.1%) or *happy* (57.1%), a few respondents marked that they were *scared* (9.5%) or *angry* (4.8%) about the use of student feedback to inform their professional development.

This again highlights that pre-service teachers were feeling a range of positive and negative emotions even though they all faced participation in the same process. The feeling they selected most often was *curious*. This is interesting because it is the one option that conveys a sense of neutrality, meaning that *curiosity* doesn’t necessarily connote a positive or a negative feeling, but merely conveys the teachers’ interest in the use of SPS data to inform their professional development.

Table 7 shows how the participants responded to the pre-module question, “At this present moment, how do you feel about the results that you will get from the SPS?” As for the question pertaining to their emotions regarding professional development, respondents marked a variety of emotional states that are both positive and negative. Again, *curious* is the most popular choice (85.7%), which seems to communicate that regardless of what other matching emotions the teachers had, positive or negative, most everyone was interested in the results they would receive. Since the teacher candidates gave these responses before they had ever participated in a student perception process, it is possible that they viewed the entire experience as new and interesting. It is noteworthy that almost a quarter of the participants stated that they were *scared* (23.8%) about the results they would receive. Only 9.5% reported that they were *scared* about the use of those results to inform their professional development. This could mean that teacher candidates are more scared about what their students will say about their teaching than the use of that information to direct their professional development. There could be many reasons why some pre-service teachers are scared of their SPS results. It could be due to the novel nature of this type of data or it could be because of the unique, close emotional relationship teachers often have with their students.

Table 7

Pre-Module: Teacher Candidates' Feelings About the SPS Results They Will Receive

Response	Angry	Scared	Upset	Excited	Curious	Happy
Yes	0%	23.8%	0%	42.9%	85.7%	52.4%
No	90.5%	66.7%	90.5%	47.6%	4.8%	42.9%
No Response	9.5%	9.5%	9.5%	9.5%	9.5%	4.8%

Note: N=21

Table 8 shows how participants responded when asked the following two questions, “I feel threatened about the results from the SPS survey,” and “I feel threatened about the possible effects of this SPS survey process.”

Table 8

Pre-Module: Feelings of Threat by Results or Effects

Survey Item	Strongly Agree	Agree	Disagree	Strongly Disagree
I feel threatened about the results from the SPS survey.	0%	4.8%	33.3%	61.9%
I feel threatened about the possible effects of this SPS survey process.	0%	0%	19%	81%

Note: N= 21

The data in Table 8 shows that, prior to receiving their results, the majority of teacher candidates did not feel threatened by the effects of the process (Mean = 1.19, SD= .40) or the feedback that their students would provide them (Mean = 1.43, SD = .60). Not feeling threatened by the results or process could be due to the fact that the teacher candidates had never experienced either before. Alternatively, their lack of perception of threat could be due to the low-stakes nature of the circumstance; there really was nothing threatening about either the results or the effects of the process

Even after receiving their SPS results, Teacher Candidates still reported a range of emotional reactions, though there had definitely been a shift. Table 9 shows how teacher candidates responded when asked, “At this present moment, how are you feeling about the use of SPS data being used to inform your professional development?”

Table 9

Post-Module: Feelings about the Use of SPS Data to Inform Professional Development

Response	Angry	Scared	Upset	Excited	Curious	Happy
Yes	6.3%	6.3%	12.5%	37.5%	87.5%	31.3%
No	87.5%	93.8%	81.3%	43.8%	12.5%	56.3%
No Response	6.3%	0%	6.3%	18.8%	0%	12.5%

Note: N=16

There is a shift away from the more positive emotional states listed and an increase in the number of respondents who are upset by the process. Most of the teacher candidates are still curious about using SPS data to inform their professional development. It is unclear

what teacher candidates are still curious about at this point since they would have received and interpreted the results. It's possible that the process as a whole still felt new and interesting, as this was a completely new form of feedback that they had never experienced before.

Table 10 shows how teacher candidates responded when asked, “At this moment, how do you feel about the results that you received from the SPS?”

Table 10

Post-Module: Teacher Candidates’ Feelings About Their SPS Results

Response	Angry	Scared	Upset	Excited	Curious	Happy
Yes	6.3%	0%	43.8%	31.3%	87.5%	50%
No	93.8%	93.8%	50.0%	56.3%	12.5%	50%
No Response	0%	6.3%	6.3%	12.5%	0%	0%

Note: N=16

In Table 10, you can see a similar decrease in positive emotional states, which echoes what was seen in Table 9. When specifically considering their SPS results, more teacher candidates reported that they were upset by their actual results than they had expected. As stated earlier, it is possible that teacher candidates were more optimistic and excited about receiving feedback from their students before the SPS process had begun. Once actually having that feedback in front of them, there could have been a decrease in the optimism and general positive feel. This could be especially true if teacher candidates had received less favorable results from their students. This effect of “happily imagining

how I will feel” reported in the Pre-Module Survey versus the reality of “how I actually feel” in the Post-Module Survey could also explain another phenomenon in these data. In the Post-Module Survey, there are suddenly no teacher candidates who are scared of their results. This makes logical sense when you consider they were in possession of the thing that was the scariest element they faced. Once they received their student feedback, there was really no frightening, unknown element of their results.

Table 11 shows how participants responded when asked the following two questions, “I feel threatened by the SPS results,” and “I feel threatened by some of the effects of this SPS survey process.”

Table 11

Post-Module: Teacher Candidates Feel threatened by the Results or Effects of the Process

Survey Item	Strongly Agree	Agree	Disagree	Strongly Disagree
I feel threatened by the SPS results.	0%	6.3%	25%	68.8%
I feel threatened by some of the effects of this SPS survey process.	0%	6.3%	25%	68.8%

Note: N=16 (Q1 M= 1.4, SD= .62) (Q2 M= 1.4, SD= .62)

Note from the table that there was a positive trend from pre to post in the number of respondents who stated they felt threatened by some of the effects of the SPS survey process. This is interesting, because this process was very low-stakes, as it was not tied to

any formal evaluation or grade and teacher candidates did not have to show their results to anyone—including mentor teachers, site administrators, or faculty site coordinators. It is unclear what effects of the process the teacher candidates felt threatened by, in particular.

There were only 12 respondents who participated in both the Pre-Module and the Post-Module surveys. The researcher analyzed data from this particular group of 12 participants in order to examine how their emotional experiences may have shifted over time. Tables with exact percentages for the two survey questions which asked pre-service teachers to identify their specific feelings about their SPS results and the SPS process used to inform their professional development are in the appendices. Otherwise, differences of 10% or greater will be reported here.

Regarding the results from the question dealing with the use of SPS data being used to direct professional development, the 12 teacher candidates who took both surveys proportionately differed from the larger group in only two instances. On the Pre-Modules survey, 57.1% of the larger group of teacher candidates (N= 21) identified themselves as *happy* whereas from the group of 12 teacher candidates only 41.7% stated they were *happy*. Meaning, that a higher proportion of the larger group identified as feeling *happy*, a difference of 15.4%, than the smaller group of 12 teachers. Additionally, on the Post-Module Survey, 37.5% of the larger group of teacher candidates (N= 16) identified feeling *excited* whereas 58.3% of the group of 12 teacher candidates stated they were *excited*. This shows that the smaller group of 12 pre-service teachers were generally more excited about the use of the results in their professional development, by a difference of 20.8%, than the larger group.



In regards to how the teacher candidates felt about the SPS results, on the Pre-Module survey 52.4% of the larger group of teacher candidates (N= 21) identified themselves as *happy* whereas from the group of 12 teacher candidates only 33.3% stated they were *happy*. This means that the larger group of teacher candidates felt happier, a difference of 19.1%, about the prospect of their results than the smaller subset group of 12 teacher candidates. As for the Post-Module survey, 43.8% of the larger group of teacher candidates (N= 16) identified themselves as feeling *upset* whereas from the group of 12 teacher candidates only 33.3% stated they were *upset*. Meaning, the larger group felt more upset by their SPS results than the smaller group of 12 teachers, a difference of 10.5 percent.

Analysis further indicated that the group of 12 teacher candidates who took both surveys did not feel threatened by the SPS process or the results either before or after they received their results. Dependent t-tests were used to compare the pre and post means for the two Likert scale item questions dealing with threat. There was not a significant difference for the responses regarding feeling threatened by the SPS results in the Pre-Module (M= 1.3, SD= .50) and the Post-Module (M= 1.3, SD= .45) surveys; ( $t_{11} = .561, p < 0.586$ ). Likewise, there was not a significant difference for the responses regarding feeling threatened by the effects of the SPS process in the Pre-Module (M= 1.08, SD= .29) and the Post-Module (M= 1.3, SD= .45) surveys; ( $t_{11} = -1.483, p < 0.166$ ). A dependent t-test was appropriate in this instance because it is used to compare the variable means of two related groups.

## Qualitative Results Related to Emotional Response

Just as there has been a trend in the quantitative results of more negative emotions after teacher candidates received their SPS results, this trend appeared in the qualitative data sources as well. In all three data sources, participants specifically spoke about their reactions to the results and what they interpreted those results to mean. These six distinct codes emerged through analysis: *mixed*, *disappointment*, *negative*, *scared*, *shock*, and *difficulty making sense*. *Mixed* was used to code statements where teacher candidates spoke about negative and somewhat positive emotional reactions together. The researcher used the code *disappointment* in instances where pre-service teachers conveyed feelings of discontent when they received lower scores than they had expected. The *negative* code was used to signify stronger, more serious, negative emotions. They used *scared* to categorize statements that were associated with a teacher candidate's fear. And they used the code *shock* for instances where pre-service teachers conveyed sentiments of surprise. And the code *difficulty making sense* was used for statements where teacher candidates had received self-described low scores and were having a difficult time making sense of the results. These codes and exemplifying quotes from the data sources are in Table 12. More quotes that exemplify each code are in Appendix H.

Table 12

Codes for Theme of Teacher Candidates Struggle with Negative Student Perception Data

Code	Exemplifying quotes
<i>Mixed emotions</i>	“I felt like some of the numbers, I wasn't sure exactly what to think.” -Jasmine
<i>Disappointment</i>	“I don't know. Like I said, I'm really hard on myself. Whether it's achievement data or this data, so I took it kind of hard” - Sarah  “Well, I mean I looked at the comparison score on the report and I was below average on most of these," so I was like a little bummed out, like "I thought my kids ..." And that was just my gut, "I thought they liked me better." -Sam  “My results are a little upsetting.”
<i>Negative</i>	“I heard some comments like, "These kids just don't like me." There's "X" kid who behaves really badly in that class and I think that makes everybody, give me a lower score. It's not my fault this kid's in my class.” -Jasmine  “Some kids may respond out of spite and not the truth.”
<i>Shock</i>	“There was one question where I was like, "Well, what do you guys mean?" -Sam
<i>Difficulty making sense</i>	“My initial thought was, "Did my students understand all the words? There's no way they understood all these words if it was given to them in this way.” - Sam  “I think it tells me that. One, it tells me my students see me as a teacher different than how I see myself. I don't know. That's the big thing it tells me.”

In the process of interpreting the codes, these six specific codes emerged as a cohesive group because they all related to negative SPS results. When teacher candidates

received negative SPS results, they expressed these five emotions and their struggle to make sense of the results through their statements. This group of six codes emerged as the cohesive theme of *teacher candidates struggle with negative student perception data*. This theme expresses, in particular, those pre-service teachers who receive less favorable student perception survey results had negative emotional reactions and also struggled to make sense of the results.

It is important to reiterate at this point that the teacher candidate participants experienced the student perception survey process with some of the lowest stakes. Meaning, there was no benchmark or particular percentages that they needed to score and there was no evaluation or grade tied directly to their scores. Additionally, no one would see the results unless the teacher candidate herself/himself shared them. Meaning, that not even their mentor teachers, supervising principals, or their faculty site coordinators would see the results. The SPS results were given to these pre-service teachers as informative feedback about their teaching to aid in their continued reflection and development. This is reiterated to highlight the fact that teacher candidates still felt negative emotions in reaction to their low SPS results even when the only consequence of the process was the results themselves.

This negative emotional response, and the fact that pre-service teachers struggled with making the sense of the data, is not necessarily surprising. As previously stated in the literature review, teachers often readily accept positive scores and scores that are expected (Woodcock & Vialle, 2011). However, teachers with scores that are unexpected or lower tend to explain them away by attributing causation to the student (Bertrand & Marsh 2015; Woodcock & Vialle, 2011). Additionally, as discussed previously, Weiner

and others have written about the importance of emotions and their effect as a lens through which we interpret experiences, attribute causation, and take action (Weiner, 1985, 2010).

**RQ2: How do pre-service teachers make sense of and take action with student perception survey data?**

From the very beginning of the study, teacher candidates had positive views about their abilities to make sense of, and take action with the student feedback they’d get from the student perception surveys. For example, Table 13 demonstrates a high level of confidence in their abilities to make sense of the results and act on them.

Table 13

Pre-Module: Beliefs About Making Sense of SPS Data and Taking Action

Survey Item	Strongly Agree	Agree	Disagree	Strongly Disagree
I can make sense of the student perception survey data when I receive it.	52.4%	47.6%	0%	0%
I can use the data from the student perception survey to take positive action.	52.4%	47.6%	0%	0%

N= 21 (Q1, M= 3.5, SD= .51) (Q2, M=3.5, SD= .51)

After teacher candidates received their SPS results, a majority of the respondents stated that they were able to make sense of the results (87%) and would take action in their classroom (87%). However, it would be important to note echoes of a trend that we

had seen earlier in the quantitative data. Previously, we discussed how teacher candidates tended to have a more positive or optimistic view of how they would respond to SPS data than when they actually had that data. This same pattern appears in Table 14. It appears that some pre-service teachers find making sense of and acting upon SPS data to be more difficult than they predicted.

Table 14

Post-Module: Beliefs About Making Sense of SPS Data and Taking Action

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
I was able to make sense of the student perception survey data when I received it.	50%	37.5%	12.5%	0%
I used the data from the student perception survey to take positive action.	25%	62.5%	12.5%	0%

N=16 (Q1, M= 3.4, SD= .72) (Q2, M=3.1, SD= .62)

One reason why teacher candidates may have responded more agreeably with being able to make sense of the results versus being able to use them in order to take action in the classroom could be due to the degree of understanding they had of the data. For example, a teacher could understand that most of his students responded favorably to survey items related to the category of Learning Environment. However, he may not have made enough sense of that data to make it actionable feedback.

Further analysis indicated that the group of 12 teacher candidates who took both the pre and post administrations of the survey responded similarly to the larger group. “I used the data from the student perception survey to take positive action” was the only survey item on any of the surveys to yield responses with a differences of 10% or greater. Of the larger group of teacher candidates (N= 16), 25% said they strongly agreed, 62.5 % said they agreed, and 12.5% said they disagreed with that statement. However, in the subset group of 12 teacher candidates, 60.7% said they strongly agreed, 25% said they agreed, and 8.3% said they disagreed with the statement. This just means that a larger percentage of the subset of 12 teacher candidates more strongly agreed that they were able to use the SPS data to take action in their classroom.

I used dependent t-tests to compare the pre and post means for the two Likert scale item questions dealing with making sense of the SPS results and acting upon them. There was not a significant difference for the responses regarding teacher candidates’ ability to make sense of the SPS results on the Pre-Module (M= 3.6, SD= .52) and the Post-Module (M= 3.5, SD= .67) surveys; ( $t_{11} = .364, p < 0.723$ ). There was not a significant difference for the responses regarding the use of SPS results to take action in the classroom on the Pre-Module (M= 3.5, SD= .52) and the Post-Module (M= 3.6, SD= .67) surveys; ( $t_{11} = -.432, p < 0.674$ ). A table of the Pre-Module and Post-Module responses for these two survey items for the subset of 12 teacher candidates is in Appendix J.

## Qualitative Results Related to Making Sense of SPS Data

This struggle to make enough sense of the SPS results in order to act upon it relates to some of the statements pre-service teachers made about the strategies they used to interpret the SPS results.

During the semi-structured interviews, some teacher candidates described strategies for how they made sense of the SPS results. One pre-service teacher stated, “Even particular students that I feel like I've gone out of my way to really help, or I've done some things to really support them, or really streamline and support their learning, or their behavior. Really stopped and thought about "I wonder what they responded on this survey, did they say this, did they say that?" I thought about particular kids, too.” On the Post-Module survey, another pre-service teacher commented, “Reading the questions and thinking about my teaching” while another said, “Analyzing percentages.” These type of responses were common amongst the teacher candidates. Therefore, the researcher created three specific codes to categorize the types of strategies or processes that pre-service teachers used to make sense of their results. The three codes are *consider student characteristics*, *recall classroom experiences*, and *numerically*. The researcher used the code *consider student characteristics* to identify statements where teacher candidates identified and reflected upon student characteristics as a part of the process to make sense of their SPS results. The code *recall classroom experiences* was used to label statements where preservice teachers reflected back on particular instances from the classroom to help them understand and interpret their SPS results. The third code, *numerically*, describes instances when teacher candidates used a process where they analyzed or used the percentages from the SPS report to interpret the data. These three



codes and exemplifying quotes from the data sources are in Table 15. More quotes that exemplify each code are in Appendix H.

Table 15

Codes Related to the Theme of Teacher Candidates Use Few Strategies to Interpret Results

Code	Exemplifying quotes
<i>Consider student characteristics</i>	“I wouldn't say it necessarily negatively impacted my scores. Like if it was simplified, all my scores would be up around 90, I just have a feeling that with some of my students on some of the questions, not all by any means, that they would go, "I don't get that. All right, click." ...I just think that there are some kids probably just clicking through if they don't know.” -Sam
<i>Recall classroom experiences</i>	“For example, student growth and achievement, we have this big wall on our board of how we're doing. We track our reading. We chart it on a graph. We're doing all that kind of stuff and some of them still said, "No" to some of the questions. I'm like, "Well, maybe I'm just not wording things correctly." Like based on how the questions were, so like, "The things I'm working on in class are too easy. The things I'm working on in class are important to me." Instilling that belief that this is important and the reason that we chart our growth and we chart our successes is because it makes it more real. It makes it more relevant and you can actually see your progress.” -Reese
<i>Numerically</i>	“We sat down and looked at all the data and kind of compared like what's your strength, what's your weakness.” - Sam  “Analyzing percentages.”

Upon comparing and interpreting all of the codes from the qualitative data sources, these three codes were related because they described the actions that teacher candidates took to make sense of their SPS results. When grouping these codes together, the theme *teacher candidates use few strategies to interpret results* emerged.

Teacher candidates used three general strategies when trying to make sense of their results: numerically, considered student characteristics, and recalled classroom experiences. Additionally, they used those strategies to varying degrees of depth. For an example of degree of depth, consider these two responses found under the code of *numerically*. One individual said, “Looked at results.” whereas another teacher described an elaborate process of how they first sorted their data, compared the results with the group average, and then began to consider the individual survey statements associated with the numbers. This means that a teacher candidate may have only used one of the three strategies to make sense of the data and may have used it quite superficially.

The researcher often used the code *consider student characteristics* when teachers received negative scores. Attribution theory, described in more detail in the literature review in Chapter 2, explains how individuals make sense of and attribute causes to an event. In this instance, the cause would be the SPS results and the attributions were an array of student characteristics. Some teachers spoke about the language of the survey proposing that their students hadn’t understood the statements or were unfamiliar with surveys in general. Even further, some teacher candidates reported that their peers attributed the results to some “bad” students who had great influence in the classroom.

The most interesting aspect of attributing student characteristics to the results is that no teacher with a self-described high score questioned, or was concerned about students understanding the surveys. This again is not necessarily surprising when we look back at what our theoretical frameworks outlined in the sensemaking or attribution process. Attribution theory identifies that the individual will have some emotional response, which then helps dictate what attributions explain the cause and subsequently,

what future actions will be made in response to an event (Seifert, 2004; Weiner, 1985, 2010). Weick's sensemaking theory also highlights that individuals engage in the sensemaking process up to the point of plausibility and not necessarily accuracy (1995, 2011). Furthermore, he states that sensemaking is a selective process. Individuals focus on some aspects or extracted cues and ignore others (Weick, 1995, 2011). Meaning that on the event of receiving their SPS results, teachers will engage in the process of sensemaking up to the point of plausibility. When the results they received were high, plausibility sounded like this, "I'm doing great", or "I take positive action every day to make sure my students are doing their best. This survey just confirmed that I am an above average teacher doing her best, as well." When the results were low, plausibility sounded like this, "The students must've misread this" or "They probably just clicked whatever".

Additionally, Sensemaking Theory states that the sensemaking process is grounded in identity construction (Weick, 1995, 2011). In this circumstance, it is much easier and appealing to subconsciously select aspects of SPS process and results that construct a positive view of one's self rather than a negative one. This can help explain the circumstance where teachers who received high scores, attributed that to their skill as a teacher and not stop to consider that their students may also have misread or misunderstood the language of the survey.

The process of making sense of data, or really interpreting a set of numbers to the point of drawing conclusions about what they are saying is not a set process. As described in literature review, this is one of the problematic aspects of the currently popular concept and phrase data-based decision making (Cochran-Smith & Lytle, 2009; Spillane, 2012). The idea is often spoken about or presented in a way that conveys a very

clear-cut, specific set of actions that are universally accepted to interpret and act upon data (Cochran-Smith & Lytle, 2009; Spillane, 2012). However, as the literature explains and as the teacher candidates describe, the process is less clear-cut and more subjective (Schildkamp & Kuiper, 2010). As discussed thus far, the process depends on the individual, their previous experiences, and even the degree that the results are negative or positive and they are externally or internally pushed to make sense of the results beyond plausibility and more towards accuracy.

Many teacher candidates recalled events, interactions, or experiences from the classroom. The code *Recall classroom experiences* directly relates to the element of retrospection as identified in Weick's Sensemaking theory (1995, 2011). This is where the individual reflects on past experiences to help make sense of present circumstances. During a semi-structured interview, one teacher candidate in particular had recalled a recent moment in class where a student had asked why they were even learning about plants. The pre-service teacher was reminded of that event as she was contemplating her low scores in the category of motivation. She connected to the two instances as related and believes that if she provided better rationale for learning the content, students would be more engaged and motivated.

As teacher candidates were making sense of their results, they were also in the process of generating and selecting ideas about what actions they should take in response to these data. Pre-service teachers made a variety of comments about what impact the results were going to have on them, the actions they were going to take and why. For example, one pre-service teacher during the interviews commented, "Okay well, we still have a couple months left. We can change this around." On the Post-module survey,

other pre-service teachers said, “I plan to improve these scores and improve my classroom environment” and, “Talking to my students about the results and ways we can improve.” One other teacher candidate stated in an interview, “I probably disregarded it more than other teachers just because, I don't know. At this point, I'm just like, "Okay, that's one piece, and it's not gonna make or break anything and everything else.” These statements conveyed not only did teachers react to the SPS results themselves, but also their reactions revealed implicit beliefs about data and the role of feedback in professional development.

When analyzing the qualitative results, it was clear that these teachers spoke about actions they were or were not going to take and why. The three codes were *feedback to grow*, *fixed mindset*, and *actions in the classroom*. The researcher used *feedback to grow* to label comments where teacher candidates explicitly or implicitly stated that they were going to use the results in some way to improve their teaching practice. The code *fixed mindset* was used for statements where the pre-service teacher was somehow disregarding the data or not going to use the results to develop their pedagogical skill. Finally, the code *actions in the classroom* was used to group and statements where teachers identified any action they planned on taking in the classroom based on the results. Table 16 lists these three codes and exemplifying quotes from the data sources. More quotes that exemplify each code are in Appendix H.

Table 16

Codes for the Theme of Teacher Candidate Mindsets Influenced Their Subsequent Actions

Code	Exemplifying quotes
<i>Feedback to grow</i>	<p>“If any scores are low it lets me know what I need to work on.”</p> <p>“I really would like to know how my students feel about me as their teacher on many different aspects. I care to know about any areas that I need to change in order to better serve my students.”</p>
<i>Fixed mindset</i>	<p>“Yeah, but some teachers who do just have that fixed mindset, they might not even think to look internally” -Karen</p> <p>“I probably disregarded it more than other teachers just because, I don't know. At this point, I'm just like, "Okay, that's one piece, and it's not gonna make or break anything and everything else." -Sam</p>
<i>Actions in the classroom</i>	<p>“Based on the data, I would like to work on ensuring that my students feel safe to make mistakes, incorporate more reading and learning about people like the students within my classroom, and ensuring that the students know that they do/can do well in school.”</p>

Across the qualitative data, these codes emerged as exhibiting underlying teacher mindsets about the role of data and actions they planned on taking in response to student perception survey data. These codes were linked because one’s mindsets or beliefs about the role of feedback will undoubtedly affect what actions you take with that data. Therefore, the overarching theme for these three codes is *teacher candidate mindsets influenced their subsequent actions*.

Mindsets played an interesting role in how teacher candidates responded to the results and the actions they would take in the classroom. The concept of growth and fixed mindsets are explained in the first SPS module to help frame the entire process as

one that should spur teacher growth and improve the learning experience for students. Many teacher candidates viewed the experience as such and commented they could learn from these data and could grow in their skills because of the results. Some teacher candidates spoke about how they've seen teachers with more fixed mindsets view data as more of a reflection of the students and not results of teacher actions. Similarly, to what is described earlier, these more fixed-minded teachers might focus in on student characteristics, like students being "bad", or might disregard the results. On the Pre-Module Survey, one teacher candidate responded, "Not very concerned about results from students, more concerned about how my peers perceive me" when they were asked about how they feel about the results they'd get from the SPSs. Another teacher candidate during an interview stated, "I think for some people the concern came from, 'If my results are bad am I going to be judged by others. Maybe not by myself but others as a less competent teacher.'" These often implicit views of growth, competence, and data as feedback directly affect how teachers will view the SPS process. This in turn narrows what actions the teacher will even consider taking in response to the data.

Furthermore, the scores pre-service teachers received did not necessarily relate to pre-service teacher mindsets. Teacher candidates received a range of scores, from higher to lower, and still made statements about how they could use this information to improve and make their teaching better. In fact, one teacher in particular, commented on actions she could take to improve in every category and not just in the lowest scoring one. Other teachers however, spoke about how they appreciated receiving the results but did not identify a single action they would take in the classroom in response to the data.

Mindsets, then, were really something teacher candidates brought with them from before the start of the SPS process and it had great influence on what they did with the results.

**RQ3: How do the SPS modules help pre-service teachers make sense of and take action with student perception survey data within their classrooms?**

Continuing along the line of how pre-service teachers made sense of their SPS results and acted upon them, another theme emerged from the qualitative data related to the SPS modules. At times during the interviews, teacher candidates would specifically speak about how the SPS modules were playing a role in their sense making or had helped them identify actions they could take in their classrooms. For example, “I personally liked it because it gave me a focus point, where I should be, what I should be looking at specifically with my data versus just being given the data and saying, “Here you go.” Now I’m just like, “Well, huh? What?” You know? So, given that focus point was really good for me.” Another pre-service teacher stated, “I think I was surprised how when I stopped to think about the questions it was asking me, and then I was really forced to think about my own classroom, I was surprised with how much more things it brought up. More ideas it gave me.” The researcher labeled these comments and other similar ones with one of two codes, *beneficial systematic reflection* and *prompted to act*. They used the code *beneficial systematic reflection* to categorize statements where the participant spoke about how one of the modules helped them make sense of the data. *Prompted to act* was used to code instances where the pre-service teacher was specifically aided in identifying actions they could take. These two codes and exemplifying quotes from the data sources are in Table 17. More quotes that exemplify each code are in Appendix H.



Table 17

Codes for the Theme of Modules Provide Systematic Approach to Action

Code	Exemplifying quotes
<i>Beneficial systematic reflection</i>	<p>“I personally liked it because it gave me a focus point, where I should be, what I should be looking at specifically with my data versus just being given the data and saying, "Here you go." Now I'm just like, "Well, huh? What?" You know? So given that focus point was really good for me.” -Karen</p> <p>“I think it was helpful. I think the questions and breaking down the questions, was helpful going through each of those. Then when I gave you examples for how you might take this back into your classroom. I think that's also helpful, to see those suggestions of presenting the results to the students, and getting them involved in figuring out what we can do to improve these. I think that the module was helpful” -Lisa</p>
<i>Prompted to act</i>	<p>“I think I was surprised how when I stopped to think about the questions it was asking me, and then I was really forced to think about my own classroom, I was surprised with how much more things it brought up. More ideas it gave me.” -Sarah</p>

When analyzing the qualitative data, these two codes emerged as a cohesive pair because of how they related to the SPS modules and the participants ability to make sense and take action. Therefore, the overarching theme for those two codes is *modules provide systematic approach to action*. This theme encompasses places in the qualitative data where candidates provided insights into how they used the module to make sense of their data and take action in their classrooms.

Throughout the interviews and the Post-Survey Module open-ended responses, teacher candidates all explicitly spoke about how they appreciated a systematic way of

reflecting and analyzing the results in order to make meaning from the numbers. A few pre-service teachers specifically stated that they were surprised how many more ideas they were able to come up with by going through the module. Other teacher candidates said that the focused, systematic process really helped them dig deeper into the results. This means that if they hadn't participated in the module, their understanding of the results would've been superficial. This in turn would have limited the actions that they would take in response to their data. The participating teacher candidates described 18 different specific actions they would take in their classroom in response to their data, some of these ideas being repeated by other teacher candidates.

Investigations prior to this study found that teachers felt like the SPS data they received was in-actionable. That the survey results provided them some information but they felt as though there wasn't necessarily anything they could do specifically in response. Those results echo similar ones in a study examining the use of student perceptions surveys in higher education (Jacobs, 1987). The researcher found that 63% of the respondents were able to interpret their results but did not actually know what to do to improve their teaching (Jacobs, 1987). The models in this study were explicitly designed to eradicate this issue. Either the systematic reflection provided in the modules would yield enough information for teachers to act or it would prompt them to act in order to gather more information so they could engage in systematic reflection. For example, some of the actions that teacher candidates plan on taking related to how they are still making sense of the results. A few of the teacher candidates mentioned they wanted to ask their students clarifying questions about the results to better understand what it is that students do not like. Another pre-service teacher wanted to bring the results back to her

students and reflect on the results with them. What appears to have happened is that a particular section in the module called, “Gather more information” has rendered the previously held notion of “in-actionable” to no longer be an option. These results are similar to the results of another study done on student perception surveys in higher education. Within the study, the researcher provided the instructors with the student feedback along with consultant who provided the instructor with concrete strategies that could be implemented in response to their areas of greatest need (Wilson, 1986). With these strategies, instructors were able to improve their teaching practices as evidenced by the increase in their student perception scores (Wilson, 1986). The SPS modules in this study are not equivalent to an in-personal consultant, but do take on that role to some extent by pushing teacher candidates to dig deeper in their reflections in order to interpret more from their results and by providing concrete suggestions on how they can improve their practices.

Another reaction to results, which was designed into the intervention, was a realization about perceptions. In the first SPS module, teachers are asked to make predictions about how their students will respond on the surveys. This prediction sets a benchmark of how the teacher understands how the students perceive and experience the teacher and the classroom. Interestingly, whether the results were very high, low, or mid-scale, teachers really stopped to consider how they viewed themselves and how their students viewed them. One teacher openly disregarded one of the scores and claimed that they knew they were more solid in that area. Other teachers really noticed that there was a difference in how their students saw them and how they saw themselves. This recognition caused some teachers to say that they felt like there was a shift in how they

perceived their students and even interacted with them. They stated that it has even caused them to think more about their students' perspective than they had previously.

Some teacher candidates have commented on how they think about the ways in which their students will experience things--from specific procedures, individual lessons, to their personal interactions. One teacher candidate said,

*"Yeah, yeah. For sure, I think it has changed how I was seeing things and I think it's helped me to look more from their perspective, and what are my students seeing from me? What do they need from me? To see that these things are being met, that they need."*

This newer, heightened awareness of their students' experiences have caused some pre-service teachers to take action and make changes. For example, one pre-service teacher said in an interview,

*"Going the step further, 'When you talk this way, you can hurt your neighbor's feelings, then they might not feel safe in our classroom.'-kind of thing. Realizing that maybe giving kids more intention would help them understand we're doing this for a reason, not just for no reason."*

Another teacher candidate said,

*"...shifting how I'm seeing things to seeing it how my students would see it. I think, because I was like we were just going back through it ... I'll look at it again. I think that there were definitely some things like ... I feel like my planning is usually good, I think my lesson plans are usually pretty good, but then trying to think, 'Okay, what do they see of that plan?' I think that's helped me to realize that's where that difference in view comes from."*

Their data has brought about an increased awareness of the students' classroom experience and perspective.

**RQ 4: How do the SPS modules help improve pre-service teachers' views of using student perception survey data to inform their continued professional development?**

From the very beginning of the study, teacher candidates held very positive views about student feedback, its use, and the student perception process in general. Table 18 displays their responses from the Pre-Module Survey at the start of the study.

Table 18

Pre-Module: Teacher Candidate Views on Student Feedback and Its Use

Survey Item	Strongly Agree	Agree	Disagree	Strongly Disagree
I value my students' perspective on my teaching.	81%	19%	0%	0%
Student perspective obtained through the use of student perception surveys is an important piece of data to collect.	47.6%	52.4%	0%	0%
Data collected from student perception surveys should be used to inform school-wide professional development.	42.9%	52.4%	4.8%	0%
Data collected from student perception surveys should be used to direct personal professional development for each individual teacher.	38.1%	52.4%	9.5%	0%

N= 21 (Q1, M= 3.8, SD= .45) (Q2, M=3.5, SD= .63) (Q3, M= 3.4, SD= .60 ) (Q4, M=3.3, SD= .64)

Even after teacher candidates had received their own SPS results and had experienced the entire SPS process, they continued to hold very positive views. This is evident in the data displayed in Table 19.

Table 19

Post-Module: Teacher Candidate Views on Student Feedback and Its Use.

Survey Item	Strongly Agree	Agree	Disagree	Strongly Disagree
I value my students' perspective on my teaching.	75%	25%	0%	0%
Data collected from student perception surveys should be used to inform school-wide professional development.	56.3%	37.5%	6.3%	0%
Data collected from student perception surveys should be used to direct personal professional development for each individual teacher.	68.8%	25%	6.3%	0%

N=16 (Q1, M= 3.8, SD= .45) (Q2, M= 3.5, SD= .63) (Q3, M=3.6, SD= .62)

Further analysis indicated that the group of 12 teacher candidates who took both the pre and post administrations of the survey responded similarly to the larger group for these three survey items. All responses were proportionately similar with no response yielding a difference of 10% or greater from the larger groups that were just presented.

I used a dependent t-test to compare the pre and post means for three Likert scale items dealing with valuing student feedback and how it should be used. There was not a significant difference for the responses regarding valuing students' perspective on a teacher's practice on the Pre-Module (M= 3.8, SD= .45) and the Post-Module (M= 3.8, SD= .39) surveys; ( $t_{11} = -.561, p < 0.586$ ). There was not a significant difference for the responses regarding the use of SPS results to inform school-wide professional development on the Pre-Module (M= 3.3, SD= .65) and the Post-Module (M= 3.5, SD= .67) surveys; ( $t_{11} = -1.483, p < 0.166$ ). There was however a significant difference for the responses regarding the use of SPS results to direct personal professional development for each individual teacher on the Pre-Module (M= 3.3, SD= .62) and the Post-Module (M= 3.7, SD= .65) surveys; ( $t_{11} = -2.803, p < 0.017$ ). This means there was a statistical difference in how the subset of 12 teacher candidates viewed the use of SPS data to direct professional development for individual teachers after having experienced the process and receiving their own results. They agreed more strongly that it should inform personal professional development. Table 20 shows the Pre-Module and Post-Module Survey responses for the 12 teacher candidates who completed both surveys.

Table 20

Pre and Post-Module: Teacher Candidate Views on Student Feedback and Its Use

Survey	Pre-Module				Post-Module			
Response	SA	A	D	SD	SA	A	D	SD
I value my students' perspective on my teaching.	75%	25%	0%	0%	83.3%	16.7%	0%	0%
Data collected from student perception surveys should be used to inform school-wide professional development.	41.7%	50%	8.3%	0%	58.3%	33.3%	8.3%	0%
Data collected from student perception surveys should be used to direct personal professional development for each individual teacher.	33.3%	58.3%	8.3%	0%	75%	16.7%	8.3%	0%

Note: N= 12, SA=Strongly Agree, A= Agree, D= Disagree, SD= Strongly Disagree

The Pre-Module and Post-Module survey responses were further examined for interesting relationships amongst the teacher candidate's responses who participated in both surveys (n=12). First, I used the statistical computer software program SPSS to calculate the correlation coefficient (r) of two variables by running a bivariate correlation report. Variables that produced very strong (.8 < r < 1.0) correlations with statistical



significance of  $p < .005$  were noted. I calculated a coefficient of determination ( $r^2$ ) for each. I will share three interesting bivariate correlations here.

First, the relationship between respondents' views on the use of SPS data to inform school-wide professional development between the Pre-Module ( $M= 3.3$ ,  $SD=.65$ ) and Post-Module Survey ( $M=3.5$ ,  $SD=.67$ ) was shown to have a statistically significant, very strong, positive correlation ( $r = 0.83$ ) ( $p < .001$ ) (Merrigan & Huston, 2008). Which means that these teacher candidates did not fluctuate in their views much between the administrations of the surveys. Meaning, that the opinion they held on the Pre-Module Survey accounts for 69% ( $r^2= .69$ ) of the variation in their responses on the Post-Module Survey.

The second noteworthy relationship exists between respondents' abilities to use their SPS results to take positive action in their classroom ( $M= 3.6$ ,  $SD=.67$ ) and their opinion on whether SPS data should be used to inform school-wide professional development ( $M=3.5$ ,  $SD=.67$ ) on the Post-Module Survey. These two variables had a statistically significant ( $p < .005$ ) strong, positive correlation ( $r = 0.71$ ) (Merrigan & Huston, 2008). Which means that the amount of success that pre-service teachers had with using their SPS results to take action in their classroom accounted for 50% ( $r^2= .50$ ) of the variance found in their beliefs on the use of SPS data to inform larger, school-wide professional development.

The final interesting correlation came from the Post-Module Survey responses of the 12 teacher candidates that similarly dealt with their abilities to use SPS results and professional development. A statistically significant ( $p < .001$ ), very strong, positive

correlation ( $r = 0.91$ ) exists between a pre-service teachers abilities to use their SPS results to take positive action in their classroom ( $M= 3.6, SD=.67$ ) and their opinion on whether SPS data should be used to direct personal professional development for each individual teacher ( $M= 3.7, SD=.65$ ). The success in using their SPS results to take action in the classroom accounts for 83% ( $r^2= .83$ ) of the variance in their views on using SPS data to guide individualized professional development.

These last two bivariate correlations make sense. It would be understandable for a pre-service teacher to think that further benefits in teacher growth could come from the use of student perception survey results if they themselves have experienced success and benefit from their use.

Table 21 contains one last set of quantitative data that really speaks to the positive influence of the SPS modules on teacher candidates' opinions of student feedback comes from a question off of the Post-Module Survey. Over 87% of Teacher Candidates stated that their participation in the SPS modules has caused them to value SPS data more in their professional development.

Table 21

Post-Module: Influence of the Modules on the Use of SPS Data in Professional Development

Survey Item	Strongly Agree	Agree	Disagree	Strongly Disagree
After participating in the SPS module, I now more highly value the role of SPS data in my professional development.	43.8%	43.8%	12.5%	0%

N= 16 M= 3.3 SD= .70

Pre-service teachers have stated with a large majority (87%) that participating in the SPS modules helped foster a greater appreciation of the use of SPS results to inform their professional development.

**Qualitative Results related to the value of using SPS data.**

Teacher candidates, from start to finish have had positive views of student feedback and its use to inform teacher professional development. This sentiment was echoed in the qualitative results as well. In some of the Pre-Module survey responses, teacher candidates stated, “I am very close with my students. I am excited to hear what they have to say about my teaching” and, “My students seem to enjoy my class. I'm excited to see what they have to say.” During interviews, teachers made comments like,

*“I guess I think that if this is used to help support and direct teacher development, then it’s good at any stage of your career. Students can give really great feedback if you’ve been teaching one year or twenty-one years.”*

Another teacher candidate even said,

*“I think if this was a regular part of a school and there was support and follow up or check-in on a teacher’s progress, then it’s really a good thing. I think if there was a way to help ensure that the students really understood all of the parts of the survey, it’d be even better.”*

It was evident that pre-service teachers were curious about their students’ feedback, had opinions on student feedback and its use. These comments then generated three different codes: *curiosity and excitement about the results*, *positive view of SPS*, and *how SPS should be used*. I used the code *curiosity and excitement about the results* to label any statements that teacher candidates made about their interest and enthusiasm about receiving their students’ feedback. I used *positive view of SPS* to code comments where pre-service teacher made supportive or favorable statements about any part of the student perception survey process or SPS results. I used the code *how SPS should be used* to categorize remarks made about how SPS results should be used and how the SPS process should be implemented and supported. These codes and exemplifying quotes from the data sources are in Table 22. More quotes that exemplify each code are in Appendix H.

Table 22.

Codes for the Theme of Teacher Candidates Value Student Feedback

Code	Exemplifying quotes
<i>Curiosity and excitement about the results</i>	“I am curious to what my student think about me and my teaching.” “I really want to know what my students think, so that I can improve my teaching.”
<i>Positive view of SPS</i>	“As we went through it I saw it even more so like, ‘This could be seriously useful for my teaching.’ Like I could like improve this aspect of my teaching based on what my kids have said.” - Karen  “I think that this is a great way to track how your students feel anonymously, and how to receive data about our classrooms to better our teaching and classroom environment. “
<i>How SPS should be used</i>	“As long as there aren't negative stipulations attached to the survey results.” -Reese  “As a way to evaluate a teacher? Hmmm that gets tough. I would think that would really shift the entire feel of the process, for teachers and students.” -Jasmine

These codes together created the theme *teacher candidates value student feedback* which embodies how pre-service teachers positively viewed student feedback in every stage of the process and had distinct opinions on how student perception surveys should and shouldn't be used. For example, in the Pre-Module Survey teacher candidates reported that they were excited and curious about seeing what their students had to say about their teaching. Participants regardless of their results or their emotional reaction to the results reported this view. These same pre-service teachers also spoke about how SPS should and should not be used. Many participants expressed that this was a beneficial

process for themselves and believed SPSs should be used in teacher preparation programs. Some teacher candidates specifically stated that they felt “ahead of the game” or had a “foot up” on other teachers because this data and information provided them insight into their teaching that others did not have. Also, they felt that employers would look favorably upon their results and the initiative to interpret and respond to the results.

Many pre-service teachers commented that SPSs should be used to inform teacher development and support teacher growth. No teacher candidate spoke favorably about its use in high stakes settings or as a part of formal teacher evaluation. One teacher candidate specifically stated that its use in a high stakes setting could negatively impact the classroom culture or rapport built between teachers and students.

In the previous section reporting the quantitative data results, some of these data clearly indicate that pre-service teachers believe that the SPS modules helped increased how much they value the use of SPS data in their professional development. Analysis of the qualitative data sources really explained more about the how SPS modules helped support this appreciation.

For example, during the semi-structured interviews, one of the teachers made this statement, “In the sense that I was able to have someone, even if it was through the computer, explain to me like, ‘Okay, if you are feeling this way about your scores or if this kinda is how you're feeling.’ That was really nice to be able to see, okay well, I'm not alone, like other teachers feel this way too.” Another teacher candidate said this,

*“Well, I liked the first one a lot because it gave me a lot of information about student surveys that I didn't know. That was informative and even telling me about the*

*process. Like what was going to happen before or during the student survey itself, yeah...that was good.”*

I grouped these statements and others like them into two different codes:

*connection to other teachers’ emotional experiences* and *helpful overview of the process*.

The code *connection to other teachers’ emotional experiences* related instances where pre-service teachers referred to points in the SPS modules where they made specific connections to the emotional aspects of other teachers’ experiences. I used the code *helpful overview of the process* to identify moments when pre-service teachers spoke about aspects of the module that helped inform them about aspects of the SPS process in general. Table 23 includes a list of these codes and exemplifying quotes from the data sources. More quotes that exemplify each code are in Appendix H.

Table 23

Codes for the Theme of Teacher Candidates Feel that Modules Help Situate Their Experience

Code	Exemplifying quotes
<i>Connection to other teachers’ emotional experiences</i>	“In the sense that I was able to have someone, even if it was through the computer, explain to me like, "Okay, if you are feeling this way about your scores or if this kinda is how you're feeling." That was really nice to be able to see, "Okay well, I'm not alone, like other teachers feel this way too." -Reese
<i>Helpful overview of the process</i>	“I liked the first module because it kinda helped paint a picture for the experience. I had an idea of what was going to be expected of me and of my students.” -Jasmine  “Well, I liked the first one a lot because it gave me a lot of information about student surveys that I didn’t know. That was informative and even telling me about the process. Like what was going to happen before or during the student survey itself, yeah...that was good.” -Sam

From the collection of quotes from these two codes emerged the theme *teacher candidates feel that modules help situate their experience*. This theme encompasses how pre-service teachers found the modules helpful in orienting their emotional, physical, and cognitive experiences. As stated previously, most of the teacher candidates were really excited and curious about the student perception process from the start and that positive view didn't waver even after they received their results. When considering the role that the modules played in their view of SPS, one teacher commented, "I don't necessarily think it improved my view. Because as soon as I found out what we were going to do, I felt generally positive about it. I think it probably helped maybe affirm that, or solidify that." That same sentiment was echoed by a few other pre-service teachers during the semi-structured interviews, "The modules really helped solidify the, 'Okay, this is gonna be great.' Like my kids, no matter my score, I will get feedback and I'll be able to better my teaching." Another teacher candidate said, "As we went through it I saw it even more so like, this could be seriously useful for my teaching. Like I could like improve this aspect of my teaching based on what my kids have said."

The theme of *teacher candidates feel that modules help situate their experience* emerged from two aspects of the modules that helped maintain this positive view of student perception surveys. Both modules specifically spoke about previous teachers' emotional experiences and even some of the benefits and challenges reported in other literature about student perception surveys (Dretzke, Sheldon, & Lim, 2015). Additionally, the first module presented teacher candidates with an overview of what the entire SPS process entailed. The second module outlined a specific process that would be



used to aid in data interpretation. This explicit commentary about the emotional experiences and concerns of other teachers helped teacher candidates affirm many of their own reactions. This affirmation of their experience and connection to others may have helped maintain the teachers' positive views of SPS and student feedback. Furthermore, providing a framework for the entire experience and even smaller aspects subsumed in the experience helped give teachers a "road map" that provided teachers with a clear vision of where they were going and how they were going to get there. Again, this information helped make the teacher candidates maintain a positive view of student perception surveys and student feedback throughout the entire process.

## **Chapter 5**

### **Discussion**

In the previous chapter, I presented analysis and results from the quantitative and qualitative data from the research study collectively according to which research question the data helped answer. This chapter includes sections on warranted assertions, a discussion on study outcomes as they relate to previous research and theory, limitations, implications for practice, implications for research, future directions for research, and lessons learned.

#### **Warranted Assertions**

The purpose of this action research study was to examine the experiences of pre-service teachers as they experienced the student survey process and received the results of the survey. Another purpose was to examine the influence of two online modules that prepared the teachers for the experience and guided them through a process to make sense of the results in order to take action in their classroom. The four research questions that guided this study were:

RQ1. What are the emotional experiences of pre-service teachers throughout the student perception survey (SPS) process?

RQ2. How do pre-service teachers make sense of and take action with student perception survey data?

RQ3. How do the SPS modules help teachers make sense of and take action with student perception survey data within their classrooms?

RQ4. How do the SPS modules help improve teacher views of using student perception survey data to inform their continued professional development?

My analysis of the data led to five assertions that helped address the research questions. First, teacher candidates experienced both positive and negative emotions before their students participated in the survey, from receiving their SPS results and even beyond the point of making sense of those results and deciding upon actions to take. In particular, pre-service teachers who received low scores experienced more negative emotional responses and struggled to make sense of their results. A second assertion involves the depth and ways in which teacher candidates made sense of their data. Pre-service teachers used only a couple of strategies to interpret their data and used them to varying degrees. More specifically, some used the strategies up to the point of comprehending the number of students in their classroom who responded in a certain way, while others pushed further in their reflection and interpretation to consider what specific classroom actions they should take to improve their scores. A third assertion is that the mindset the teacher candidate has influences the response they have to their SPS data. Some teacher candidates, regardless of high or low scores, viewed the SPS results as important feedback that they should use to improve their skills and actions in the classroom. Others did not view the feedback in that light, and chose not to take action.

The last two assertions deal with the intervention at the heart of this study, the SPS modules. The fourth assertion is that the SPS modules helped teacher candidates interpret their SPS results and identify actions to take in response to them as they guided the teachers through a systematic process of reflection. The fifth and final assertion is that the SPS modules helped pre-service teachers maintain a positive view of the use of student perception survey data to inform their professional development. The Post-Module Survey quantitative results showed that the majority, over 87%, of the pre-

service teachers believed the SPS modules helped improve their view of the use of SPS data in their professional development. The qualitative results, somewhat supported that view, in that data from the interviews showed that teacher candidates believed the modules helped them maintain a positive view of the use of SPS results to direct their growth.

Given these results, I believe that pre-service teachers should use student perception surveys barring certain requirements. First, pre-service teachers should experience these results in low-stakes circumstances. This means that grades or gate-way evaluations should not be tied to certain benchmark scores. Assignments involving teacher reflection on their SPS results would be fine because the SPS process itself would still be low-stakes. This is similar to decisions made by other institutions who implemented pilot programs at the state and district-level (LaFee, 2014). Once an organization can validate a student perception survey through examining latent constructs and correlating it to other teacher effectiveness instruments, then discussion can be entertained about its use in connection to higher stakes. Until a clear establishment can be made as to the right amount of support, where in a pre-service teacher's training it makes sense to use, and the instrument's validity can be established, SPS should be used in low-stakes circumstances.

A second requirement would be an activity framing the SPS process for pre-service teachers. This activity could be the use of a module similar to the first SPS module called, "Preparing for Student Perception Surveys" or a simple PowerPoint presentation. Whatever the activity, it should outline the specific steps of the entire process, set a clear purpose for the use of surveys, prepare teachers for possible negative

emotional reactions they may have, explain and highlight the importance of having a growth mindset, and have them make predictions about the results. Any framing activity that does not include these elements risks a harmful experience for teacher candidates and their students. A third requirement is to provide teacher candidates time, support, and a structure for making sense of the results. Just e-mailing the results to pre-service teachers could risk harm for both the teacher candidate and the K-12 students in the classroom.

Some sort of reflection protocol or guided, systematic reflection process could aid pre-service teachers in interpreting the data to the point of identifying important actions to take in the classroom to benefit K-12 students. Time and support can provide teachers the “chronological” space they need to emotionally recover from negative results and take productive action in response to the student feedback. A fourth and final requirement is that pre-service teachers should take a minimum of two actions after interpreting their results. One action should be to share the results and interpretations with their students and to thank the students for their honest feedback. The second action would be dependent on the teacher and based on the feedback they received from their students.

Increasing the awareness of the difference between a fixed and growth mindset and the role those views have in the world teacher growth and development could decrease the harm for teacher candidates in general. Fostering a growth mindset in pre-service teachers can reduce harm when working with student perception survey results or any other data or form of feedback. Preconceived notions about feedback and the role of data are fundamental in teacher development. If teacher candidates don’t view data, SPS or otherwise, as important feedback to their continued growth, then the trajectory of

growth for that individual could be stunted and all types of feedback could be seen as threatening rather than illuminating.

After interviewing teacher candidates and overhearing discussions about the results, I think the integration of student feedback through student perception surveys in teacher preparation can be very useful. I believe that if the previous requirements are met, the process holds more potential for benefits than harm. After deep interpretation of their results, teacher candidates began to alter how they perceived their own teaching. Some pre-service teachers specifically commented about how they began to consider their students' perspectives more when they were planning, thinking about procedures, and even in the everyday language they used in the classroom. This shift and increased awareness of how students experience the classroom is one of the greatest benefits I've seen rise out of the use of SPS results because it isn't just addressing one aspect of a teacher's skill or an idiosyncratic element in this particular classroom for these particular students. This increase in awareness and shift in perspective will aid these pre-service teachers in every classroom for every student they support.

Thus far, my assertions and statements have pertained to only teacher candidates. However, I believe that the benefits and risk for harm could potentially be similar for both pre- and in-service teachers. It is unclear whether or not in-service teachers have the exactly same experience as pre-service teachers but previous literature has captured some aspects of in-service teacher experience (Dretzke, Sheldon, & Lim, 2015). I believe that in-service teachers are potentially capable of reaping the same benefits that pre-service teachers have by using student feedback to inform their professional development. As mentioned earlier, one teacher candidate specifically said, "I guess I think that if this is

used to help support and direct teacher development, then it's good at any stage of your career. Students can give really great feedback if you've been teaching one year or twenty-one years." I would have to agree.

### **Outcomes Related to Previous Research and Theory**

The results from the quantitative and qualitative data sources align with findings in other research studies and elements of the two theories that framed this study. The following section identifies what findings from the current study align with previous literature.

### **Student Perception Survey Data Through the Lens of Attribution Theory**

As described in chapter 4, there are many instances where elements of Attribution Theory have overlapped with results from the current study. One particular instance came through in the role that emotion plays in the attribution of a cause to some form of an event (Weiner 1985, 2010). In this instance, a teacher candidate's emotional reaction to their SPS results would influence the cause they attribute to those results. This aligns to the theme that emerged from the qualitative data *teacher candidates struggle with negative student perception data*. When pre-service teachers received negative SPS results, they often had negative emotional reactions to their data and they also often struggled to make sense of the results. In some instances, teacher candidates attributed the cause of the results to the students themselves which was evident in the qualitative data code *consider student characteristics* under the theme *teacher candidates use few strategies to interpret results*. Some pre-service teachers considered whether or not students struggled to understand the survey statements or even if students were answering out of spite rather than truth. Additionally, a few studies that I described in Chapter 2

found that teachers, when making sense of student achievement data, also tended to attribute negative scores with more student ability and other characteristics (Bertrand & Marsh, 2015; Woodcock & Vialle, 2011).

Again, this can be seen when teacher candidates received positive results. Along with positive SPS results, came positive pre-service teacher reactions. As these teacher candidates considered the cause of their results, they did not question students understanding of the surveys. Rather, they easily attributed the cause to their own skill. Again, Attribution Theory has provided an important lens for interpreting the experiences pre-service teachers have had with the SPS process.

Bertrand and Marsh (2015) found similar findings to be particularly troubling because teachers began to consider more “fixed” qualities about students and hold lower academic standards for them. In this current study, the reluctance or unwillingness to accept negative SPS results as being an indicator of the teacher’s skills is troubling because it negates important student perspectives while simultaneously closes a teacher off to significant feedback that can have great impact on a student’s learning experience.

### **Student Perception Survey Data Through the Lens of Sensemaking Theory**

There have been many areas of overlap between Sensemaking Theory and the results from this current study. Weick’s (1995) theory centers on seven elements in the sensemaking process. Many of these elements were evident throughout this study. Retrospective is one element of sensemaking that teacher candidates used frequently when they were interpreting their data. Pre-service teachers would recall particular aspects of their classroom or even remember specific events as they were making sense of their results. I witnessed another element, the extraction of cues, throughout this study.



Teacher candidates did not recall every aspect of their rooms or recite everything about a particular event that they were remembering. They often extracted certain cues or features of the memory and ignored others.

There was one interesting element of Sensemaking Theory that I was regularly witness to during the interviews. The element is *ongoing*. *Ongoing* is characterized as an ever-occurring process. In mid-interview, pre-service teachers would consider some new information or recall different events from the classroom that caused them to have an evolution in their own understanding about the results or their own teaching. I think this means that the interpretations that pre-service teachers have for a specific set of results may evolve and change over time. This could be because more information is revealed to them about their students or things they were unaware about in their classrooms. This could also be due to the nature of the development of expertise. That as a person develops in their knowledge and skill, they are able to notice nuances or complexities that were unperceivable beforehand. Also, I think this is why some teacher candidates were able to interpret more from their results than others were. Some teacher candidates just came back to their data more times and for longer periods of time.

Another element of Sensemaking Theory that was evident in this study was the concept that sensemaking is *grounded in identity*. At the heart of some of the negative teacher emotional reactions is potentially the aspect of ego associated with identity. Negative feedback, from any source, can be a blow to one's ego and can challenge how you view yourself. The results from the student perception surveys are no exception and may have challenged aspects of the teacher identity that they are in the process of building. One teacher candidate said,

*“Yeah, I really try to focus on what maybe I can learn from the kids and what I can try to do and try really hard to set aside as much negative emotion or, I guess, ego as I can.”*

It is possible that other pre-service teachers did not have a similar view, and experienced a challenge to their identity, which in turn could have affected what sense they made of the results.

This brings up the last element of Sensemaking Theory that was evident in this current study: making sense up to the point of *plausibility* and not necessarily accuracy. This is most notable in how teacher candidates reacted to or attributed causes to the SPS results. Pre-service teachers who received high scores made sense to the point of plausibility that they were responsible for those results. On the opposite end, teacher candidates who received negative results considered aspects of the students’ understanding or motivations to be the cause of the results. In both instances, teacher candidates interpreted the results up to the point of plausibility and not necessarily accuracy. In these particular instances, sensemaking up to the point of plausibility can lead the teacher candidate to view themselves as more skilled than they are and potentially less responsive to other forms of feedback that indicate they need further development. Another situation could be that the teacher relies on various student characteristics as the plausible cause for the results, and never takes the student feedback seriously. Both situations leave the potential for harm for the teacher candidate by skewing their perception of their abilities. It also has the potential of some harm towards the K-12 students in their classrooms. Things that could improve the learning experience for the student could be overlooked and remain unchanged.

## **Teacher Concerns with Student Perception Surveys**

As described in the previous chapter, some of the pre-service teachers expressed concerns about the student perception surveys. For example, some teachers worried about the age and language proficiency status of their students and the students' ability to understand the survey items. Others voiced concerns around revenge scoring. More specifically, some teachers thought that students might answer out of spite or because they don't really like a particular subject matter. Similar thoughts were captured in the Dretzke, Sheldon, and Lim's (2015) survey study of in-service teachers who had student perception surveys incorporated into their teacher evaluation. The researchers found that teachers were concerned that the surveys were not developmentally appropriate for students. Teachers of younger students were concerned about the students' awareness of some of the teacher practices listed on the survey. Teachers of older students were concerned about revenge scoring or the act of giving low scores on a survey just because the student did not personally like the teacher, had a bad day, or did not even like that subject area. Some of the qualitative codes and specific teacher statements from the current study echo those exact findings. Aleamoni (1999) describes similar concerns from instructors in higher education who experience student surveys in high-stakes circumstances. Aleamoni however, frames these concerns as unfounded myths that are not supported by research. He cites seven different studies that range from the year 1924 to 1996 that demonstrates a stability in student ratings and strong, positive correlations of the same instructor and courses (1999).

## **Linking Study Results with Previous Rounds of Investigation**

As I stated in earlier chapters, multiple rounds of investigations into pre- and in-service teachers' experiences with SPS data led to the identification of a local problem and the designing of two online modules as an intervention to help resolve that problem. In these initial rounds of investigation, teachers also had a range of emotional experiences. Some had really positive experiences whereas others had very strong, negative experiences. Multiple teachers recounted crying over the results and having to take multiple days to get over the disappointed and upsetting reaction. Some teachers presented the entire process to their students in a very adversarial manner. They also expressed in frustration and outrage that they would share the results to their students in a way to purposefully make them feel guilty or powerless.

In the current study, it is clear that teacher candidates experienced all types of emotions, both negative and positive. However, it is was good to see that less extreme emotions were reported. I'm making no claims or assertions about the cause of the decrease in severity of emotion but just noting that there was one. Some aspects of the current study that could have influenced this decrease in emotional severity are the use of the SPS modules to frame the experience and prepare pre-service teachers for the emotional aspect of receiving their results. A few teacher candidates specifically spoke about how they appreciated knowing that other teachers had experienced similar emotions or concerns. That feeling of a shared experience could've helped the teacher candidate explicitly identify, affirm, and accept their emotions.

It is also possible that the district placements where teacher candidates are situated could have influenced how they processed their data. As mentioned in Chapter 2,

Spillane, Reiser, and Reimer (2002) discussed the importance of how new policies are introduced and presented to teachers. The quality of the presentation of new policies and practices to teachers can influence the acceptance and implementation of those policies. Therefore, it is possible that beyond the positive framing and support of the SPS modules, all of these teacher candidates are in very positive, supportive district cohorts. Furthermore, their faculty site coordinators and mentor teachers may have framed the experience positively and provided support throughout the study.

### **Limitations**

There is a variety of limitations to this study. One is the actual duration of the intervention itself. The entire online experience, combined between the two modules, was 40-60 minutes long if the teacher candidates engaged in all of the prediction and reflection steps. I recognize that any influence the modules may have had, do not extend from the length of time the teachers actually spent in the modules but rather the placement of the interventions, at the start and finish of the SPS process.

Additionally, throughout the duration of the study, the pre-service teachers in this study may have participated in professional development and collegial conversations that influence their perceptions of SPS data and its role in professional development. This means that history, diffusion of treatment, and maturation are threats to the internal validity of this study. Furthermore, since I selected teacher candidate cohort sites for partnership in this study as well as having volunteer participants, population selection is also a threat to the study's internal validity. Also, not all of the teacher candidates had their students participate in the student perception survey. One site coordinator faculty member stated that many teacher candidates were feeling overwhelmed at that particular

point in the semester. It is possible then, that those pre-service teachers who did have students participate in the student perception survey were pre-disposed to wanting to hear from K-12 students and would be willing to engage in deep reflection on the SPS results. This predisposition would therefore act as a bias and could skew the overall results.

Another limitation in this study stems from quantity of pre-service teachers who participated in both surveys and interviews. There is concern that this study has captured only some of the views of a group of novice teachers. A larger pool of participants with a mix of teachers who are both pre- and in-service teachers could have provided a larger body with richer data. As a small, action research study, I've made no claims to generalizability and state that this study examined and addressed a problem of local context. However, the assertions I have made based on the evidence from this study may relate and be applicable to other contexts. This study could provide important naturalistic generalizations for other practitioners in settings where student perceptions surveys are used to inform teacher professional development (Stake & Trumbull, 1982). The results from this study could provide a vicarious experience for school or teacher preparation personnel to learn practical knowledge, rather than formal knowledge, about the experiences of pre-service teachers and the SPS modules, that can be used to design, evaluate, or alter current practices related to student perception surveys.

The last two limitations relate to the Sanford Inspire Program student perception survey used in this study. This survey, though quasi-validated by an individual outside of the Sanford Inspire Program organization, has not been validated by correlating its results with other instruments used to measure teacher effectiveness. This type of validation

would increase the trustworthiness of its results and which could positively impact the experience of teacher candidates as they receive their SPS results.

The second limitation relates to the student response rates of the Sanford Inspire Program student perception surveys within this study. A total of 74% of the nineteen teacher candidates who received student survey feedback in this study had student response rates of 73% or higher. A survey response rate of 70% or greater is generally accepted practice in survey research. Therefore, the four classrooms that had response rates of less than 70% would put into question the validity of the teacher SPS results.

### **Implications for Practice**

Various teacher candidates have voiced their concern around the use of student perception surveys to be used in high stakes situations, more specifically, for teacher evaluations. The pre-service teachers in this study in numerous ways expressed their support of the use of student perception surveys to inform their own, and in general, teacher professional development. They found their data to be beneficial and were generally curious and interested in hearing the opinion of their students on their own teaching. They also voiced their support of the use of these data in teacher preparation programs. Apprehension and uncertainty could increase if higher stakes are associated with this form of data. Since I witnessed a range of emotions felt by teacher candidates in a low-stakes setting, it would be logical to suppose that those emotions could intensify or become less positive if the stakes or circumstance shifted.

The use of student perception data seems to align well with the practice and stance of teacher inquiry. Teacher inquiry positions the classroom teacher to be an action researcher. This means they identify problems or wonderings about the content or their

students and through various rounds of investigation, data collection, and analysis, arrive at conclusions to better the learning experience for students and teachers alike. Student perception survey data, as seen in certain instances in this study, does not necessarily supply teachers with all the answers about the experiences and opinions of all of their students. In fact, for a few teacher candidates, the classroom action they identified as taking next was to clarify their students' responses and engage in reflection on the results *with* their students. Whether that or some other action is how a teacher chooses to respond to the SPS results, the teacher could collect another round of data or even different types of data to see the impact and influence of their actions on their students' experiences. The student perception survey process and results seem to be well-aligned and suited to the process of teacher inquiry.

One other implication for practice comes in the form of support and facilitation of the SPS modules. In its current state, the Sanford Student Voice SPS involves a minimum of two Sanford Inspire Program employees. A Marketing and Consulting Specialist who meets with district or faculty partners conducts the survey trainings and provides in-person support, answering questions about the process and survey protocol. The second person involved is the Management Research Analyst who tracks the progress of surveys in a survey software program, cleans the data, mass produces, and emails the reports for our partners. In the near future, the Sanford Student Voice SPS will be completely automated and neither one of those individuals will necessarily be there to answer questions or conduct trainings. This does increase the need for the modules from this study since there may be no direct contact from anyone on the Sanford team and the



teachers who will have their reports automatically generated for them. This is also true for teacher candidates and the site coordinator faculty who support them.

Though the modules can be very beneficial for this near-future situation, I designed these modules during an era where there was frequent Sanford team communication and support. Serious time and thought would need to be given to whether or not the modules need alterations or other resources need to be created to support teachers and their coaches. One supportive resource that could be added is a printable coaching guide with supplemental information and discussion questions. Furthermore, improving the modules themselves is important. One improvement would be to add a section to the second module about fixed and growth mindset. This suggestion is based on one of the assertions of this study, that mindsets played an important role in whether or not teachers would take action based on the results or not. I describe growth and fixed mindsets in the first module, but could re-introduce and explore those a bit more in the second module as well. Incorporating a section in the second module about student response rate is another possible improvement. Such a section would caution teacher candidates to view SPS data with less than a 70% student response rate critically, as that is a generally accepted practice in the field of survey research. Two other modifications that could improve the SPS modules would be to add a list of examples of specific teacher actions categorized by domain to the second module and to incorporate a few teacher testimonial interviews to both modules.

Another improvement to the second SPS module would be to elaborate on the teacher emotion section of the module. The information that could added could specifically challenge teachers to push past their initial emotional reactions of the results

and to critically consider the accuracy of the results. This section could ask teacher candidates to consider whether or not their students understood the survey items or even how they understood the items, regardless of whether their scores are high or low. Furthermore, teacher candidates could be challenged to consider that these results are accurate depictions of their teaching, regardless of whether their scores are high or low. They could be challenged to consider next steps they feel are important to take to ensure that they accurately understand what it is their students were communicating through the student perception survey results. This improvement is in response to teacher candidates making sense of their data up to the point of plausibility versus accuracy and how those interpretations were related to the positive or negative nature of the results teachers received.

A final consideration is whether or not these modules can be used with another student perception survey. There is one teacher preparation program we have been in periodic contact with who might benefit from the use of this module but who uses a different student perception survey. The language I used within the script is not explicitly tied to any one student perception survey and therefore may be helpful to any educator participating and interpreting of their SPS results.

### **Implications for Research**

As I analyzed both qualitative and quantitative data, it became evident that teacher candidates had implicit thoughts about their data, feedback, growth, and teacher skill development. For example, times where teachers disregarded what feedback their students had given or even moments when teachers were struggling to make sense of negative SPS results still acknowledging they were going to use these data to improve.

More attention around the connection between teacher mindsets and their reactions to data, student perception survey or otherwise, demands further exploration. Dweck amongst others have established survey instruments to gauge underlying fixed or growth mindsets that could be used to explore the relationship between teacher mindset and reaction to student feedback via SPS results (Blackwell, Trzesniewski, & Dweck, 2007; Dweck, 2006; Yeager, & Dweck, 2012).

This current study has also incorporated aspects of teacher emotion that is often absent from research about educators (Hargreaves 1998). Teacher emotion was an important aspect of pre-service teachers' experiences during the SPS process and its results. I believe this study would have been lacking if it wasn't incorporated. Further examination into teachers' emotions and how they relate to data interpretation and actions should be explored more. All educators work in social environments with students, colleagues, families, coaches, and supervisors. These social environments teem with emotion and SPS or academic data interpretation is not an exception (O'Connor 2008). Weiner (1985, 2010) clearly identifies emotion as a part of the attribution process and this current study has shown that pre-service teachers struggled emotionally and in making sense of their data when their results were negative. Further examination into the relationship between teachers' emotions and making sense of data could help clarify some helpful strategies for educators that would ultimately benefit students.

Similarly, this current study has found that the pre-service participants involved used only a few strategies in making sense of their data. Furthermore, the strategies employed did not appear to be systematic and without prompting, may not yield deeper connections to teacher actions. Additional exploration of the strategies that teachers use

to make sense of data could yield important gaps in knowledge and skills or beneficial practices that could assist other teachers.

### **Directions for Future Research**

Since very little literature exists on teacher experiences with student perception surveys, there are almost limitless options for future research. One important direction would be to do a large scale study across a district or few districts that use student perception surveys. This study could explicitly examine the role of mindsets and data interpretation or document other aspects like teacher emotion, data interpretation, and actions that teachers take in the classroom.

Another direction would be to take a much closer look at a few teachers experiencing the SPS process. This study design would take more of a phenomenological view of teacher experiences and could use qualitative case studies. This type of study could include classroom observations, student interviews, and more regularly scheduled semi-structured interviews with the teacher over a set period of time. It could yield important changes in the teacher's perspective and reactions over time and better capture the entire classroom experience.

One other follow-up direction to this study could be to explore the differences in teacher experiences with the SPS process when completely automated versus one that includes some aspects of in-person facilitation. As mentioned before, this might be particularly important for the Sanford Inspire Program to consider as it begins to move the entire SPS process online in a fully-automated experience. The two cohorts included in the current study used the SPS modules in a whole class, in-person facilitated manner. However, there is already another site currently who has decided to have their students

complete the module independently as homework. Exploration about the differences in teacher experiences and what cascading effects may arise is another important direction for future research.

One final and important direction for continued research would be capturing the experiences of in-service teachers. Exploring the relationships between years of teaching, age of the educator, and the experiences they have while going through the SPS process would be interesting and important to capture. For example, in this study, pre-service teachers most likely have received less feedback on their teaching practices than a five or ten-year veteran teacher. This difference in amount of feedback may mean that student perception surveys used in teacher preparation programs may hold more importance, weight, and emotional impact than the same SPS used in a school with in-service teachers. Another interesting area to explore would be whether or not there is a particular window within a teacher's development where student perception surveys are particularly beneficial to the growth of teacher skill. One study in particular found that the average fifth-year teacher's performance was similar to those of ten and fifteen-year teachers' performance (The New Teacher Project, 2015). Examining the effects and experiences of the use of SPS data to inform professional development according to these particular cut-points in teacher development could yield important information about when SPS data is most beneficial to a teacher. A mix of pre-service and in-service teachers in any of the study designs previously listed could yield other important information around student perception surveys.

## **Research Lessons Learned**

First, there are many lessons that I have learned specifically in regards to research design, mixed methods, and data collection. One lesson that I learned is that really solid study design takes practice and an extreme amount of forethought and planning. For as many hours that went into planning every aspect of this study, I still found myself shaking my head in frustration at points along the way. This felt particularly true as I was collecting and analyzing data for this mixed methods study. It was at this point when I began to ask myself, “Why didn’t I ask that question?” or “Why did I set up the survey item in this way?” It is not that I had not spent hours examining each survey or all of my interview questions but somehow aspects of my data collection instruments that seemed so tightly woven together had left gaps. For example, why didn’t I ask about specific emotions in the interviews? I could have asked a general question about the pre-service teacher’s emotional experience and then followed up with questions about specific emotions listed on the survey that would have helped provide more supportive evidence. Furthermore, why didn’t incorporate questions about growth and fixed mindsets on either survey? Hindsight and reflection has made me rethink many of the decisions I made in the design of this study and the data collection instruments I designed.

Similarly, I have a newfound appreciation for advice one of my Advanced Quantitative Methods professors told us, variance in a scale is good. The 24 emotion questions I asked on the Pre-Module and Post-Module surveys were set up as binary questions. I had originally considered a Likert scales ranging from strongly agree to strongly disagree. I had reconsidered because I had questioned how I would interpret the difference between a teacher’s strongly agree response to feeling angry versus another’s

response of just agree. However, in retrospect I really wonder if my binary choice forced people into making a hard cut decision about their emotions. That they either were or were not feeling a certain way rather than allowing them to comment on degrees of feeling. It was a mix of the quantitative and qualitative data that caused me to question my decision. Very few teacher candidates on the survey items expressed much feeling beyond the more positive emotions. However, as I spoke to pre-service teachers they expressed a far larger range of emotions, including more negative emotions. I think by limiting the survey item's scale, I feel like I ultimately limited the range or depth of emotions teachers felt.

### **Personal Lessons Learned**

I sincerely appreciated the opportunity I have had to explore Sensemaking theory and Attribution theory through the literature review process associated with this action research process. I find these two theories play a central role in data analysis and data-based decision making. As a teacher who was certified and trained during the era of accountability, I never stopped to question the underlying processes my colleagues or I used to analyze, interpret, and make decisions from data. These two theories and the range of literature I explored around data-based decision making have really problematized the concept and practice for me. They have simultaneously awakened a real interest in continuing to explore this topic further in research and practitioner literature. Bertrand and Marsh's (2015) article helped underline the importance of examining such practices and the implied biases that we as individuals bring with us in data analysis. I would be remiss if I did not mention that these theories did not constantly

come up in my own mind as I gathered, analyzed, and interpreted these data in this current study.

After engaging in such a long, arduous process, I have a sincere and deep appreciation for all forms of research and study designs. I better appreciate what it takes to interrogate an idea, situation, local problem of practice for an extended period of time, and essentially submit yourself to the intense study of a particular topic. This narrow, laser-like focus has helped foster a great affinity for student perception surveys and educators who want to use student feedback to support teacher growth. I also developed a greater appreciation for the many struggles that researchers go through. There were times in this particular study that I just wanted data, any data, to work with. I recall feeling desperate, more often than not, for any bit of information that could help answer my research questions. It has helped me further see that when it comes to research, there are many aspects that are ultimately out of the control of the researcher.

On a similar note, I can say that this particular action research study was heavily dependent on so many other people. There were individuals on my team who reviewed the module scripts, a designer who hand crafted all of the graphics, an instructional designer who produced both modules, site coordinators who incorporated the SPS process into their semesters, teacher candidates who participated in the study and provided data through survey responses and interviews, and K-12 students who provided feedback for their teachers. Some of the greatest frustrations from this study lie in my lack of control over circumstances and influence over policies and individuals. However, I recognize this was an invaluable learning experience that has taught me about engaging in research and addressing a local problem from positions that hold no authority. This has



affirmed my belief that leadership and positions of authority are different things. I believe that it took initiative, vision, concern for others, and perseverance to want to investigate and address this problem. All of which are characteristics that I associate with great leaders.

As I just mentioned, this action research study was particularly difficult because so much of the work was outside of my normal sphere of influence. One could argue that my day-to-day sphere of influence at work is relatively small. However, I felt particularly drawn to this local problem of practice because of its impact on practitioners. The only great, regular influence that I have in my position is to create modules that can reach large audiences of educators all across the world and support their development with the content that I put into the modules. Before landing on this particular study design and problem of practice, there had been many discussions around other topics that I did have more control over like module effectiveness study, effectiveness of instructional design, effectiveness of coaching models and online modules. All of those studies would have been interesting and important in their own right. However, I believe I perceive myself as more of a practitioner in the realm of teaching, coaching, and school leadership. My roots and passions have always been in the relational aspects of helping students and teachers develop and grow. I believe that is why I was set on spearheading this particular study above all of the others. It most aligned to where I see myself being a scholarly and influential practitioner.

This study was not easy, as I am sure none is, but it helped affirm my own beliefs that one can extend and grow their sphere of influence, and that practitioner researchers can have great impact on their local setting. After each formal interview or side

conversation with a teacher candidate or site coordinator, I personally walked away feeling better about the work that had been done and the supportive service we were providing educators for their growth.

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APPENDIX A  
PHASE 1 TEACHER INTERVIEW PROTOCOL

My name is Lessita Villa and I'm currently a Teaching and Learning Specialist with the Sanford Inspire Program in the Mary Lou Fulton Teachers College at Arizona State University. I am also a doctoral student in the Doctorate of Education Leadership and Innovation program at ASU. This interview is part of a research study examining teacher experiences with student perception surveys and teacher perceptions of those surveys.

I'm now interviewing (NAME) at a local school and at (TIME). This interview should last between 20-30 minutes. (NAME) do you agree to participate in this interview? You know that this is being recorded?

As I mentioned earlier, the topics of all of these questions are centered on student perception survey and how teachers experience the entire survey process and the data it produces. The questions are all professional in nature. Your responses will be transcribed and analyzed and all identifying elements will be stripped from it. However, you should avoid using specific names and/or places in your responses whenever possible. As said previously, if this happens, such information will be stripped from the transcripts and replaced with pseudonyms. Please know you have the option to not answer any question and you can stop the interview at any point. Do you have any questions for me?

As I just mentioned, the interview will be transcribed and you will have the opportunity to see the transcripts. If you'd like to redact something you don't feel comfortable with or add something else, you will have that opportunity. I will only use transcripts that have been approved by you. Do you wish to continue?

Great, before we begin, let me just clarify what I mean by student perception surveys, I'm speaking about surveys like the ones your students just participated in, the

Sanford Inspire Student Voice Survey. Do you feel as if you have a clear understanding of the term student perception survey?

[Perceptions before the student perception survey, SPS]

1. When did you first hear about student perception surveys, in general?
2. What were your initial thoughts and opinions of them before your recent experience with one?
3. What do you think caused you to have those thoughts and opinions? (news, colleagues, etc.)
4. Did any of your other teacher friends or colleagues voice similar thoughts? Do you remember any instances in particular?
5. Did any of your other teacher friends or colleagues voice differing thoughts? Do you remember any instances in particular?

[Experience during the SPS]

6. What were some of your thoughts during or immediately after the survey was administered to students?
7. Did any of your students make comments or voice concerns before or after the survey was administered?
  - a. How did you respond to those comments or concerns?

[Experience immediately after the SPS]

8. Immediately after receiving the survey results, what were your initial thoughts and reactions?
9. Did anything about the results surprise you?

10. Do any of the other parts of the results stand out to you?

[Experience delayed-after the SPS]

11. Would you mind sharing your results from the student perception surveys?

(percentages at the domain level)

12. Going domain by domain, how did you personally interpret the results? (Good, bad, I'm good or bad, etc.)

- a. Learning and Environment
- b. Planning and Delivery,
- c. Student Growth and Achievement
- d. Motivation

13. What in your experiences as a teacher or with these students informed that interpretation?

14. How would you say the results compare to the feedback and coaching you'd previously received from your instructional leaders? (could ask specifically about each domain or ask specifically about sections they've commented on)

15. How did the results compare to your perceptions of your own skill as a teacher?

- a. Learning and Environment
- b. Planning and Delivery,
- c. Student Growth and Achievement
- d. Motivation

[Experience- Relationships after the SPS]

16. Do you think the results affected how you interacted with your students? If so, how? (consider also specific students)
17. Do you think the results affected how you perceived your relationship with your students? If so, how?
18. Did you make any adjustments or take any actions in the classroom in response to the results? If so, what were they?
  - a. What impact did those actions or adjustments have? Can you think of any specific instances that exemplify that?

[Experience- Looking towards the future with SPS]

19. After having this experience, what are your thoughts and opinions on the use of student perception surveys in schools?
20. Is there any way that they should or shouldn't be used?
21. If you could change any of the experience you had with student perception surveys, what would it be? (administration, framing to stakeholders, reporting back of the data, interpreting the results, using the results for action in the classroom)
22. If you had to choose one adjective or pick an analogy that embodies your experience with student perception surveys, which adjective or analogy would you choose?
23. If you knew, other pre-service teachers or novice teachers were going through a similar experience---what would be something that you think is important to have as a part of the experience for them? Why?

24. Is there anything else you'd like to say about , student perceptions surveys?

Demographic

Would you identify yourself as male or female or other?

How old are you?

How many years have you been teaching? What grade level(s) do you currently teach?

APPENDIX B  
PRE-MODULE SURVEY



(Respondents are presented with study consent language and then a digital consent checkbox. They are then asked to provide the first three letters in their mother's name and the last three digits of their phone #.)

#### Affective Experience

(For the following questions, mark either yes or no for each emotion that applies. Please indicate yes or no for each emotion.)

- At this present moment, how are you feeling about the use of SPS data and student feedback being used to inform your professional development?
  - Angry
  - Scared
  - Upset
  - Excited
  - Curious
  - Happy
- Why do you think you are feeling this way?
- At this moment, how do you feel about the results that you will get from the SPS?
  - Angry
  - Scared
  - Upset
  - Excited
  - Curious
  - Happy
- Why do you think you are feeling this way?

## Importance Student Voice in Teacher Professional Development

(Read the following statements. Mark your level of agreement for each statement as strongly agree, agree, disagree, or strongly disagree.)

- I value my students' perspectives on my teaching.
- Student perspective obtained through the use of student perception surveys is an important piece of data to collect.
- Data collected from student perception surveys should be used to inform school-wide teacher professional development.
- Data collected from student perception surveys should be used to direct personal professional development for each individual teacher. I have an accurate understanding of my students' perspective on my teaching.

## Sensemaking

(Read the following statements. Mark your level of agreement for each statement as strongly agree, agree, disagree, or strongly disagree.)

- I am confident that I can make sense of the student perception survey data when I receive it.
- I believe that I can use the data from the student perception survey to take positive action.
- I feel threatened about the results from the SPS survey.
  - What about the SPS results do you find threatening or concerning?
- I feel threatened about the possible effects of this SPS survey process.
  - What possible effects can you foresee happening and what about them is threatening?

## Attribution

- Vignette Learning Environment (high percentage)
  - If this was your class, what would these data tell you about your students and your teaching?
  - If this was your class, what strategies would you use to interpret the data?
  - Based on the data, what immediate changes/make might you make? Why those specifically?
- Vignette Learning Environment (low percentage)
  - If this was your class, what would these data tell you about your students and your teaching?
  - If this was your class, what strategies would you use to interpret the data?
  - Based on the data, what immediate changes/make might you make? Why those specifically?
- Vignette Planning & Delivery (high percentage)
  - If this was your class, what would these data tell you about your students and your teaching?
  - If this was your class, what strategies would you use to interpret the data?
  - Based on the data, what immediate changes/make might you make? Why those specifically?
- Vignette Planning & Delivery (low percentage)
  - If this was your class, what would these data tell you about your students and your teaching?
  - If this was your class, what strategies would you use to interpret the data?

- Based on the data, what immediate changes/make might you make? Why those specifically?
- Vignette Student Growth & Achievement (high percentage)
  - If this was your class, what would these data tell you about your students and your teaching?
  - If this was your class, what strategies would you use to interpret the data?
  - Based on the data, what immediate changes/make might you make? Why those specifically?
- Vignette Student Growth & Achievement (low percentage)
  - If this was your class, what would these data tell you about your students and your teaching?
  - If this was your class, what strategies would you use to interpret the data?
  - Based on the data, what immediate changes/make might you make? Why those specifically?
- Vignette Motivation (high percentage)
  - If this was your class, what would these data tell you about your students and your teaching?
  - If this was your class, what strategies would you use to interpret the data?
  - Based on the data, what immediate changes/make might you make? Why those specifically?
- Vignette Motivation (low percentage)
  - If this was your class, what would these data tell you about your students and your teaching?

- If this was your class, what strategies would you use to interpret the data?
- Based on the data, what immediate changes/make might you make? Why those specifically?

### Demographics

The last four questions are related to demographic data which will be reported in aggregate form only.

- How would you identify yourself? Male, female, other?
- How many years old are you? (drop down with 20-65)
- Are you a student teacher or teacher candidate currently enrolled in a teacher preparation program? Y o N
- How many years have you been teaching? (drop down menu 0-35))
- What grade level(s) do you currently teach? (drop down menu with K-12 and one other box to be filled in)

APPENDIX C  
POST-MODULE SURVEY

(Respondents are presented with study consent language and then a digital consent checkbox. They are then asked to provide the first three letters in their mother's name and the last three digits of their phone #.)

#### Affective Experience

(For the following questions, mark either yes or no for each emotion that applies. Please indicate yes or no for each emotion.)

- At this present moment, how are you feeling about the use of SPS data and student feedback being used to inform your professional development?
  - Angry
  - Scared
  - Upset
  - Excited
  - Curious
  - Happy
- Why do you think you are feeling this way?
- At this moment, how do you feel about the results that you received from the SPS?
  - Angry
  - Scared
  - Upset
  - Excited
  - Curious
  - Happy

- Why do you think you are feeling this way?

### Importance Student Voice in Teacher Professional Development

Read the following statements. Mark your level of agreement for each statement as strongly agree, agree, disagree, or strongly disagree.

- I value my students' perspectives on my teaching.
- Student perspective obtained through the use of student perception surveys is an important piece of data to collect.
- Data collected from student perception surveys should be used to inform school-wide teacher professional development.
- Data collected from student perception surveys should be used to direct personal professional development for each individual teacher.
- After participating in the SPS module, I now more highly value the role of SPS data in my professional development.

### Sensemaking

Read the following statements. Mark your level of agreement for each statement as strongly agree, agree, disagree, or strongly disagree.

- I was able to make sense of the student perception survey data when I received it.
- I used the data from the student perception survey to take positive action.
  - If agree or strongly agree, why and how did you use the data to take action?
  - What action did you take?
  - If disagree or strongly disagree, do you plan to take positive action in the future?



- If yes, why and how will you use the data to take action? What action will you take?
- If no, why not?
- I feel threatened by the SPS results.
  - Why do you think the SPS results are threatening?
- I feel threatened by some of the effects of the SPS survey process.

#### SPS Data Collection

For each domain listed, please type in the percentage of students who marked always or sometimes.

- Learning Environment
- Planning & Delivery
- Student Growth & Achievement
- Motivation

#### Attribution

Please answer the following questions.

- For the domain of Learning Environment, what do the results tell you about your students and your teaching?
  - What strategies did you use to interpret the data?
  - What factors caused your students to respond to the survey in the manner in which they did.
  - Based on the data, what actions do you plan on making to your current practices?

- What frustrations, if any, have you felt? What has caused those frustrations?
- For the domain of Planning & Delivery, what do the results tell you about your students and your teaching?
  - (same questions)
- For the domain of Student Growth & Achievement, what do the results tell you about your students and your teaching?
  - (same questions)
- For the domain of Motivation, what do the results tell you about your students and your teaching?
  - (same questions)

#### Demographics

The last four questions are related to demographic data which will be reported in aggregate form only.

- How would you identify yourself? Male, female, other?
- How many years old are you? (drop down with 20-65)
- Are you a student teacher or teacher candidate currently enrolled in a teacher preparation program? Y o N
- How many years have you been teaching? (drop down menu 0-35))
- What grade level(s) do you currently teach? (drop down menu with K-12 and one other box to be filled in)

APPENDIX D  
POST-SPS MODULE INTERVIEW PROTOCOL

My name is Lessita Villa and I'm currently a Teaching and Learning Specialist with the Sanford Inspire Program in the Mary Lou Fulton Teachers College at Arizona State University. I am also a doctoral student in the Doctorate of Education Leadership and Innovation program at ASU. This interview is part of a research study examining teacher experiences with student perception surveys and teacher perceptions of those surveys.

I'm now interviewing (NAME) at a local school and at (TIME). This interview should last between 30-45 minutes. (NAME) do you agree to participate in this interview? You know that this is being recorded?

As I mentioned earlier, the topics of all of these questions are centered on student perception survey, the Sanford Inspire Program SPS module, and how teachers experience the entire survey process and the data it produces. The questions are all professional in nature. Your responses will be transcribed and analyzed and all identifying elements will be stripped from it. However, you should avoid using specific names and/or places in your responses whenever possible. As said previously, if this happens, such information will be stripped from the transcripts and replaced with pseudonyms. Please know you have the option to not answer any question and you can stop the interview at any point. Do you have any questions for me?

As I just mentioned, the interview will be transcribed and you will have the opportunity to see the transcripts. If you'd like to redact something you don't feel comfortable with or add something else, you will have that opportunity. I will only use transcripts that have been approved by you. Do you wish to continue?

[Retrospective perceptions before the student perception survey, SPS, process] (These questions will be utilized IF the teacher has not been previously interviewed).

1. When did you first hear about student perception surveys, in general?
2. What were your initial thoughts and opinions of them before your recent experience with one?
3. What do you think caused you to have those thoughts and opinions? (news, colleagues, etc.)
4. Did any of your other teacher friends or colleagues voice similar thoughts? Do you remember any instances in particular?
5. Did any of your other teacher friends or colleagues voice differing thoughts? Do you remember any instances in particular?
4. What feelings did you have about using SPS data to inform your professional development? Why was that?
5. What were some of the emotions you experienced leading up to receiving the SPS results? Why do you think you experienced those emotions?
6. Did any of your other teacher friends or colleagues voice similar feelings? Do you remember any instances in particular?
5. Did any of your other teacher friends or colleagues voice differing feelings? Do you remember any instances in particular?

[After the SPS module pt. 1]

1. What were your initial reactions to the SPS modules (1<sup>st</sup>: Preparing for Student Perception Surveys, 2<sup>nd</sup>: Taking Action with Student Perception Survey Data)? Why do you think you reacted that way?

2. Did the module help improve your view of the role of SPS data in teacher professional development? How so or why do you think it didn't?
3. In what ways did you find the two SPS modules helpful (1<sup>st</sup>: Preparing for Student Perception Surveys, 2<sup>nd</sup>: Taking Action with Student Perception Survey Data)?
4. What specifically about the module helped you interpret your situation or data? How so?
5. What specifically about the modules was not helpful? How so?
6. What did you feel was missing from the module? Why?

[Experience during the SPS]

1. Did any of your students make comments or voice concerns before or after the survey was administered?
2. How did you respond to those comments or concerns?

[Experience immediately after the SPS pt. 2]

1. Immediately after receiving the survey results, what were your initial thoughts and reactions?
2. What emotional reaction did you have? Was this different than what you expected?
3. What had you predicted to be the results and were the results in reality? Did anything about the results surprise you?
4. Do any of the other parts of the results stand out to you?
5. What specifically about the module helped you interpret your SPS data? How so?

[Experience delayed-after the SPS]

1. Would you be willing to share your results from the student perception surveys?  
(percentage for Learning Environment)  
(percentage for Planning & Delivery)  
(percentage for Student Growth & Achievement)  
(percentage for Motivation)
2. What do the results tell you about your students and your teaching?
3. What strategies did you use to interpret the data?
4. Based on the data, what actions do you plan on making to your current practices?
5. What frustrations, if any, have you felt?
6. What is the likelihood that at a later date your students would report an improvement in your practices?
17. What in your experiences as a teacher helped inform your interpretation of these results?
18. What in your experiences with these particular students helped inform your interpretation of these results?
19. How would you say the results compare to the feedback and coaching you'd previously received from your instructional leaders? (could ask specifically about each domain or ask specifically about sections they've commented on)
20. How did the results compare to your perceptions of your own skill as a teacher?
  - a. Learning and Environment
  - b. Planning and Delivery,
  - c. Student Growth and Achievement
  - d. Motivation

[Experience- Relationships after the SPS]

1. Do you think the results affected how you interacted with your students? If so, how?  
(consider also specific students)
2. Do you think the results affected how you perceived your relationship with your students? If so, how?
3. Did you make any adjustments or take any actions in the classroom in response to the results? If so, what were they?
4. What impact did those actions or adjustments have? Can you think of any specific instances that exemplify that?

[Experience- Looking towards the future with SPS]

1. After having this experience, what are your thoughts and opinions on the use of student perception surveys in schools?
2. Is there any way that they should or shouldn't be used?
3. If you could change any of the experiences you had with student perception surveys, what would it be? (administration, framing to stakeholders, reporting back of the data, interpreting the results, using the results for action in the classroom)
4. If you had to choose one adjective or pick an analogy that embodies your experience with student perception surveys, which adjective or analogy would you choose?
5. If you knew, other pre-service teachers or novice teachers were going through a similar experience---what would be something that you think is important to have as a part of the experience for them? Why?



6. Is there anything else you'd like to say about student perceptions surveys?

[Demographics]

The last four questions are related to demographic data which will be reported in aggregate form only.

- How would you identify yourself? Male, female, other?
- How many years old are you?
- Are you a student teacher or teacher candidate currently enrolled in a teacher preparation program? Y o N
- How many years have you been teaching?
- What grade level(s) do you currently teach?

APPENDIX E

ABRIDGED OUTLINE FOR SPS MODULE 1

PREPARING FOR STUDENT PERCEPTION SURVEYS

1. Brief introduction
2. History of student perception survey data
  - a. Where did they arise
  - b. How they are used
  - c. Most well-known versions
  - d. Increase in popularity
3. Challenges and benefits of SPS
  - a. Challenges:
    - i. Concerns about child development
    - ii. Age appropriate language to describe teacher actions
    - iii. Revenge scoring
    - iv. Less reliable for special area teachers
  - b. Benefits:
    - i. Uses the perspective of students- most important stakeholders
    - ii. More reliable due to length and frequency of student contact
    - iii. Helpful data point in professional development
4. Overview of the student survey process
  - a. Teachers reflect on their current practices and make predictions
  - b. Teachers describe process to students. Surveys are administered.
  - c. Teachers receive results and interpret the data. Identify an action they can take based on the results.
  - d. Teachers share results with students. Teachers share their interpretations and any actions they plan on taking based on the results.

- e. Teachers take action.

## 5. Role of Growth Mindset

- a. Teaching is a profession that has embraced constant reflection, development, and growth. SPS results can be a part of that process.
- b. Simple introduction to Growth and fixed mindsets
- c. SPS results for fixed mindsets would be considered judgements
- d. SPS results for growth mindsets feedback for growth
- e. Teacher affective experience
  - i. Informal and formal surveys and interviews have shown that teachers experience a range of emotions.
  - ii. These range of concerns and interest are shared by other teachers.
  - iii. These emotions can even be forms of data in and of themselves and offer important points of reflection

## 6. Essential practices

- a. As teachers engage in the SPS process, they should engage in three essential practices.
- b. Predict
  - i. Making predictions can help dismissing or overlooking valuable data.
  - ii. Comparing preconceived notions with actual results helps teachers not easily dismiss important data just because they didn't expect it.
- c. Identify Emotions
  - i. The SPS process can be an emotion-laden experience.

- ii. After identifying the emotions a teacher is feeling, it is easier to decipher the root cause(s) behind such emotions.

- d. Reflect

- i. Take some time to systematically reflect on the results.

- ii. Data from students and it deserves concerted attention.

7. Closing

- a. Receiving this data can be daunting but it is important.

- b. Cue the user to use the module resource.

APPENDIX F

ABRIDGED OUTLINE FOR SPS MODULE 2

TAKING ACTION WITH STUDENT PERCEPTION SURVEY DATA

## 1. Introduction

- a. Data without interpretation is just numbers.
- b. Outline the purpose of the module and general steps.
- c. Introduce the module resource which is a reflective guide.

## 2. Step 1: Making sense of the results

- a. Document questions and confusions
  - i. These can be important aspects that need to be clarified now.
  - ii. These can also be important questions to bring to your students.
  - iii. Give examples.
- b. Identify your emotions
  - i. Emotions are important lenses with which information can be interpreted.
  - ii. They also can be data points.
  - iii. Give examples.
- c. Identify a strength and an area of improvement
  - i. Look at the results and find your strength and an area of improvement.
  - ii. Compare those to your predictions. Was this surprising or spot on? What does that mean for you and your awareness of your students' experiences?
  - iii. Dig deeper
    1. Identify more concrete aspects of your classroom that relate to your strength and area of improvement.

2. Which of those things do you think your students' attributed to your scores?
    3. Give examples.
  3. Step 2: Gather more information
    - a. It is possible that the results as they are have provided you with more questions than answers.
    - b. Identify what questions you have or what information you are missing and choose a method to gain that information
    - c. Give examples.
  4. Step 3: Plan to take action
    - a. After interpreting, reflecting, and gathering more information, you probably have the sense of a few things, at least one, you can do to respond to your students data.
      - i. Give list of ideas.
    - b. Share the results with your students
      - i. It is important to share the results and your interpretations with your students.
      - ii. Share also any actions you plan on taking based on the results.
      - iii. Verbalize your appreciation of their honesty and time.
      - iv. Give list of ideas.
  5. Conclusion
    - a. Take action.
    - b. The best way to honor your students' feedback and time is to act on them



in a way that benefits your classroom environment and their learning.

APPENDIX G  
QUALITATIVE DATA ANALYSIS CODEBOOK

1. Teacher candidates struggle with negative student perception data
  - a. Mixed emotions
  - b. Disappointment
  - c. Negative
  - d. Shock
  - e. Difficulty making sense
2. Teacher candidates use few strategies to interpret results
  - a. Consider student characteristics
  - b. Recall classroom experiences
  - c. Numerically
3. Teacher candidate mindsets influenced their subsequent actions
  - a. Feedback to grow
  - b. Fixed mindset
  - c. Actions in the classroom
4. Modules provide systematic approach to action
  - a. Beneficial systematic reflection
  - b. Prompted to act
5. Teacher candidates value student feedback
  - a. Curiosity and excitement about the results
  - b. Positive view of SPS
  - c. How SPS should be used
6. Teacher Candidates feel that modules help situate their experiences
  - a. Connection to other teachers' emotional experiences
  - b. Helpful overview of the process

## APPENDIX H

### THEMES FROM QUALITATIVE DATA ANALYSIS

Table H1

## Codes for Teacher Candidates Struggle with Negative Student Perception Data

Code	Exemplifying quotes	Data collection instrument
<i>Mixed Emotions</i>	<p>“There was a lower percentage than I would have expected for like, "I know what the expectations are in my classroom." That's something I'm a little crazy about as far as like, it's weird that they would all say they don't know what to do." - Jasmine</p> <p>“I felt like some of the numbers, I wasn't sure exactly what to think.” -Jasmine</p>	Semi-structured interview and Pre-Module Survey
<i>Disappointment</i>	<p>“I don't know. Like I said, I'm really hard on myself. Whether it's achievement data or this data, so I took it kind of hard” - Sarah</p> <p>“I was kind of ... I think everybody has a good idea that they probably aren't going to get 100% and everything, but I think I wanted to have a high percentage, like a 90 or an 80, or a high 80. And everything. I think I was really disappointed in myself that I didn't get those high scores in every category.” - Sarah</p> <p>“I think this is good, but I take data hard, or really personally. I don't know, this was really different information than I'm used to getting from my students. “ -Sarah</p> <p>“Well, I mean I looked at the comparison score on the report and I was below average on most of these," so I was like a little bummed out, like "I thought my kids ..." And that was just my gut, "I thought they liked me better." -Sam</p> <p>"Geez, I'm lower than average on most of these," - Sam</p> <p>“The results were very different from my predictions.”</p>	Semi-structured interview and Post-Module Survey

	“My results are a little upsetting.”	
<i>Negative</i>	“I heard some comments like, "These kids just don't like me." There's "X" kid who behaves really badly in that class and I think that makes everybody, give me a lower score. It's not my fault this kid's in my class.” -Jasmine	Semi-structured interview and Pre-Module Survey
	“Then there’s another TC at our school and she did seem more to take the scores to heart, and like aww, you know. It's middle school also, so they're probably a little bit more critical of their teachers” -Sam	
	“Some kids may respond out of spite and not the truth.”	
<i>Shock</i>	“Other than I really ... I know all the questions that my students were asked because we were able to see the survey questions or statements beforehand. But I guess I really was surprised.” -Sarah	Semi-structured interviews
	“I'll share two things. In motivation, actually scored a 78%. But in planning, I scored in a 50%. And I think those were both surprising somehow, or I don't know.” -Sarah	
	“There was one question where I was like, "Well, what do you guys mean?" -Sam	
	“So I didn’t really think about it much but I was surprised when I got my results.” -Sam	
<i>Difficulty Making Sense</i>	“I was like, "Oh huh, this is interesting. Don't know if I was necessarily expecting this." Little bit lower than I thought it was gonna be but like I said before, I'm not sure if some of my students fully understood the question ...or they misread it or whatever the case might have been. I was still like, "Huh, interesting" for a lot of them.” -Karen	Semi-structured interviews
	“My initial thought was, "Did my students understand all the words? There's no way they	

understood all these words if it was given to them in this way.” - Sam

“I think it tells me that. One, it tells me my students see me as a teacher different than how I see myself. I don't know. That's the big thing it tells me.”

“No. I don't think ... I wondered about things like I'm interested kids say I don't know what is expected of me in the classroom. Then I wondered about some other things...I guess, I haven't, but probably a good thing to do would have been to talk to, do some little recess focus groups or something where you just chitchat with kids like, "Hey, how do you feel about how classes run? Do you feel like, do you know what you're supposed to be doing, or do you feel like you get in trouble when you didn't know what you were doing was not okay?" Things like that.” -Jasmine

“The first is that in the module, one of the things they said is you may need to gather more information, I really think I do. Especially about the planning stuff, because I really don't know what it is in particular that my students find problematic with planning. I think I actually need to get more information from my students.” -Sarah

“I think that's one thing I'm going to do is find out more about what they mean. There's a lot of things I want to do. I think I want to hear from my students more about what are the things that I can do to help their learning experience be better. And if that means me asking some ... taking some of the questions from the survey, and then asking them "What do you mean by that," or "What are some things I could do better?" Just as a follow-up question to that question, so they could write it down, or they could even ... just write it down on some paper. I want to do that. Because if it's a matter of I'm not helping them, or I'm not presenting things to them in a way that's helpful, or it's not interesting, or they don't know ... I don't

know, whatever it is I want to change that. So I want to get more information in order for me to be able to change what I'm ... to be better.” -Sarah

“Yeah, I feel like the same thing with my motivation-engagement, mine was a little bit lower too. I think some of my kids might have thought, "Well, I'm just not motivated", or whatever, not necessarily having to do with me. Some of them might have thought that but then others could have just been thinking, "Well I don't know. I don't see how finding x out of this equation is relevant to my life." -Karen

Table H2  
Codes for Teacher Candidates Use Few Strategies to Interpret Results

Code	Exemplifying quotes	Data collection instrument
<i>Consider Student Characteristics</i>	<p>“I was like, "Oh huh, this is interesting. Don't know if I was necessarily expecting this." Little bit lower than I thought it was gonna be... or they misread it or whatever the case might have been. I was still like, "Huh, interesting" for a lot of them.” - Karen</p> <p>“I wouldn't say it necessarily negatively impacted my scores. Like if it was simplified, all my scores would be up around 90, I just have a feeling that with some of my students on some of the questions, not all by any means, that they would go, "I don't get that. All right, click." Also, as adults, especially teachers, we're used to taking all sorts of surveys from 1 to 5, from 1 to 10, 10 being good, 10 being bad, and they have less exposure to that. So the instructions given to them, all those different factors, but the language itself more than anything. But no, I wouldn't say that my scores would go way up if it was changed, I'd just think that there's some kids</p>	Semi-structured interview and Post-Module Survey



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probably just clicking through if they don't know.” -Sam

“At the time, I was taking over the class so it was a transitional period. Since then, a lot of students have been switched out of the class to other class periods and some students have been moved into my class. Not all of my students took the survey because I teach middle school, so I only had one class take the survey. My results are a little upsetting,”

“Then there’s another TC at our school and she did seem more to take the scores to heart, and like aww, you know. It’s middle school also, so they’re probably a little bit more critical of their teachers”  
-Sam

“I really looked at them a little harder to see, “Okay, what part of this was I actually struggling in? Could it have been a misconception? Could they have just not really understood or were they not trying or something like that?” -Reese

“Even particular students that I feel like I’ve gone out of my way to really help, or I’ve done some things to really support them, or really streamline and support their learning, or their behavior. Really stopped and thought about “I wonder what they responded on this survey, did they say this, did they say that?” I thought about particular kids, too.” -Sarah

“I heard some comments like, “These kids just don’t like me.” There’s “X” kid who behaves really badly in that class and I think that makes everybody, give me a lower score. It’s not my fault this kid’s in my class.” I heard other people say things like that.” -Jasmine

*Reflected on  
Classroom  
Experiences*

“For example, student growth and achievement, we have this big wall on our board of how we’re doing. We track our reading. We chart it on a graph. We’re doing all that kind of stuff and some

Semi-  
structured  
interview and

of them still said, "No" to some of the questions. I'm like, "Well, maybe I'm just not wording things correctly." Like based on how the questions were, so like, "The things I'm working on in class are too easy. The things I'm working on in class are important to me." Instilling that belief that this is important and the reason that we chart our growth and we chart our successes is because it makes it more real. It makes it more relevant and you can actually see your progress." -Reese

Post-Module  
Survey

"I think I found myself thinking of particular times in my classroom, or lessons, or even particular students that may shed more light on, or might explain some of the numbers. Especially the planning stuff, I think in my head I was going back to how well are my students doing, I thought of those lessons that it seemed like we did really poorly. I don't know. I thought back to my class, times that would match up with the category." - Sarah

"I think with the student survey, I was trying to think about every instance that was related to those categories, like planning, related to motivation, and in achievement data, you actually have the students' names. Sometimes you even have the student's test. With the survey data, I just got these big picture numbers. I didn't get specific students. I think the strategy is different that we didn't talk about emotion, and I felt like I could only drill down so far with the information. " - Sarah

"Reading the questions and thinking about my teaching."

*Numerically*

"The first thing I looked at, because the way the report I have is just like, "Here's your class average and here's the average-average." The first thing was like, "Where do I stand relative to that?" I was first looking at things relative to that, but then I think secondarily, I think a lot about that 80% number, so then I think, even things

Semi-  
structured  
interviews and  
Post-Module  
Survey

where it was like, "Look." You're like, "You're outperforming the average." I was like, "Yeah, but outperforming the average." I have got 63% of kids who agree with that, so that doesn't really feel like that's like a resounding, the kids are like, "Yeah, this great!" -Jasmine

"We just had our District Benchmark like last week or something. Yeah, I did break this apart in a similar way. I looked at the numbers, and then I separated them from highest to lowest and I broke it out in the way that makes sense to me. I looked at the highest first, and I was like, "Okay." I didn't have kids' names on these obviously but I was like, "Okay, these are the areas I did really well in." Same thing with the test, I'm like, "Okay, these are the kids that really have mastered this concepts or they really get what we're talking about." I bring them over here and then the ones that I received a lower percentage in, I brought over here." -Reese

"We sat down and looked at all the data and kind of compared like what's your strength, what's your weakness." - Sam

"Yeah, and just like any data, you look at trends and if you see only 15% of my kids say that I'm a pleasant person to be around, well then maybe I need to change my tone with them. When I looked at that, I just kind of looked for those things and honestly I probably zoomed in on" -Sam

"Looked at results."

"Analyzing percentages."

Table H3

Codes for Teacher Candidate Mindsets Influenced Their Subsequent Actions

Code	Exemplifying quotes	Data collection instrument
<i>Feedback to grow</i>	<p>“Okay well, we still have a couple months left. We can change this around.” -Reese</p> <p>“We really have to take a step back and review them and then think of, "Okay, how can I change this?" - Reese</p> <p>“If any scores are low it lets me know what I need to work on.”</p> <p>“I plan to improve these scores and improve my classroom environment.”</p> <p>“Yeah, I really try to focus on what maybe I can learn from the kids and what I can try to do and try really hard to set aside as much negative emotion or, I guess, ego as I can.” -Jasmine</p> <p>“We talk about this all the time with my students. I definitely think of myself as having more of a growth mindset.” -Sarah</p> <p>“Yeah. Like I talked to my students, if you actually think you can change with time and effort, you can get better, then you always have this positive outlook of "Okay, wow, I may not have it yet, but I'm going to get it. I'm going to figure it out." Even though it was hard to see some of the numbers because they were lower than what I expected because I have that belief that "I know I'm going to get better," then data like this is just giving you an update, "Hey, this is what my sixth graders think.” - Sarah</p> <p>“I really would like to know how my students feel about me as their teacher on many different aspects. I care to know about any areas that I need to change in order to better serve my students.”</p>	Semi-structured interview, Pre-Module Survey, and Post-Module Survey

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*Fixed  
mindset*

“I like to know what students are thinking and I want to be able to improve my teaching.”

“I can definitely think of a few, and obviously no names are gonna be mentioned but yeah, go ahead. I lost my train of thought...but sometimes I think, man why didn't they get it? Yeah, I definitely have had those thoughts as well. Especially looking at some of their math scores. Yeah, but some teachers who do just have that fixed mindset, they might not even think to look internally” -Karen

Semi-structured  
interview and  
Post-Module  
Survey

“Which is when I feel like a colleague, friend, might need to step in and say, "Hey, let's go look at your results" or something. If they have that person then ... They have that person there with them then I feel like they would need that little step in ... That little nudge, yes, in that direction.” - Karen

“I can definitely envision what that would be like in the sense that, "Oh well, I'm doing everything I can, it's my students who maybe aren't picking up what I'm giving ..."Yeah, exactly. I think it would just from there, if that is how someone is feeling maybe they need to reflect internally. I know sometimes students can be lazy or be like, "Well, I'm not doing this." I know that that's a real factor, but if your scores are significantly very low than maybe you know, not saying look within yourself, but like look within yourself. Maybe focus on the growth mindset and not having a fixed idea of what it can be because students you have this year aren't going to be the same as next year and they have different needs. Maybe they need a little bit more, when it comes to delivery, than your students last year did. As far as the first part that you said, where you were talking about how we can imagine feeling like with a fixed mindset, I've gotten a poor score before. It's very disheartening. In the sense that I'm like, "Oh well, if this is what it's gonna be like, you know ... Why didn't my kids get this? Why didn't they ..." Then I have to change that mindset and be like, "No, maybe I can try to teach it in a new way, to where all of my kiddos can really grasp the concept instead of just these over here."- Reese

“I mean, I’m just not going to really get to doing anything at this point in the year.” -Sam

“I probably disregarded it more than other teachers just because, I don't know. At this point, I'm just like, "Okay, that's one piece, and it's not gonna make or break anything and everything else." -Sam

*Actions in the classroom*

“Based on the data, I would like to continue with how I am teaching, but better the ways that I strive to engage students and how we track our student growth and progress. We are currently tracking our progress and continuously motivate each other, but I do not believe that I explicitly say, ‘Now we are going to track our growth and achievement.’ We can also work on setting goals more frequently individually and as a class.” -Reese

Semi-structured interview and Post-Module Survey

“Sort of across the board thought a little more about giving some more reasons for different things, like from not as much as the planning piece but culture piece and things because I noticed if the ideas, kids understand my teacher wants me to feel safe or wants us to be a safe classroom than trying to do more instead of, "When you talk that way it's disrespectful. When you talk that way you can hurt someone else's feelings." Going the step further, ‘When you talk this way, you can hurt your neighbor's feelings, then they might not feel safe in our classroom.’-kind of thing. Realizing that maybe giving kids more intention would help them understand we're doing this for a reason, not just for no reason.” -Jasmine

“Like why do we need to learn about plants? Like we're not plants, why do we need to learn what they do and how they live?" And so, I was just thinking ... I'm looking through these results, I think that type of questions under learning environment, "I know why what I am learning is important". Sometimes maybe it's not clear, like, "Why are we even doing this?" Maybe just explaining more to them, "We're learning about plants because plants give us oxygen

so we can breathe. So we need to like learn through their process as well. They get rid of the carbon dioxide in the air." And like those kinds of smaller things that might make them even a little bit more interested because they're like, "Okay, we're learning this because like it's helping us live." Just giving them that important information of like why is what we're learning even important."

-Karen

"No. I don't think ... I wondered about things like I'm interested kids say I don't know what is expected of me in the classroom. Then I wondered about some other things...I guess, I haven't, but probably a good thing to do would have been to talk to, do some little recess focus groups or something where you just chitchat with kids like, "Hey, how do you feel about how classes run? Do you feel like, do you know what you're supposed to be doing, or do you feel like you get in trouble when you didn't know what you were doing was not okay?" Things like that." -

Jasmine

"Talking to my students about the results and ways we can improve."

"From the data I plan on trying to further my differentiation and continuing to ask questions that invoke students to process and think."

"Based on the data, I would like to work on ensuring that my students feel safe to make mistakes, incorporate more reading and learning about people like the students within my classroom, and ensuring that the students know that they do/can do well in school."

Table H4  
Codes for Modules Provide Systematic Approach to Action

Code	Exemplifying quotes	Data collection instrument
<i>Beneficial Systematic Reflection</i>	<p>“I appreciate having something to focus on. Like I was looking at the data I'm like, "Oh, this looks awesome!" But then on the module it was able to literally break it down for me “- Reese</p> <p>“I personally liked it because it gave me a focus point, where I should be, what I should be looking at specifically with my data versus just being given the data and saying, "Here you go." Now I'm just like, "Well, huh? What?" You know? So given that focus point was really good for me.” -Karen</p> <p>“I appreciate having something to focus on. Like I was looking at the data I'm like, "Oh, this looks awesome!" But then on the module it was able to literally break it down for me.” -Reese</p> <p>“The second module was good too. It felt like there was a process to go through the results. I mean, as they are, someone could just look at them and be like, “oh good” and really not dive any deeper with them. It felt systematic.” -Jasmine</p>	Semi-structured interview  overarching
<i>Prompted to Act</i>	<p>“Or it was saying, "Okay, now that you have your scores, here's what you can do next." So it gave me the next steps. “ -Reese</p> <p>“I think I was surprised how when I stopped to think about the questions it was asking me, and then I was really forced to think about my own classroom, I was surprised with how much more things it brought up. More ideas it gave me.” -Sarah</p> <p>“I don't feel like at the end of it I was like, "Oh, they feel really differently about. Oh, they love me. Oh, they hate me." I don't think in a positive or negative way. It changed. I was interested in what maybe is happening</p>	Semi-structured interview



in their brains that results in them thinking this and how can I think about some of my delivery of things so that maybe there's more intention.” -Jasmine

“I know I'm definitely looking back and thinking there's some things that I need to, not necessarily change, but maybe mend a little bit.” -Karen

Table H5

Codes for Teacher Candidates Value Student Feedback

Code	Exemplifying quotes	Data collection instrument
<i>Curiosity and Excitement</i>	“I am curious to what my student think about me and my teaching.”	Pre-Module Survey
<i>About the Results</i>	“It will be interesting to see if my students take this seriously or rush through it.”	
	“I don't really know what to expect.”	
	“I really would like to know how my students feel about me as their teacher on many different aspects. I care to know about any areas that I need to change in order to better serve my students.”	
	“I really want to know what my students think, so that I can improve my teaching.”	
	“Otherwise, those were the small things that I thought about, but mostly I was like, "Great. I'm going to get some more information.” - Jasmine	
	“I am very close with my students. I am excited to hear what they have to say about my teaching.”	
	“I am excited and curious to see how my students will respond.”	
	“My students seem to enjoy my class. I'm excited to see what they have to say.”	

*Positive View  
of SPS*

“But it seemed like it'd be a really good idea to get your kids' thoughts of how they think you're doing versus how you think you're doing. To just get a few other perspectives of your teaching abilities.” -Karen

Semi-  
structure  
interviews

“As we went through it I saw it even more so like, "This could be seriously useful for my teaching. Like I could like improve this aspect of my teaching based on what my kids have said." So it just increased that, "Hey, this is gonna be a good thing" idea that was already in my brain.” - Karen

“That's a really beneficial way to see how they're feeling about it. It's almost like a pre-assessment of your teaching. If that makes any sense?” - Reese

“Obviously that's not realistic but the modules really helped solidify the, "Okay, this is gonna be great. Like my kids, no matter my score, I will get feedback and I'll be able to better my teaching.” - Reese

“I think this could be a really beneficial tool if used properly by districts or schools.” -Reese

“In general, I liked the experience. You know it was good, I think it was helpful.” - Jasmine

“I don't necessarily think it improved my view. Because as soon as I found out what we were going to do, I felt generally positive about it. I think it probably helped maybe affirm that, or solidify that.” -Sarah

“I really like the idea of improving. I know that that's the plan. I'm just going to get better. And I think hearing from my students in what areas I should be getting better, or just getting that feedback from my students was good. It was really good.” - Sarah

“So, when I got the results, I'm like, "Yeah, this is great. I could totally see how it's helpful,"- Sam

“I think that this is a great way to track how your students feel anonymously, and how to receive data

about our classrooms to better our teaching and classroom environment. “

“No, I think it's totally helpful even if you're just student teaching, you're still teaching the students. You still need to know how your students are feeling about what you're giving them, about what you're doing with them. Even just student teaching, even if it is only a semester, you're only there for a semester. You're still there for an entire semester of the students' learning.” - Karen

“Yeah. I love that we did this a pre-service teacher because it really ... We're gonna be so much farther ahead once we are certified, and once we do have our own classrooms and we're not sharing them with a mentor, because we know, "Well, I'm doing really great with my planning and my delivery, but I really need to work on my motivation theory, or my motivation-engagement." I feel like it puts us a whole step ahead. Not just with other teachers but with people that we're competing with for jobs.” -Reese

“I guess I think that if this is used to help support and direct teacher development, then it's good at any stage of your career. Students can give really great feedback if you've been teaching one year or twenty-one years.” - Jasmine

“I do. I don't think it was bad. I think it was really a neat piece of feedback. I think if schools and districts, and teachers are doing this, then we should be experiencing all the stuff that we'll experience as certified teachers.” -Sarah

*How SPS  
Should be  
Used*

“But maybe after every quarter and you can ... As a teacher that would be really beneficial because you could see, "Okay, I have to make sure to hit these three things by winter break" but then, "Oh, I was kinda slacking on my learning environment, so I really need to up my game, along with those three things I was working on before." I think it could be really beneficial in that sense.” - Reese

Semi-  
structured  
interviews

“As long as there aren't negative stipulations attached to the survey results.” -Reese

“However, if somebody's job was on the line or something because of this I think that that's not necessarily the best use of the survey results.” -Reese

“Even having my students do it like after a month and then maybe after winter or in the spring. Or even like once a quarter, like when they do benchmark testing. That way you can keep track of how you're doing, like how you're improving or not.” - Karen

“For us, this was just a nice bit of feedback, another someone else as our students telling us how we're doing in our teaching. And we didn't have ... we weren't expected to get a certain percentage. We weren't going to be held to this bar. I think if there was this idea of "all of your kids," or "90% of your kids should be saying this," even though I hold myself to that bar, I would be really scared if I had to hit a certain percentage that was expected of me, I'd be kind of worried about that. “ -Sarah

“It's really just for ...it's for growth” -Karen

“One of our academic advisors, within the school, would work with us on, "Well I'm not really sure how to improve my learning environment. What can I do?" I think that would be also a really beneficial way to use them.” -Reese

“I think if this was a regular part of a school and there was support and follow up or check-in on a teacher's progress, then it's really a good thing. I think if there was a way to help ensure that the students really understood all of the parts of the survey, it'd be even better.” -Jasmine

“I think we've got so much stuff going on that it needs more attention and support if you really want us to use it well. Right now I feel a bit like "Okay, this is nice. Gives me something to think about. I do think the data

folders would've ended up being an action I could've taken but otherwise, I bet it just gets buried." -Sam

"Yeah, and really if she would've said, "Next Tuesday when we meet, I want you to take your area of improvement and I want you to come up with a couple strategies of how you can improve this," or not even improve it, just address it. Then yeah, I'm forced to interact with the results more." -Sam

"I'd say don't tie it to teacher evaluations" -Sam  
 "As a way to evaluate a teacher? Hmmm that gets tough. I would think that would really shift the entire feel of the process, for teachers and students." - Jasmine

Table H6  
 Codes for Teacher Candidates Feel That Modules Help Situate Their Experience

Code	Exemplifying quotes	Data collection instrument
<i>Connection to Other Teachers' Emotional Experiences</i>	<p>"In the sense that I was able to have someone, even if it was through the computer, explain to me like, "Okay, if you are feeling this way about your scores or if this kinda is how you're feeling." That was really nice to be able to see, "Okay well, I'm not alone, like other teachers feel this way too." -Reese</p> <p>"It was nice to hear that the challenges some of the challenges that were listed, I remember thinking "Okay," in my mind as soon as the process was explained, I was like "These are some of my concerns." So it was nice to see other people had had those concerns." -Sarah</p> <p>"It was good to know other people, how they experienced results." - Sarah</p>	Semi-structured interview

*Helpful Overview  
of the Process*

“It was really nice to just get the whole breakdown of the process.” – Reese

Semi-  
structured  
interview

“I liked the first module because it kinda helped paint a picture for the experience. I had an idea of what was going to be expected of me and of my students.” -Jasmine

“Even I think it was helpful to see the steps of what the whole process entailed, and I remember getting some guidance on some things that were important to do. I remember writing down my predictions of what my students were going to score me as.” - Sarah

“Well, I liked the first one a lot because it gave me a lot of information about student surveys that I didn’t know.

That was informative and even telling me about the process. Like what was going to happen before or during the student survey itself, yeah...that was good.” -Sam

APPENDIX I  
DEPENDENT T-TEST TABLES

Table II  
Pre and Post-Module Dependent T-test Results

Factor		Pretest	Posttest	M <sub>2</sub> - M <sub>1</sub>	p	df
Felt Threatened by SPS results	M	1.33	1.25	-0.08	.586	11
	SD	.492	.452			
Felt Threatened by effects of the SPS process	M	1.08	1.25	0.17	.166	11
	SD	.289	.452			
Values students' perspectives on teaching	M	3.75	3.83	0.08	.586	11
	SD	.452	.389			
SPS data should be used to inform school-wide PD	M	3.33	3.50	0.17	.166	11
	SD	.651	.674			
SPS data should be used to inform individual PD	M	3.25	3.67	0.42	*.017	11
	SD	.622	.651			
Making sense of SPS results	M	3.58	3.50	-0.08	.723	11
	SD	.515	.674			
Use SPS data to take action within the classroom	M	3.50	3.58	0.08	.674	11
	SD	.522	.669			

Note: N=12 \* $p < 0.05$



APPENDIX J  
SURVEY RESULTS FOR 12 TEACHER CANDIDATES

Table J1

Pre and Post Module: Teacher Candidates Reported Feelings About the Use of SPS Process to Inform Their Professional Development

Response	Angry		Scared		Upset		Excited		Curious		Happy	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Yes	8.3%	0%	0%	0%	0%	8.3%	50%	58.3%	91.7%	83.3%	41.7%	33.3%
No	91.7%	100%	100%	100%	100%	91.7%	50%	41.7%	8.3%	16.7%	58.3%	66.7%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Note: N= 12

Table J2

Pre and Post Module: Teacher Candidates' Reported Feelings About Their SPS Results

Response	Angry		Scared		Upset		Excited		Curious		Happy	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Yes	0%	0%	16.7%	0%	0%	33.3%	41.7%	33.3%	83.3%	83.3%	33.3%	50%
No	100%	100%	83.3%	100%	100%	66.7%	58.3%	66.7%	16.7%	16.7%	66.7%	50%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Note: N= 12

Table J3

Pre and Post-Module: Feelings of Threat by Results or the Effects of the Process

Survey	Pre-Module				Post-Module			
	SA	A	D	SD	SA	A	D	SD
I feel threatened by the SPS results.	0%	0%	33.3%	66.7%	0%	0%	25%	75%
I feel threatened by some of the effects of this SPS survey process.	0%	0%	8.3%	91.7%	0%	0%	25%	75%

Note: N= 8, SA=Strongly Agree, A= Agree, D= Disagree, SD= Strongly Disagree

Table J4

Pre and Post-Module: Making Sense of the Data and Taking Action

Survey	Pre-Module				Post-Module			
	SA	A	D	SD	SA	A	D	SD
I can make/made sense of the student perception survey data when I receive it.	58.3%	41.7%	0%	0%	58.3%	33.3%	8.3%	0%
I can use/used the data from the student perception survey to take positive action.	50%	50%	0%	0%	66.7%	25%	8.3%	0%

Note: N= 8, SA=Strongly Agree, A= Agree, D= Disagree, SD= Strongly Disagree

APPENDIX K  
STUDY PROTOCOL AND DATA COLLECTION TIMELINE

Table K1

Study Protocol and Data Collection Timeline

Event	Date	Content
Phase one interview data collected	Spring 2016	Researcher collected phase one interview data on pre- and in-service teacher experiences with SPS process and data.
Partnering teacher candidate sites are contacted and established	April/May 2016	Researcher communicated with multiple teacher candidate cohort site coordinators to establish partnerships for the study.
IRB and college leadership approval	May 2016	Researcher obtained the approval of all necessary leadership.
SPS Modules Development and Pilot Testing	October 2016/ February 2017	Colleagues within Sanford Inspire Program pilot tested modules for clarity and user experience.
Face-to-face presentations about study given to	November 2016	Researcher made face-to-face presentations about the purpose and scope of the study.

potential

participants

Pre-Module survey	November 2016	The link to Pre-SPS module surveys was emailed to teacher candidates or posted in a classroom setting for pre-service teachers to access one week before their K-12 students were scheduled to participate in the student perception surveys. The specific dates of participation were different for the two cohorts.
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SPS Module One	November 2016	Teachers participated in the first SPS module, "Preparing for Student Perception Surveys".
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K-12 students participate in SPS	November 2016- January 2017	K-12 students completed the student perception surveys.
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SPS results and second SPS module completed	March 2017	Sanford Inspire Program emailed the SPS results directly to pre-service teachers.
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Pre-service teachers participated in the second SPS module, “Taking Action with Student Perception Survey Data”.

Post-Module survey    March 2017

The link to the Post-Module Survey was emailed to teacher candidates or posted in a classroom setting for pre-service teachers to access the day they received their SPS results. The specific dates of participation were different for the two cohorts.

Post-SPS process        March  
interviews                2017

Pre-service teachers who indicated interest were contacted and interviewed. The specific dates of interviewee participation were different for most interviews.

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APPENDIX L

IRB APPROVAL LETTER



EXEMPTION GRANTED

Michelle Jordan  
 Division of Teacher Preparation - Tempe  
 480/965-9663  
 Michelle.E.Jordan@asu.edu

Dear Michelle Jordan:

On 8/9/2016 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Teachers Taking Positive Action with Student Perception Survey Data
Investigator:	Michelle Jordan
IRB ID:	STUDY00004697
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none"> <li>• Questionnaire and Interview consent combined, Category: Consent Form;</li> <li>• Taking Positive Action with SPS Data Recruitment language, Category: Recruitment Materials;</li> <li>• Pre and Post Module Questionnaire Instruments, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);</li> <li>• Taking Positive Action with SPS Data protocol form, Category: IRB Protocol;</li> <li>• Interview protocol, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);</li> </ul>

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 8/9/2016.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

APPENDIX M

LINKS TO THE LIVE SPS MODULES

An account with the Arizona State University's Professional Learning Library is needed. If you are affiliated with Arizona State University, you have an affiliate sign in available to you.

To create an account, you need to provide an email address and password. The resource is currently publicly available and free.

Internet connection is needed to view the modules. Optimal viewing is done in Chrome.

- Preparing for Student Perception Surveys:  
<https://pll.asu.edu/p/node/217906>
- Taking Action with Student Perception Survey Data:  
<https://pll.asu.edu/p/node/220188>

APPENDIX N

SANFORD INSPIRE PROGRAM ELEMENTARY STUDENT VOICE SURVEY

## Elementary Student Survey

You are going to answer some questions about your teacher and your classroom. Please do your best to answer the questions honestly. If you don't understand a question, please raise your hand and someone will be around to help you or you may skip that question all together. But be sure to answer each one to the best of your ability because your teacher wants to hear your opinions. Your participation is voluntary and you may stop at any time. We will use the information to help make sure your school is a great place for all students. Your responses will be anonymous and confidential. That means that no one will be able to identify you based on your answers and your answers will be stored safely. No one will ever know how you answer each question. Also, your responses will not influence the way your teachers treat and grade you. By completing the survey you assent to be part of the study.

Questions about Classroom Environment	Yes	Sometimes	No
Please choose 'yes', 'sometimes', or 'no' for each of the following statements.			
I think the rules of the classroom are fair.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I know how my teacher wants me to behave in class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My teacher knows when students are behaving and when they are not.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If I do not follow a rule, my teacher tells me so in a respectful way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel cared for in my classroom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel safe in my classroom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I know our classroom procedures for going to the bathroom or lining up at the door.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Questions about Planning	Yes	Sometimes	No
Please choose 'yes', 'sometimes', or 'no' for each of the following statements.			
During a lesson, we learn things in an order that makes sense.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My teacher knows a lot about what we are learning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I try to solve problems in many different ways.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I know why what I am learning is important.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am shown how to do new things before I do them on my own.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I get better at the things we learn in class because I have the time I need to practice them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
At the end of class we talk about what we learned.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Questions about Delivery	Yes	Sometimes	No
Please choose 'yes', 'sometimes', or 'no' for each of the following statements.			
In this class, my teacher allows us to discover new knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I receive the help I need in class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My teacher explains things in different ways when students do not understand.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think a lot when my teacher asks us questions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel comfortable asking my teacher questions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I learn from the materials my teacher uses (books, videos, handouts).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I understand new information because it is explained clearly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Questions about Motivation - Theory Please choose 'yes', 'sometimes', or 'no' for each of the following statements.	Yes	Sometimes	No
I know I can do well in school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I want to do well in school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My teacher lets my family know how I am doing in school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I learn and read about people like me who have done well in life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have personal goals (something I work towards) for learning in this class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I keep trying, even when the work gets hard.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In my class, mistakes are okay as they are another chance to learn.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

  

Questions about Motivation - Engagement Please choose 'yes', 'sometimes', or 'no' for each of the following statements.	Yes	Sometimes	No
I have shared with my teacher what I want to be when I grow up.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I understand how I can use what I am learning in my everyday life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am given some choice in how I learn, like what book to read or what things to write about.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In this class we are encouraged to work in groups.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The subjects I am learning are interesting because of my teacher.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
What I am learning in this class is important for my future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My teacher is interesting to listen to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

  

Questions about Student Growth & Achievement Please choose 'yes', 'sometimes', or 'no' for each of the following statements.	Yes	Sometimes	No
I am working towards a goal that will help me in life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am working towards a goal that is important to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am working hard towards a goal, but I can do it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I know how close I am to reaching the goal I am working towards.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If I am doing well in class, I do well on tests.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am asked to share what I know before we start learning a new topic.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I get to show what I know if many different ways.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>