

The Effect of Active Learning on Academic Motivation Among Pre-Service Teachers

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## ABSTRACT

The active learning assignment, *Pink Time*, provides an opportunity to experience and reflect upon learning that may both benefit individuals and contribute to high-quality teaching. Previous studies have found that *Pink Time* supports university students' motivation and comprehension of the learning process (Baird et al., 2020, Baird et al., 2015).

The present study examined the impact of an active learning assignment, *Pink Time*, on pre-service elementary teachers' motivated-related perceptions. A multiple method approach offers an understanding of the extent to which *Pink Time* influences the three psychological needs that are a part of Self-Determination Theory (SDT). This theory provides a framework to examine three key components of motivation: autonomy, competence, and relatedness. A sample of 28 pre-service teachers participated in two *Pink Time* iterations over two different courses.

Quantitative data was collected through 21 responses on the MUSIC Model of Academic Inventory (Jones, 2012, 2020) with open-ended response questions to perceptions related to empowerment (autonomy), usefulness, success (competence), interest, and caring (relatedness). Qualitative data was collected using five interviews, four group discussions, and 21 responses to the open-ended survey questions on the MUSIC Model Inventory.

The findings imply that *Pink Time* is a useful tool to support pre-service teachers' perception of motivation in areas of empowerment, usefulness, success, interest, and caring. Implications of this study include contributions to classroom assignments in teacher education

programs that support motivation which results in high-quality teachers. *Pink Time* may also be used in the PK-12 setting for both students and teachers.

Supporting PK-12 students in pursuing interests and increasing motivation is pertinent to academic success. Educational leaders could offer teachers professional development opportunities through *Pink Time* where teachers seek out their interests to support their own professional growth and uniquely contribute to school-level outcomes such as inclusive learning environments, effective online/virtual learning, and wellness.

# The Effect of Active Learning on Academic Motivation Among Pre-Service Teachers

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## GENERAL AUDIENCE ABSTRACT

This study was used to understand how pre-service teachers perceive motivation through an active learning assignment called *Pink Time*. Pre-service teachers participated in two *Pink Time* assignments by skipping class and learning about a self-selected topic related to education. During the next class session, the pre-service teachers presented what they had learned through the assignment and about themselves as learners. After the presentations were completed, the researcher facilitated a discussion with motivation-related questions. After completing the second *Pink Time* assignment, pre-service teachers were given a survey that included open-ended questions. Five interviews were conducted after the two *Pink Time* assignments were completed. Analysis from the interviews, group discussions, and answers on the open-ended items suggested that pre-service teachers described their motivation-related perceptions of *Pink Time* with three overall themes: influencers of motivation, outcomes of *Pink Time*, and reactions toward *Pink Time*.

This study showed that *Pink Time* supported pre-service teachers' motivation related to empowerment, usefulness, success, interest, and caring. Implications of this study can lead to teacher educator programs using *Pink Time* to support pre-service teachers' motivation. Implications are discussed for the PK-12 school setting as PK-12 teachers can support their students' motivation by allowing young learners to choose topics of interest to learn.

## Dedication

To my parents, Paul and Joan Caruso.  
You have supported me through all of it.  
With love and humor.

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## **Chapter One**

### **Introduction**

Education is vital for the development of economic mobility, educated citizenry, and equity for individuals (OECD, 2012; Zalta, 2017). Quality education is thus a priority as national, state, and local stakeholders have economic and social interests in it (Paine & McCann, 2016). A central component of quality education is teaching. Adequate numbers of teachers have been the focus of educational pushes in the past but this focus has shifted from simply numbers to a sharper focus on the preparation of highly qualified, high-quality teachers.

Approximately 18,000 state-approved teacher education programs are available at colleges and universities across the United States. These programs prepare teachers for the rigors of the classroom. Traditional teacher preparation programs provide education and experiential scholarship to undergraduate and graduate students who earn an education degree after completing the program. During the 2015-16 school year, colleges and universities in the United States conferred approximately 240,000 Bachelor's and Master's degrees in education (Snyder et al., 2019). The institutions that issued these degrees are charged with preparing teachers to successfully enter the workforce. The expectation is that these teachers remain in the profession for the remainder of their careers. With three million teachers in the workforce, schools are the largest public employer in the United States which makes it imperative that our nation produces high-quality teachers (Grossman & Loeb, 2016) to achieve national education goals.

Research in teacher education is needed to analyze instructional methods that bolster learning and academic success. Student motivation is essential for learning to occur (Hayward et al., 2018; Irvine, 2019; Pintrich, 2004; Zimmerman, 2000), and researchers have found that intrinsic motivation (participating in a task because of "inherent interest and enjoyment"

(Vansteenkiste et al. 2006, p. 19)) is particularly vital to instructional practices that lead to critical educational outcomes. Deci et al. (1981b) found that when teachers allowed students to experience and create their own ideas, intrinsic motivation was higher than when students were more controlled by their teachers.

Pink (2009) stated, "One who is interested in developing and enhancing intrinsic motivation in children, employees, students, etc. should not concentrate on external control systems such as monetary rewards" (p. 8). While much of the literature on academic motivation focuses on early education students, little is known about pre-service teachers in teacher preparation programs. It is crucial to examine how different coursework assignments can become viable options in supporting motivation to learn in pre-service teachers.

This study focuses on pre-service teachers in a traditional preparation program and examines the effect of instruction on increasing motivation to engage in an assignment. Due to the COVID-19 pandemic, summer and fall courses were conducted online throughout many schools in the US, including the one in which I conducted my study. The study adds to the *Pink Time* literature as it demonstrates how this assignment may be supportive in motivating pre-service teachers taking online courses.

### **Teacher Preparation Programs**

According to the U.S. Department of Education, Office of Postsecondary Education (2016), Title II, a teacher preparation program is:

A state-approved course of study the completion of which signifies that an enrollee has met all the state's educational requirements, or training requirements, or both, for an initial credential to teach in the state's elementary, middle, or secondary schools. A teacher preparation program may be either a traditional program or an alternative

program, as defined by the state, and maybe offered within or outside an IHE [Institution of Higher Education] (p. xiii).

Another definition defines an enrolled student as “A student who has been admitted to a teacher preparation program but who has not yet completed the program in the academic year being reported” (U. S. Department of Education, Office of Postsecondary Education, 2016, p. xii).

For this study, “teacher education program” refers to a teacher preparation program offered at a college or university. “Pre-service teacher” will define enrolled students.

Teacher preparation programs (TPP) are indispensable in the development, engagement, and motivation of pre-service teachers who will hopefully become high-quality teachers, and researchers have analyzed what high-quality teacher education programs offer to student teachers. Darling-Hammond (2006a) examined seven high-quality teacher education programs around the United States in her book, *Powerful Teacher Education: Lessons from Exemplary Programs*. In this book, Darling-Hammond identified common tools and themes that each of the seven programs had established. One theme that emerged, which is central to this study, was teacher education programs' content which was defined as the knowledge of learners and learning, subject matter, and pedagogy (2006a).

### **Focus on Pedagogy**

Teaching is exceptionally complex as teachers need to learn both content and pedagogical approaches that enhance student learning. Voss et al. (2011) touched on this when they identified pedagogical knowledge as “the knowledge needed to create and optimize teaching-learning situations, including declarative and procedural generic knowledge of effective teaching that is potentially applicable in a wide variety of subjects” (p. 953).

Grossman (2005) analyzed the literature on different pedagogical methods and noted a lack of explanation regarding how different pedagogies connect to other aspects of the class and its program. Loughran (2006) acknowledged the importance of integrating different pedagogical practice modes to model a more profound sense of teaching. Other researchers have noted the various forms of pedagogies used within teacher education and have included field experiences, teacher portfolios, and lesson study in their research (Bullock, 2011; Darling-Hammond et al., 2005). Different pedagogies can influence how teachers practice once they get into the field; therefore, utilizing various methods is both critical and daunting to teachers (Darling-Hammond et al., 2005).

### ***Experience the Learning Process***

Darling-Hammond (2006a) identified the importance of the *process* of teacher education. The process of teacher education refers to integrating theory and practice by combining coursework and fieldwork. In this particular study, Darling-Hammond (2006a) noted the importance of developing pre-service teachers' opportunities to build knowledge created through gaining knowledge from both instructors and peers as learning through created experiences is critical to retaining information. Darling Hammond et al. (2019) discussed the fact that developmentally grounded and personalized learning is an essential element of TPPs to meet students' needs. The meeting of these needs requires that TPPs "practice what they preach " and provide time and space for pre-service teachers to engage deeply with their learning processes. This allows pre-service teachers to experience the kind of learning that will inform future teaching practices and student learning outcomes (Darling-Hammond et al., 2019).

It is the distinction and intersection of both *content* and *process* that is important to TPP. While content knowledge is critical to student achievement (Tchoshanov et al., 2008;

Tchoshanov, 2010), experience and practice methods support teacher beliefs and practice (Luft, 2001). Teacher educators can create classroom experiences based on their TPP that increase their perceptions of motivation for learning (Jones, 2018).

### **Academic Motivation**

Jones (2009) defined academic motivation as “the extent to which one intends to engage in an activity” (Jones, 2018, p. 6) In this study, I am focusing my study of academic motivation on the use of self-determination theory within teacher education.

### ***Self-Determination Theory***

Instructors can design coursework to support both motivation and learning by utilizing theory-based research. Deci and Ryan’s (2000) Self-Determination Theory (SDT) is useful in understanding human motivation in this context. SDT is based on the premise that human beings are curious, proactive, can “assimilate” knowledge and regulate behavior (Deci & Ryan, 2017, p. 4). The three needs in Basic Psychological Needs Theory (BPNT), a sub-theory of SDT, are autonomy, relatedness, and competence. *Autonomy* is defined as the ability for individuals to have a choice in their learning. *Relatedness* is the social component that refers to the need to be social and connect with others. *Competence* refers to the perceived ability to be successful (Deci & Ryan, 2000). Instructors can thus use SDT components to strengthen motivation and create opportunities that allow individuals to explore and build knowledge.

By understanding SDT and implementing active learning strategies, teacher educators can support pre-service teachers’ learning by providing opportunities to experience a sense of motivation (Jeno, 2015; Narendran, 2018). Through such motivation experiences, pre-service teachers could understand educational pedagogy and academic content better.

Teaching and learning research recognizes there is no single best way to reach all students (Huang, 2006; McKeachie, 1974; Prince, 2004). By providing varied assignments and activities within the classroom, instructors can promote pre-service teachers' motivation which could lead to an increase in learning and academic achievement.

### **Active Learning**

High-quality teacher education programs provide pre-service teachers with opportunities to engage in various instructional activities for critical thinking and content applicability which can then be applied to their field studies or student teaching. One approach that can be used is the use of active learning which supports “active impact on learning and a learner’s involvement in the learning process” (Niemi, 2002, p. 764) with active learning being a constructivist theory framework and learning shared between peers (Aksit et al., 2016; Cattaneo, 2011; Drew & Mackie, 2011; Niemi, 2012; Niemi, & Nevgi, 2014). Active learning is defined as providing opportunities for learners to be involved in doing and thinking about what they are doing (Bonwell & Eison, 1991; Prince, 2004), and student thinking is a critical skill which can be developed within teacher education. This is supported by Cochran-Smith et al. (2016) who recognized that “student thinking is just as important as solutions” (p. 465). Building critical thinking creates a strong foundation for pre-service teachers’ instructional skills and includes the planning and delivery of quality lessons. Incorporating active learning in teacher education enables pre-service teachers to make better connections and internalize practical skills that can be used as they implement lessons in future PK-12 classrooms (Huang, 2006; Mansfeld & Volet, 2010).

Instructors can use various instructional methods —including group work, pair sharing, and project-based learning — to engage learners in active learning (Prince, 2004). A particular

type of active learning assignment that can be used to support and encourage academic motivation is *Pink Time*.

### **MUSIC Model of Motivation**

One way to examine students' motivation in educational settings is to use the MUSIC Model of Motivation created by Jones (2009, 2018). Jones envisioned the model as a tool to support students' academic motivation within a class or while doing a particular activity. Jones (2009) suggested five components that facilitate motivation among learners: empowerment, usefulness, interest, success, and caring. Although it is possible to motivate students using only one component, teachers are more likely to motivate a larger number of students if they use all five components (Jones, 2018). One way to achieve motivation is to use various assignments and activities explicitly designed to increase students' perceptions of the five components of the model. One such assignment that can be incorporated to assist with this is *Pink Time*.

### **Pink Time**

Based upon Daniel Pink's book, *Drive*, *Pink Time* was developed and initiated by Baird et al. (2015) to increase student motivation through autonomy and self-reflection. The *Pink Time* assignment "disrupts traditional classroom learning approaches which are often based on external motivators such as grades" (p. 148). The assignment states that students will skip class, learn something, and report back to the group. According to PinkTime.org, "Students can learn a new skill, discover a passion, research a topic of interest, dive into unknown territories" (The Scholarship, para. 2). Upon returning to class, each class member shares what s/he did for *Pink Time*. A discussion facilitated by the instructor follows with questions such as *How did this support your learning?; What did you learn about yourself as a learner?; What are your impressions of this assignment?*

Motivation to learn is embedded within the assignment as students are encouraged to focus on something that they are interested in. Student motivation is supported through self-assessment. Students grade themselves based on effort as the instructor is not assigning a grade. Students are expected to spend as much time on their *Pink Time* assignment as they would for other coursework assignments. In Baird et al. (2015), one participant noted that *Pink Time* “made me aware of intrinsic motivation” (p. 153). Another remarked, “I was more focused on this class and this project because I was doing things that were relevant to my interests” (p. 153). Since university students need to be motivated to learn, instructors must provide opportunities to reinforce learning behaviors (Pintrich & Garcia, 1994; Pintrich, 1995). Pre-service teachers can thus engage with instructional material and activities that enhance autonomy, competence, and relatedness, and assignments such as *Pink Time* encompass motivating components which can increase motivation to learn.

### **Statement of the Problem**

Professional teaching is a complex process that involves an understanding of the individual learner student expectations as well as knowledge and implementation of a variety of sound pedagogical methods (Ball & Forzani, 2009; Dana & Yendol-Hoppey, 2019). The characteristics of “high quality” teachers are indicative of something different than teachers who are certified as “highly qualified”; therefore, TPPs must prepare educators who are both “high quality” and “highly qualified.”

As previously stated, motivation is needed for learning (Hidi, 1990; Pintrich, 1995). Even so, researchers have observed the decline of student motivation (Lazowski & Hulleman, 2016). As an answer to this challenge, *Pink Time* has been shown to enhance college-aged students' motivation during in-class activities and may be useful among pre-service teachers when it



comes to motivation during in-class activities. *Pink Time* is a research-based method which utilizes active learning assignments created to break from teacher-centered classroom practices. This method asks students to skip class, learn something of their choosing, reflect on their learning, and grade themselves (Baird et al., 2015; Jones, 2018).

While *Pink Time* has been used across a few university course types and levels, it needs to be closely examined to determine whether it is a valuable technique that supports pre-service teachers' motivation as *Pink Time* has the potential to create time and space for pre-service teachers to focus on individualized learning which is frequently the crux of trial and error within the classroom (Stigler & Thompson, 2009). It also has the potential to help learners gain confidence, ask questions, and seek answers which allow pre-service teachers to create their professional development. This is important as creating time for professional development supports pre-service teachers in their future careers.

Teaching is a skill that can be taught (Long & Riegle, 2002; Urbani et al., 2017). Therefore, TPPs must create programs that develop *high-quality* future teachers through motivating courses and assignments. Based on the lack of clear guidelines about quality programs, researchers have called for teacher education to provide research-based instruction that enables future teachers empowerment in their education as they develop the competencies needed to become high-quality teachers (Cochran-Smith & Fries, 2005; Richardson, 1996). Traditionally, *highly qualified* teachers have been defined as credentialed teachers who hold degrees. This definition has not taken quality into consideration. This study aims to fill that gap by offering one pedagogical approach that leads to enhanced perceptions of motivation among pre-service teachers.

### **Purpose of the Study**

The purpose of the study is to examine how one active learning approach, *Pink Time*, contributes to an increase in pre-service teachers' perceptions of motivation. Constructs within self-determination theory (specifically, the need for autonomy, competence, and relatedness) provided a conceptual framework for this study. The study answers the following question: *How do pre-service teachers describe their motivation-related perceptions and reactions to Pink Time?*

### **Significance of the Study**

This study is significant for several reasons. First, high-quality education programming must be provided to develop high-quality teachers. Second, it is important for teacher educators to model different sound pedagogical strategies (such as active learning) by embedding practice into coursework. Third, the importance of motivating pre-service teachers to understand their abilities to engage in professional development throughout their career must be a focus in quality education. Fourth, the motivation to learn about new concepts, topics, and strategies that can be implemented in their classroom is vital to successful classroom outcomes. Fifth, teaching that is both innovative and cutting edge as it provides instructional modalities to reach all learners must be a focus of education.

### **Delimitations**

Due to the broad nature of TPPs and active learning, I narrowed this study to a sample population of pre-service teachers in a master's program at one university. The sample may influence the results since only one program was utilized. The majority of students at this institution transition into the program from the same university (i.e., they received their Bachelor's degrees from the university). Historically, recruitment at this university has not been

initiated outside of the institution which has led to the majority of teachers enrolled in the program being white and female. Use of one form of active learning is a delimitation of this study. This particular assignment may not be beneficial for all learners and may have influenced the results. The study examined pre-service teachers' perceptions from the perspective of BPNT which focuses on autonomy, competence, and relatedness. Other motivational theories could have been chosen that encompass different constructs. The MUSIC Model Inventory (MMI) assessed these needs and is based on the five motivational components of the MUSIC Model: eMpowerment, Usefulness, Success, Interest, and Caring. Other surveys, including the MSLQ, Academic Motivation Scale, and Perceived Self-Determination (PSD) scale (Vallerand et al., 1992; Pintrich et al., 1993; Reeve et al., 2003), measure motivation and may have provided different insights into students' motivation.

### **Organization of the Study**

The organization of this dissertation is made up of five chapters. Chapter One relays the purpose statement, research questions, and significance of the problem. Chapter Two is a review and analysis of the current research. The methodology is explained in Chapter Three and includes the population sample and survey tool used to gather data. Chapter Four is a discussion about the study's findings, and Chapter Five concludes with implications of the study and recommendations for future research.

## Chapter Two

### Literature Review

This study sought to understand how pre-service teachers perceive motivation of one active learning assignment called *Pink Time*. Instructors designed *Pink Time* to be a student-directed assignment in order to support motivation. Motivation is important in engaging learners (Saeed & Zyngier, 2012); therefore, creating assignments to support student learning is pertinent for teacher educators. Self-determination theory (SDT) (Deci & Ryan, 2000) is a motivational theory that has been studied in education and serves as the conceptual framework. This chapter reviews the existing literature on SDT with particular emphasis on the sub-theory Basic Psychological Needs Theory (BPNT) with components of autonomy, relatedness, and competence. The second section of this chapter examines research on teacher education, active learning, and *Pink Time*. In the third section, I address the literature on the MUSIC Model of Motivation which was used in this study to measure students' academic motivation.

Motivation is “the extent to which one intends to engage in an activity” (Jones, 2018, p. 6) and is recognized as a distinct precursor for individuals to engage in learning (Pintrich, 2004). It has been well established that learners who are motivated are more engaged, gain deeper understanding, and have an expanded knowledge base (Bong & Skaalvik, 2003; Dweck 2007; Jones, 2009; Mansfield & Violet 2010; Wang & Eccles, 2013)

#### Self-Determination Theory

SDT is a motivation theory based on the premise that human beings are curious, proactive, and can “assimilate” understandings and “behavioral regulations” (Ryan & Deci, 2017, p. 4). Six mini theories comprise SDT including BPNT. SDT is identified as organismic which means that learning is a natural response to the environment due to “intrinsic growth

forces” (Ryan & Powelson, 1991, p. 51). The sub-theory, BPNT, focuses on the psychological need for human motivation and encompasses three basic psychological needs: autonomy, competence, and relatedness. These three needs form the basis for implementing strategies in which learners are supported in their pursuit of learning; moreover, these needs help us understand how students learn (Ryan & Deci, 2017). When these three needs are met, opportunities for “motivation, performance, and development will be maximized” (Deci et al., 1991, p. 327).

### ***Basic Psychological Needs Theory (BPNT)***

#### **Autonomy.**

Autonomy is “the need to self-regulate one’s experiences and actions” (Ryan & Deci, 2017, p. 10). It provides the psychological need within an individual to seek out knowledge and can be supported through “choice, acknowledgment of feelings, and encouraging personal responsibility for actions” (Cook & Artino, 2016, p.1009). Autonomy does not equate independence (Ryan & Deci, 2017). The teacher’s role is therefore an essential component within the classroom context because it provides the needed boundaries for students to scaffold learning (Noddings, 2013). Numerous researchers have found that when students perceive teachers’ motivation style as autonomous, levels of competence, self-esteem, and motivation are reported to be higher (Deci et al., 1981; Ryan & Grolnick, 1986, Tsai et al., 2008).

#### **Competence.**

Competence refers to the “basic need to feel effectance and mastery” (Ryan & Deci, 2017, p.11). Individuals have a natural tendency to expand knowledge and, therefore, strive for understanding without the need for external motivators (Ryan & Powelson, 1991). It is imperative to have an appropriate challenge level to meet the need for competence (Deci et al.,

1991). If challenges are too easy, learners become bored and unengaged. If activities are too challenging, learners become frustrated and disinterested. Feedback is necessary for learners to be competent. The feedback, however, must support self-efficacy in order for individuals to perceive competence (Cook & Artino, 2016). Competition can also help with competence since competition can support immediate response, and the competitor's level of competence can be hindered (Ryan & Moller, 2017).

### **Relatedness.**

Relatedness is the need to “feel socially connected” (Ryan & Deci, 2017, p. 11). Ryan and Deci (2017) explained that social connectedness is meaningful. Relatedness also includes being cared for and the ability to care for others. This two-way relationship supports motivation through the “sense of connectedness” (p. 86) and supports an individual's sense of “well-being and self-cohesion” (Ryan & Powelson, 1991, p. 53). Furrer and Skinner (2003) found that relatedness between teachers and students supported increased academic achievement.

Wentzel (1998) found that perceived teacher support of students correlated with academic outcomes which was in line with Ryan and Powelson (1991) who reviewed the literature to answer the question, “What are the criteria by which effective education should be gauged?” (p. 54). Their findings suggested that relatedness is an essential component when it comes to strong support of student learning in the classroom. Relatedness is thus a crucial element in relaying social understandings. Researchers found that teachers' quality of relatedness with their students supports how students function within a school (Stroet et al., 2013). This is important as it has also been found that it is essential that students perceive their teachers autonomous to create a positive relationship (Reeve, 2006).

### **Teacher Education**

Teacher education is broadly understood to occur in college or university-based programs that prepare future teachers for work in the PK-12 classroom. These programs typically use a varied curriculum which includes specific subject matter, pedagogy, and education foundations (Darling-Hammond, 2006a). Generally, a strong teacher program will also incorporate field experience in which pre-service teachers are in schools for several months to a year under the supervision of a mentor teacher and others who guide and support teaching implementation (Darling-Hammond, 2006a).

Opportunities for pre-service teachers to learn and practice theory and skills are essential to their future careers (Long & Riegle, 2002; Darling-Hammond, 2006b; Faltis & Valdés, 2016). Practice in teacher programs and field placements include but is not limited to lesson plan development and implementation, classroom management techniques such as developing relationships with learners, and embedding student interests into the classroom. With growing diversity within public schools, teacher education programs are beginning to include coursework on diversity and inclusion as well (Faltis & Valdés, 2016). These courses help guide pre-service teachers through implicit biases and beliefs so that they are better prepared to work with students who are possibly different than themselves (Darling-Hammond, 2006a).

### ***Shortcomings***

In *A Nation at Risk*, a report released in 1983 by the National Commission on Excellence in Education under the Reagan administration, education in general was deemed a failure due to the “mediocrity” and low quality of teachers. The report recommended bettering teacher quality by setting standards and increasing teacher salaries (Cochran-Smith, 2006; Cochran-Smith et al., 2017; Fraser, 2007; Long & Riegle, 2002). The report’s publication became pivotal in the

education movement in the United States. Following the report, education policies began to shift towards accountability in student achievement and teacher standards. According to Cochran-Smith et al. (2017), the shift from inputs (e.g., teacher certification) to outcomes (i.e., student achievement and test scores) led to accrediting bodies and utilization of teacher standards to standardize and quantify education programs throughout the U.S.

A contributing factor to shortcomings in teacher education was identified in the nature of teaching. Teaching is a complex set of behaviors (Wang et al., 2010; Hollins, 2011). For this reason, there seems to be a lack of consensus on quality teacher education programs (Russell & Martin, 2017; Wang et al., 2011) which may never be solved (Cochran-Smith, 2006). Even so, Darling-Hammond and colleagues (2006a) analyzed strong teacher programs in an attempt to identify essential components. The researchers named key elements for high-quality programming as shown in Table 1.

**Table 1**

*High-Quality Programing*

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A common, clear vision of good teaching permeates all coursework and clinical experiences.

Well-defined standards of practice and performance are used to guide and evaluate both course and clinical work.

Curriculum is grounded in knowledge of child and adolescent development. Learning, social contexts, and subject matter pedagogy taught in practice.

Extended clinical experiences are carefully developed to support the ideas and practices presented in simultaneous, closely interwoven coursework.

Explicit strategies help students (1) confront their own deeply-held beliefs and assumptions about learning and students as they (2) help these educators learn about the experiences of people different from themselves.

Strong relationships, common knowledge, and shared beliefs link school- and university-based faculty.

Case study methods, teacher research, performance assessments and portfolio evaluation apply learning to real problems of practice.

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*Note.* Darling-Hammond et al. (2006a)



A third component that affects teacher education is equity and access to high-quality teachers in PK-12 settings. Researchers have observed that urban area schools have a high teacher turnover rate (Ingersoll, 2001), and new and inexperienced teachers have been observed to have a higher chance of being assigned to high-needs schools and students (Greenberg et al., 2013; Lankford et al., 2002).

Researchers continue to study the policies and practices that contribute to developing strong teacher candidates who will eventually become effective teachers. This research capacity is designed to document a wide range of instructional strategies and methods to support all learners, particularly those working with diverse populations. Cochran-Smith et al. (2017) noted many teacher education programs exhibit efforts for such practices. However, they argue that this practice is “thin equity” which means “initiatives that assume equity has to do with individuals' equal (or the same access to high-quality teachers curriculum, and school opportunities” (p 581). This suggests that not all programs truly represent high-quality initiatives for equity. Along these lines Zeichner (1996) found that the literature on diversity training in teacher education is neither readily available nor easily accessible

### ***Recommendations***

Designers of teacher education programs have responded to these challenges in a variety of ways. Cochran-Smith et al. (2016) examined the literature on how teacher education coursework supports beliefs about teaching and learning. By implementing a variety of different pedagogical approaches, pre-service teachers reflected upon their teaching beliefs and practice. Reflection and participation helped shape their understanding of teaching and learning.

Cochran-Smith et al. (2016) also noted a small group of researchers focused on how teacher programs can support a foundation for future professional development and practice.

Areas of support included how pre-service teachers can be “reflective practitioners, collaborators, and rational ethical decision makers” (p. 479). Brubaker (2010) implemented self-grading to assist in a paradigm shift from grading to learning. He noted that taking grading out of the equation “helped generate considerable enthusiasm for the content, direction, and focus” (p. 264).

Although there is much debate on specific elements of teacher education, there is an agreement that high quality and well-developed programs provide a strong foundation for future teachers through coursework and exposure to evidence-based pedagogy. Instructors' roles, pedagogy utilized within programs, diversity within the PK-12 student population, and different research types contribute to the literature on creating and implementing quality instructional programs.

Reeve (2006) recognized the importance of teachers taking the role of facilitators within the classroom. In this study, setting expectations, guidelines, and providing open-ended assignments allowed students to explore their interests. Korthagen and Buitink (2012) recommended pre-service teachers participate in “approximations of practice.” Su and Reeve (2011) suggested instructors focus on three components: content, training for short periods with several follow-up sessions, and addressing pre-training beliefs and values. These instructional methods can lead to an autonomous classroom environment which can be conducive to motivation as they support the basic needs of learners from all cultures as explained by SDT.

Darling-Hammond (2000) argued the need for teachers to develop competency within a subject area or areas and develop a solid understanding of pedagogy. Similarly, Korthagen & Buitink (2012) acknowledged the importance of “general knowledge, pedagogical knowledge,

and experience” (p. 335). Within that experience, Russell and Martin (2016) argued for metacognition learning opportunities to support quality teacher education.

Teachers must be prepared with the knowledge to accommodate all learners (Zeichner, 1996). Darling-Hammond (2000) acknowledged a vital concept that addressed university education programs needing to relay the theory that one must learn about their students and understand that students come to school with both prior knowledge and various needs. Understanding others' perspectives and beliefs is critical to achieving equity and culturally responsive teaching which means that teachers need to be equipped to support students (Cochran-Smith & Villegas, 2014). This is important as the current teacher population does not reflect the diversity found in many schools. As a result, it is imperative to model instructional methods that engage all learners (Cochran-Smith et al., 2016; Meckler & Rabinowitz, 2019; Villegas et al., 2012).

Zeichner's (1999) recommendation of “new scholarship” included teacher educators' research focused on self-study or studies conducted within their classes. This type of analysis can support both teacher educators in developing more robust practices while learners increase knowledge. One person can make a difference within a program; therefore, it is critical to continue analyzing what is occurring in various classrooms and programs to support the education system (Peck et al., 2009).

### **SDT in Teacher Education**

Motivation to learn is critical to both the instruction and production of high-quality teachers. Researchers have examined strategies implemented within teacher education to support preservice teachers' motivation to learn. These studies point to productive strategies that support and enhance quality teacher education programs.

Most studies using SDT as a theoretical framework focus on how teachers meet the needs of PK-12 students (Korthagen & Evelein, 2016). Given this topic's emergent nature, few studies have focused on pre-service teachers and how coursework supports their psychological needs for autonomy, competence, and relatedness (Kaplan & Madjar, 2017). Recent research is organized around pre-service teachers' in-school field placements, instructional practices within education programs, and cultural relevance.

### ***In-School Field Placements***

Several studies have focused on pre-service teachers' experiences within their field placements. Evelein et al. (2008) investigated pre-service teachers' psychological fulfillment during student teaching. This Dutch study found that pre-service teachers felt that their psychological needs (*autonomy, competence, and relatedness*) were being met during student teaching. Along these lines Parker et al. (2019) used SDT as an analysis for pre-service teachers who engaged in "site-(school) based course instruction" (p. 131). A site-(school) based course "moves classes from their university homes to PK-12 settings" (p. 135). Researchers utilized university instructors to provide coursework at the elementary site where the pre-service teachers participated in their student teaching experiences. Using SDT as a framework for analysis, researchers observed that students expressed autonomy during their teaching experiences and took ownership over the experience. An important observation was the difficulty pre-service teachers had in balancing coursework and field placement which led to the inability to initiate autonomy in a new setting and learning experience. Pre-service teachers conveyed their competence by practicing different teaching methods and provided the opportunity to relate theory to practice. The researchers found that the pre-service teachers developed a sense of

relatedness in their field placements by being surrounded with professionals who could support their ideas and skills.

### **Instructional practices.**

Turkish researchers, Karaarslan et al. (2013) utilized SDT as a framework to analyze pre-service teachers in an environmental science class. Over six weeks of a 13-week course, they presented six different environmental science cases, and several different modes of instructional practices to engage students were employed. Both qualitative and quantitative data were utilized, and findings indicated that providing a variety of environmental cases and using different instructional methods addressed pre-service teachers' psychological needs of autonomy, competence, and relatedness. Instructional practices included working in small groups with the same peers over the six-week course which allowed relationships to develop. Instructors facilitated discussions which enabled students to learn from one another and aided their psychological need for competence. The different environmental cases as well as the group's ability to choose their solutions supported the need for autonomy. Relationships between autonomy, competence, and relatedness was also analyzed, and researchers found that competence and relatedness were correlated since the cases provided students opportunity to develop solutions to environmental issues while working with peers. It was found that autonomy and competence positively correlated with students' initiation.

Irvine (2019) and Perlman (2015) utilized SDT by explicitly modeling the SDT theory within the pre-service teachers' courses. Irvine (2019) taught the idea through a math course which incorporated a variety of assignments that assessed students' use and understanding of the theory. This qualitative study concluded that explicitly teaching SDT supported pre-service teachers' use of theory to practice. Perlman (2015) focused on how SDT interventions through

instructional practices for pre-service teachers were used during their field placements. Interventions were explicit teachings of SDT, assets for utilizing SDT, and time to practice implementing instructional strategies. Perlman found that preservice teachers' autonomous perceptions were not significant between groups that received the intervention and the group that did not. Through the use of an observation grid, pre-service teachers who received interventions were observed to increase their autonomous instructional behaviors such as using "technical or tactical directives that impose a motor skill on the student" and "directives posed as questions" (p. 124). The SDT interventions also had a positive impact on students taught by these pre-service teachers.

### **Cultural Relevance**

Culture is an important factor when considering different types of motivation and values. Deci and Ryan (2000) asserted that SDT could apply to all cultures and that the nature of all human beings to seek out each of the three underpinnings of SDT may influence these three needs values and internalizations across cultures (Deci & Ryan, 2000). Researchers have examined how culture may influence the idea of choice and have found that choice may go to the collective group in a collective society rather than the individual (Iyengar & Lepper, 1999; Katz & Assor, 2003).

Katz and Assor (2007) noted the importance of educators' creating a safe environment for all students within the classroom. Likewise, Darner (2009) acknowledged that a classroom community could allow all learners to respect one another and encourage them to participate. Darner connected outside community activities to her content area of environmental education. It is worth noting that providing opportunities for students to make community connections enables them to integrate their own community's issues into the classroom which increases engagement.

SDT proposes that incorporating autonomy, competence, and relatedness into the learning environment encourages individuals to learn. When instructors meet the needs of their learners, students are motivated to engage in classroom activities. It is thus important that educators provide a motivating environment.

### **Active Learning**

Active learning is one instrumental strategy used to motivate learners (Huang, 2006; Lumpkin et al., 2015). Active learning is “involving learners in doing things and thinking about the things they are doing” (Niemi, 2012, p. 19). The concept is to create an environment where learners are active participants. Numerous researchers have examined strategies of active learning which includes discussion, imagery, cooperative learning, and flipped classrooms (Cartwright & Noone, 2006; Lumpkin et al., 2015; Marsland & Gizdarska, 2018; Parr et al., 2004; Strayer et al., 2019; Toy & Ok, 2012). Active learning allows the learner to engage with new information and use it both actively and engagingly which allows for deeper understanding. Such engagement enables the learner to think critically and develop their own learning experiences (Askill-William et al., 2007; Parr et al., 2004; Virtanen et al., 2017).

Virtanen et al. (2017) found active learning to “enhance the pre-service teachers’ responsibility and autonomy when developing their teacher skills” (p. 12). In comparison, Cavanaugh (2011) examined individuals’ perceptions of active learning. Cavanaugh concluded that the participants appreciated learning through cooperative groups and activities conducted to support lectures. Likewise, Lumpkin et al. (2015) observed discussions between peers helped individuals formulate ideas. Working with other students also allowed peers to learn from one another. By varying assignments and providing various experiences, these researchers observed that active learning provided the ability to meet all students’ needs. Cochran-Smith et al. (2016)

similarly noted the effect of different student-centered activities on pre-service teachers in their literature review. The future teachers showed a change in “mental models of teaching and learning, views of the nature of knowledge and the process of learning...and understandings of constructivist theories of learning” (p 478). Correspondingly, Zeichner (2012) noted the connections pre-service teachers made between course-based and field practice. Zeichner specifically highlighted strategies employed within the field. These strategies included lesson study, specific modeling of content teaching, and classroom management techniques. When educators apply different instructional tools within the course, pre-service teachers access the information differently. This knowledge allows future educators to guide their future students to access information differently.

Although researchers have documented the advantages of active learning, a few researchers have concluded that active learning has no benefits. In one study, Vreven and McFadden (2007) utilized active learning in a large class. While the collaborative groups gained content knowledge, the results indicated that participants did not show higher levels of motivation than the control group which had not received the collaborative learning treatment. Vreven and McFadden (2007) actually observed a *decrease* of student motivation within the groups that participated in an active learning setting. Similarly, Komarraju and Karau (2008) concluded that students preferred traditional lectures over active learning and course websites which included course information such as the syllabus. Toy and Ok (2012) found no significant differences between student teacher test scores or teacher dispositions when implementing active learning. They reported that active learning strategies did not cause “sacrifice” in teaching. Toy and Ok (2012) recommended using active learning strategies over an extended period of time in order to enable the internalization of this new way of learning. The researchers hypothesized



that the pre-service teachers might not have had previous classroom experience that involved the expectation of deeper exploration of understanding through critical thinking. Pre-service teachers not being expected to explore their knowledge may be an indication of what is occurring in classrooms. This puts focus on the need for instructional methods that engage and motivate learners.

Despite these claims, there remains robust research supporting the benefits of active learning classrooms and strategies. Prince (2004) conducted a literature review that suggested that although active learning may not correlate with academic achievement, there are benefits such as opportunities for deeper understanding and increased knowledge retention. O'Grady et al. (2014) came to a similar conclusion and noted numerous studies that supported the premise that students who were involved in active learning activities demonstrated increased understanding. This study also observed the difference between an activity and active learning. Specifically, active learning enables students to explore topics at a deeper level than participating in an activity does. Part of the more profound wisdom of this is when teachers use different questioning lines (Huang, 2006). Uzarir-ul-Hassan et al. (2016) found that when teachers created active learning opportunities, students showed a higher level of receptive behaviors. The authors of this study recommended the need for teacher educators to incorporate active learning within classes.

Niemi (2012) emphasized three active learning areas in her article, *Active Learning- a cultural change needed in teacher education and schools*. These areas of emphasis included individual learning, cooperative learning, and the teacher's role. This study had participants investigate knowledge and use this information to "structure and restructure" (p. 764), and apply the new information. The study further identified several main components for individual

learning through active learning: (a) opportunity to pursue own interest, (b) engagement in the learning process, and (c) ability to reflect upon learning. Cooperative learning is another area of emphasis as it incorporates the social element of education. Active learning provides social skills such as discussion, group work, and collaborative problem-solving. It is important to note that the role of the teacher in these cases is one of a facilitator who learns with the class. While Niemi (2012) advocated for active learning strategies in pre-service teacher programs, her research did not offer specific practices for active learning. For example, a common approach participants reported was “pre-service teachers’ intensive work with their assignments” (p. 768) rather than specifying the assignment. A lack of empirically-based approaches to active learning, particularly those that emphasize academic motivation, is a significant shortcoming in understanding how to better prepare highly qualified and high-quality teachers.

### **SDT and Active Learning**

Incorporating active learning practices within teacher preparation programs supports the three tenets of SDT. Specifically, a variety of instructional methods such as developing e-portfolios can help students pursue interests which allows for autonomy while engaging in the learning process to increase competence in a topic. Another active learning strategy, cooperative learning, enables students to work with one another and develop a sense of relatedness between group members. Faculty members should be mindful of course design to incorporate active learning while supporting SDT tenets.

### ***Instructional Practices***

Chye et al. (2012) examined pre-service teachers’ perceptions of motivation through the implementation of e-portfolios. E-portfolios are a collection of teacher work designed to show understanding, growth, and reflection of specific standards (Denney et al., 2012). Instructors

often use e-portfolios to assess pre-service teachers in a teacher education program. The e-portfolios allow pre-service teachers to choose artifacts representing a high level of work and reflection upon their learning (Chung, 2008; Mok, 2012).

Professors want to affirm their teacher candidates' comprehension and implementation of specific standards; thus, they must develop methods of assessing classroom performance to ensure that the institution sends high-quality, successful teachers into the field (Delenandshere & Arens, 2003; Stolle et al., 2005). E-portfolios are active learning assignments that allow participants to engage in their learning processes by recording actions such as lesson plans, lesson delivery, and assessment. The project also provides pre-service teachers opportunities to reflect upon their work. Using SDT as their framework, Chye et al. (2012) found that students with high self-determination relayed higher levels of enjoyment and effort for their e-portfolios while unmotivated students did not enjoy or value the project.

Mentzer et al. (2017) used peer assessment in collaborative learning to examine if student competence perception showed an increase. The researchers examined peer assessment using summative peer feedback. The following year, both formative and summative peer feedback were used. The researchers found that when both formative and summative feedback were implemented, students showed increased feelings of competence and produced higher grades. Moreover, formative feedback during the learning process allowed other students to change behaviors.

### ***Course Design***

Rayburn et al. (2018) examined how a marketing course helped fulfill students' psychological needs of SDT using experiential learning or active learning assignments. The experiential learning activity was a "team-based community engagement service learning

project” (p. 24). Researchers found that students showed higher levels of autonomy and competence when course design included experiential learning.

The same study recommended explicitly linking activities and course outcomes to support student learning and motivation. By explicitly stating this connection, instructors can link theory to practice and enable pre-service teachers to comprehend the importance of underlying theories in practical situations.

Lee and Hannafin (2016) proposed a framework (*Own it, Learn it, and Share it*) for student-centered learning. The framework incorporated autonomy from SDT within the “*own it*” component. The researchers posited that “*own it*” supported student motivation by allowing students the opportunity to engage in their choice of learning by providing both responsibility and ownership. They also noted that giving students the responsibility to develop a project resulted in students being more autonomous.

Although various research has been conducted on different instructional methods and course design, no studies were identified that incorporated an assignment that allowed students full control over their learning, activity, and reflection of this process.

### **Pink Time**

*Pink Time* is a specific type of active learning assignment designed for higher education. Faculty who use the approach to disrupt the traditional lecture style of teaching and provide learners with an educational experience that encourages principle components of SDT and academic motivation (Baird et al., 2015). *Pink Time* is primarily an instructional motivation assignment that provides students an experience that is self-directed and student-centered.

Baird et al. (2015) provided three *Pink Time* opportunities for undergraduate students over a school year. Data was collected through recording what each student chose to learn, a

self-reported survey completed by the participants, and student interviews. The researchers developed a survey designed to record students' perceptions of their self-regulated learning. The self-regulated skills examined in the study were (a) Choice, (b) Complexity, (c) Effort, (d) Persistence, and (e) Curiosity. Participants self-reported each of the self-regulated skills as (a) *developing*, (b) *competent*, or (c) *exemplary*. Researchers used collected data to determine that over the three iterations of *Pink Time*, “*developing*” self-regulated skills decreased from the first assignment to the third assignment while “*exemplary*” self-regulated skills increased over time. Students reported that the ability to choose their own topic afforded them control over their own learning. Researchers noted an unanticipated result of *Pink Time*: assignment supported students making intellectual connections across different courses. This was something students had previously failed to consider.

In a second study of the *Pink Time* assignment, (Baird et al., 2020), researchers examined the assignment in two different universities, five different disciplines, and two degree levels (undergraduate and graduate). Comparable to the first study, students reported their self-regulated skills in connection with *Pink Time*. Findings from this study showed a positive impact on *Curiosity* for undergraduates and graduates alike. This led to the conclusion that *Pink Time* supported students' level of curiosity and interest. Students reported *Curiosity* and *Complexity* to be “*exemplary*” self-regulated skills while *Choice* and *Persistence* were rated more consistently as a “*competent*” self-regulated skill. Researchers observed that *Choice* and *Persistence* may have been rated “*competent*” rather than “*exemplary*” due to the fact that students chose to work within their areas of interest and did not need to get out of their comfort zone to qualify as “*exemplary*.”

This study also relayed the instructor's point of view in implementing the assignment. Some faculty members reported difficulties taking a step back and trusting their students would fully participate in this activity. Most students, however, surprised faculty members by the complexity of the topics and activities they selected. Another important and unintended benefit of *Pink Time* was observed: deeper, more authentic connections between both faculty and students and students with other students was observed. These connections created a more cohesive community in the classroom and can be seen as relatedness which is a component of SDT. Nonetheless, while SDT underpins much of student behavior, observing such cognitive processes can be problematic and requires a shift from theory to application. (Baird et al, 2020).

### **MUSIC Model of Motivation**

According to Jones (2009), research on student motivation has mainly focused on theory rather than application. Jones (2009) created a practical instructor tool, the MUSIC (eMpowerment, Usefulness, Success, Interest, and Caring) Model of Motivation, to facilitate academic motivation in the education field. These five components can guide educators in creating a motivating atmosphere that engages learners and increases student academic achievement.

Empowerment includes affording pre-service teachers with choices (Jones, 2018). These choices may encompass (a) topics of learning, (b) group vs. individual work, and (c) creating personally designed types of projects. It has been found that learners who choose their paths are more vested in the activity and motivated to succeed (Hulleman & Harackiewicz, 2009; Osborne & Jones, 2011; Wang & Eccles, 2013). It is therefore vital that instructors provide pre-service teachers a level of control over what is to be learned and how the learning topic will be addressed to support empowerment.

Usefulness is the information or skills applicable to the pre-service teachers' futures and careers (Jones, 2009). Specifically, activities such as designing and implementing lessons are useful tools for pre-service teachers. Jones (2018) discussed (a) connecting coursework to the real world, (b) sharing learning experiences with an audience, and (c) goal setting as useful tools for pre-service teachers.

Success strategies include instructor feedback designed to increase the probability of pre-service teachers believing they can succeed at class activities (Jones, 2009). Setting clear expectations for overall learning goals and individual assignments contributes to success perceptions. For example, providing rubrics to be used in assessing pre-service teachers' learning promotes the feeling of achievement. These tools allow learners to know the assignment's clear expectations so that they are able to meet all criteria.

Educators can spark situational interest for pre-service teachers by incorporating various assignments and using different MUSIC Model components (Jones, 2018). If a pre-service teacher has chosen the education path, classes taken within the education department are likely being attended out of interest. Caring is the quality of concern demonstrated by an instructor who cares about whether pre-service teachers succeed in their coursework. This care includes being interested in individuals' well-being. Jones (2009) noted that caring is inclusive of the degree to which peers care for one another. Motivation can be supported when pre-service teachers feel that their peers have goodwill toward them and want to see them do well while demotivation can occur when learners do not feel that their peers' support them.

Caring happens when professors and peers reach out to one another to either recognize success or inquire about help. Creating and continuing attention to maintaining a genuinely caring learning environment is fundamental to providing a supportive infrastructure that allows

for critical learning spaces for all pre-service teachers. Providing opportunities for pre-service teachers to work with one another is another example of caring, and establishing a caring classroom environment is essential for motivation to learn.

In conjunction with SDT, the MUSIC Model aligns with autonomy, competence, and relatedness as it further contributes to the perception of motivation to learn with the inclusion of usefulness and interest. Therefore, the MUSIC Model is the lens of analysis for this research.

### **MUSIC Model and Pink Time**

Baird et al. (2015) utilized the MUSIC Model in the form of focus group questions to assess students' perceptions of empowerment, success, and caring. These questions included asking students to *describe the freedom of choice they had in selecting a project (empowerment); describe how they defined and measured success in this assignment (success); explain the role the instructor played in how they approached this assignment (caring); and describe the role other students played in how they approached this assignment (caring)*. These questions enabled researchers to examine how participants perceived their motivation through the Pink Time assignment.

Jones (2018) acknowledged using *Pink Time* as a possible means to support student motivation through empowerment. In particular, Jones recognized students could perceive this assignment as useful and interesting which are two other elements of the MUSIC Model.

Since *Pink Time* is an assignment that supports self-regulated learning through motivational components, it is worthwhile to investigate further how *Pink Time* supports different areas of student motivation. More research using the *Pink Time* can lead to deeper understandings of this specific assignment and how instructors can facilitate its implementation within education courses.



### **Conclusion**

In this chapter, I reviewed the existing literature for SDT as related to teacher education. This study examines the potential relationship between motivation to learn and active learning. I also discussed literature that supports the use of the MUSIC Model in studying active learning strategies.

In the next chapter, I will provide details on how I studied *Pink Time*'s effect on pre-service teachers' perceptions of motivation with specific focus on autonomy, competence, and relatedness.

## Chapter Three

### Methodology

In this chapter, I describe the multiple research methods used to conduct the study. For the quantitative part of the study, I describe the sample selection, instrumentation, and present both reliability and validity evidence for the MUSIC Model of Academic Motivation Inventory (MMI). Data collection and analysis procedures are also provided. For the qualitative component of the study, I explain the sample selection, interview protocol, and trustworthiness of the data as well as data collection and data analysis procedures. Finally, I describe the case study approach used.

The study's purpose centered on examining pre-service teachers' perceptions of motivation related to *Pink Time*. SDT provides a theoretical foundation for this study using the MUSIC Model of Motivation as the lens for analysis. For this study, in place of a structured online class, instructors provided one 3-hour course session for pre-service teachers to engage with their personal *Pink Time* experiences. The pre-service teachers were given the time they needed to prepare for class.

This study addresses the following research question: *How do pre-service teachers describe their motivation-related perceptions and reactions to Pink Time?*

A multiple methods approach made use of both quantitative and qualitative data. The quantitative data analyzed the pre-service teachers' motivation-related perceptions of *Pink Time*. These data came from the MMI and demographics questionnaire. The qualitative data came from field notes, memos, interviews, group discussions, and open-ended questions included in the survey. Interviews were conducted after the two *Pink Time* assignments. During *Pink Time*,

group discussions were recorded and used to support both written responses from the open-ended questions and interview analysis. Table 2 lists the data sources included in this study.

**Table 2**

*Data Sources for Research*

Research Question	Data sources	Type of data
How do pre-service teachers describe their motivation-related perceptions of <i>Pink Time</i> ?	MMI	Quantitative
	Demographic questionnaire	Quantitative
	Field notes	Qualitative
	Memos	Qualitative
	Group discussions	Qualitative
	Open-ended written responses	Qualitative
	Interviews	Qualitative

**Pink Time**

Instructors used the *Pink Time* assignment to motivate pre-service teachers' engagement in the learning process. *Pink Time* was conducted in two different courses: one in summer and one in the fall. The summer course and fall course were taught online due to Covid-19. At the beginning of each semester, instructors told the pre-service teachers about the *Pink Time* assignment. They were instructed to choose a topic related to education and spend approximately the same amount of time typically designated to prepare for and attend the class (including assignments) on *Pink Time*.

Time off from class for pre-service teachers to complete their *Pink Time* learning occurred four weeks into the six-week summer term, and a discussion related to the assignment occurred the following week. The pre-service teachers presented what they learned through the

activity and what they discovered about themselves as learners. To complete the discussion portion of *Pink Time*, the pre-service teachers gathered virtually, presented their activity, and shared what they observed about themselves as learners. After each student contributed, the researcher facilitated a group discussion leading with the questions shown in Appendix A. Table 3 shows the components embedded within the assignment. This assignment differs from Baird et al. (2015). In the current study, pre-service teachers were instructed to learn about a topic related to education. This is not entirely different from what is described by Baird et al. (2015). In that study they followed a protocol in which “students are told that their activities should relate to the course and that arguments can be made that most things relate to sustainability” (p 148). In this case, students were more explicitly directed towards education-related pursuits. Given the nature of graduate education, this is considered an acceptable deviation. A second *Pink Time* assignment was given during the fall semester and time off from class for the assignment occurred within the first five weeks of the 13-week course. The researcher followed the same process as was used in the first assignment. Presentation and discussion portions for both *Pink Time* assignments were recorded.

### **Table 3**

#### *Components of the Pink Time Assignment*

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*Preservice teachers:*

- choose a topic to learn about that is related to education
- select and engage in an activity to learn about the selected topic
- write a reflection paper after the *Pink Time* activity about what they learned through the activity and what they learned about themselves as a learner
- grade themselves on a scale from 1-10 based on how well they completed the assignment
- report back to the group with a brief description about what they learned and how they learned

- engage in a group discussion facilitated by the instructor
- 

I hypothesized that the *Pink Time* assignment would affect students' MUSIC model perceptions: autonomy/empowerment, usefulness, competence/success, interest, and relatedness/caring. The assignment provided the opportunity for pre-service teachers to choose a topic of interest in the field of education which may increase students' perceptions of autonomy in the class. The usefulness of the assignment to the pre-service teachers was two-fold. 1) Since the pre-service teachers chose the topic, they may have found learning about the subject useful. 2) The idea that an assignment is relevant for future work could be useful for this particular group of learners. The underlying concept of *Pink Time* is to engage learners in learning for the sake of learning which means that participants may or may not internalize this concept for the particular assignment.

As with any project, learners may have a range of reactions to and perceptions of *Pink Time* as well as different levels of internalization of its purposes. Pre-service teachers may feel more successful when they share what is learned during the class discussion or while completing a difficult task. *Relatedness*—the need to feel a connection with others—could be a result of *Pink Time*. The discussion part of the assignment allows pre-service teachers to share what they learn in general and what they learn about themselves as learners. Listeners learn from peers, ask questions, and engage in conversations about the different topics presented, and relatedness may be exhibited during the chosen activity. An individual, for example, may decide to interview a mentor teacher and engage in a social activity. A sample *Pink Time* assignment is listed in Appendix B.

*Pink Time* was conducted in two courses with the same pre-service teachers in each course. The researcher administered MMI to the pre-service teachers to assess their perceptions of motivation following the second *Pink Time* assignment. Using a subset of these pre-service teachers, five interviews were conducted after assignment completion to investigate how the assignment influences conceptions of motivation.

### **Sample Selection**

Data for this study was collected from a sample of pre-service teachers enrolled in two graduate courses at a university. The first course was held during the summer session and the other during the fall semester. A convenience sample was used to access participants enrolled in a teacher education master's program at the time of the study.

### **Institution**

The study was conducted at a single public university in the Southeastern United States. This large research university is located in a rural area, and the School of Education offers a variety of degrees including the Bachelor's, Master's, EDS, EDD, and Ph.D., as well as licensure and certification programs. This university is representative of education programs at other similar types of institutions.

### **Participants**

This study's target population included master's students enrolled in an elementary education program that leads to initial licensure with the state's Department of Education. This elementary licensure is an intensive one-year experience program. Participants in this study were students enrolled in required courses for a Master of Arts in Curriculum and Instruction. As shown in Table 4, pre-service teachers were accepted based on program requirements. To be included in the current study, participants needed to meet specific selection criteria: (a) full-time

enrollment at the university where the research was conducted, (b) master's level students enrolled in an elementary education degree program, and (c) enrollment in required courses in both the second summer and fall sessions.

**Table 4**

*Criteria for Admittance to Master Program*

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Bachelor's degree from an accredited college or university
Passing scores for Praxis Core exam OR substitute SAT/ACT score
Passing scores for the Virginia Communication and Literacy Assessment (VCLA)
Documentation of 100 Hours Working with Children
Essay
Interview

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*Note.* Adapted from the University website (n.d.).

The Institutional Review Board (IRB) where the study was conducted approved the research study. After IRB approval, the recruitment process began. The Elementary Education Program Leader was asked permission to research in the context of planned courses that occurred during the 2020 summer and fall sessions. Participants were initially notified about the *Pink Time* assignment for each course section using the *Pink Time Protocol* (Appendix C). Professors shared the course syllabi at the start of the summer session and described and clarified the *Pink Time* assignment as part of the class coursework. As is customary, the *Pink Time* assignment was self-graded. The assignment was a requirement for the course, but participation in the study was optional.

The classes were offered in the Summer Session II and Fall 2020 semesters. The summer course was conducted for six weeks with pre-service teachers attending the course two days a

week for three hours each session. The fall course was three hours each session with participants meeting once a week for 13 weeks. Both courses were taught online. Two different faculty members from the university's School of Education taught both the Summer and Fall Semester courses. One professor has been a full-time faculty member for three years. The other professor has been a full-time faculty member for one year.

Convenience sampling was used. The cohort of pre-service teachers was easily accessible to the researcher, and the sample was purposeful. A purposeful sample is a sample of the population which “best helps the researcher understand the problem and the research question” (Creswell, 2003, p. 185). This purposeful sample, pre-service teachers, supported the researcher’s inquiry of motivation-related perceptions to *Pink Time* specifically for pre-service teachers. Data from this sample was collected in two phases: a quantitative phase and a qualitative phase.

### **Phase I: Quantitative Phase**

The quantitative phase of this study was designed to collect demographic information and measure students’ motivation-related perceptions. The MMI and demographics questionnaire was administered online to the pre-service teachers. The data was downloaded and analyzed to gain insight into participants’ MUSIC perceptions. Surveys are a useful tool in deciphering students’ perceptions of motivation and use a list of questions aimed at a particular group (Banta & Palomba, 2015). These instruments allow educators to acknowledge course design’s strengths and weaknesses and helps provide a learning environment that strongly matches student needs.

### **Data Collection Procedure**

The MMI was administered after the second *Pink Time* assignment concluded in the fall semester. Class time was given to complete the inventory. Participants completed two *Pink Time*



assignments (one in the summer semester and the other in the fall semester). The participants received the 26 item inventory for MMI and related open-ended questions online through Qualtrics to assess MUSIC perceptions based on *Pink Time*. The demographics questionnaire was distributed using Qualtrics. As previously stated, participation in the study (including the survey) was optional and not part of the course grading scheme.

### **Instrumentation**

#### ***MUSIC Model of Academic Motivation Inventory***

This study's primary quantitative data source came from the MUSIC Model of Academic Motivation Inventory (MMI) (Jones, 2020). The MMI assesses the five components of the MUSIC Model of Motivation (Jones, 2009, 2018). It is a self-reported inventory that measures motivation-related perceptions of class assignments or courses. It can be used with students of different education levels (elementary through professional schools). The college student version of the inventory consists of 26 items with responses ranging from “*strongly disagree*” (1) to “*strongly agree*” (6). Upon analyzing results, instructors can identify both strengths and needs within instruction.

The MMI, College Student version, was administered online through the Qualtrics survey management tool. The inventory consists of 26 items related to the five components of MUSIC. Table 5 displays how the model utilizes the different theories and Table 6 shows examples of questions.

**Table 5***MUSIC Model of Academic Motivation Inventory Scales*

Component	Definition	Related construct
eMpowerment	Student has control over the class learning environment	<ul style="list-style-type: none"> <li>• Autonomy</li> </ul>
Usefulness	The coursework is useful to the student's future	<ul style="list-style-type: none"> <li>• Utility value</li> <li>• Instrumentality</li> </ul>
Success	Student can succeed at the coursework	<ul style="list-style-type: none"> <li>• Expectancy for success</li> <li>• Self-efficacy</li> <li>• Competency</li> </ul>
Interest	Instructional methods and coursework are interesting	<ul style="list-style-type: none"> <li>• Situational interest</li> <li>• Intrinsic motivation</li> <li>• Intrinsic interest value</li> </ul>
Caring	Instructor cares about whether the student succeeds in the coursework and cares about the student's well-being	<ul style="list-style-type: none"> <li>• Caring</li> <li>• Belongingness</li> </ul>

*Note.* Adapted from Jones and Skaggs (2016) Copyright 2016 by Creative Commons

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**Table 6***Example Inventory Items for Each MUSIC Inventory Scale*

Components	Example Questions
eMpowerment	<i>I had options in how to achieve the goals of the course.</i>
Usefulness	<i>I found the coursework to be relevant to my future.</i>
Success	<i>I was confident that I could succeed in the coursework.</i>
Interest	<i>The coursework held my attention.</i>
Caring	<i>The instructor was friendly.</i>

*Note:* Jones (2020).

Each of the five MUSIC scales is scored using the inventory instructions. For example, to obtain a score for the empowerment scale, items 2, 8, 12, 17, and 26 were added then divided by five (Jones, 2020). The other scales are computed similarly by averaging the items in the scales. Jones (2020) explicitly states, “do not sum or average all 26 items because this produces a meaningless value” (p. 14). The inventory was designed to target the MUSIC model’s specific components rather than denote a total motivation score (Jones, 2020).

Based on the User Guide by Jones (2020), open-ended questions can be added to the MMI. These questions were designed to gain more insight into the pre-service teachers’ perceptions of *Pink Time* based on the MUSIC Model (Jones, 2020). The questions can be changed to reflect courses or specific activities. Examples of the questions include: *Which aspects of Pink Time gave you control over the assignment?*; *What did you find useful about Pink Time?* (Jones, 2020); and *What made you feel successful during Pink Time?*

## Reliability and Validity

### Reliability

Measures that are reliable consistently generate similar responses over time (Banta & Palomba, 2015). Cronbach's alpha ( $\alpha$ ) is one way to determine the internal validity of a given instrument. When using the alpha coefficient, calculations are derived from computing different scales and comparing them to the total variance for each item (Goforth, 2015).

Both Pace et al. (2016) and Jones et al. (2019) used Cronbach's alpha ( $\alpha$ ) to examine the reliability of MMI using different participants including pharmacy and veterinary students, Pace et al. (2016) computed Cronbach's  $\alpha$  with results ranging from 0.82 to 0.92 which is indicative of strong reliability for the MUSIC subscale. Similarly, the calculated  $\alpha$  levels in Jones et al.'s (2019) study ranged from 0.78 to 0.93 which demonstrates that the scales are reliable. In addition, Chittum et al. (2019) used the MMI college student version with a sample size of 552 undergraduate students to assess reliability. In this study, Cronbach's  $\alpha$  ranged from 0.82 to 0.87 which demonstrated good reliability for the five scales.

### Validity

Validity refers to the concept that the instrument measures the intended variable (Keith, 2015). Two types of validity (construct and predictive) were calculated for the MMI in the following studies: Jones and Skaggs' (2016), Pace et al. (2016), Jones et al. (2019), and Chittum et al. (2019). Construct validity refers to correctly measuring model components (Creswell, 2003), and the idea that theoretical concepts can be observed in practice (Trochim, 2020). The empowerment "label" refers to the construct that individuals need choices. Observations of this construct are seen when an instructor provides options in the course and assignments. Predictive validity refers to how well the instrument can predict future behavior (Shuttleworth, n.d.)

### ***Construct Validity***

The Jones and Skaggs' (2016) study used two phases to validate the MMI. First, the researchers used CFA to validate the inventory through a random sample. Their findings concluded the MMI components loaded onto each factor, For example, the success scale loaded on the same factor. This study determined that MMI items did not cross-load (e.g. the success items did not load onto the usefulness factor). Jones and Skaggs (2016) then tested the MMI's construct validity by calculating correlations with other instruments that measured analogous constructs. The statistical measurements were moderately correlated which was expected; thus, they provided validity evidence for the use of the MMI with college students (Jones & Skaggs, 2016).

Pace et al. (2016) also measured the construct validity of the MMI to assess if it would be a valid instrument for pharmacy students. The researchers used two different factor analyses to determine validity. Both tests confirmed that the five components of the model were distinctly measured which was in line with Jones and Skaggs' (2016) results.

Jones et al. (2019) used three different CFAs to examine MMI's validity for use with veterinarian students. These researchers found a moderate correlation between the items which was in line with the findings with the pharmacy students in Pace et al. (2016).

Chittum et al. (2019) used both an exploratory factor analysis (EFA) and CFA to examine the validity of the MMI. The investigation resulted in providing validity evidence of the five MUSIC scales with a sample of 352 students.

### ***Predictive Validity***

Jones and Skaggs (2016) analyzed the predictive validity of MMI. The researchers used the model components to calculate the correlation coefficients between the MUSIC scales and

three outcomes: (a) effort, (b) instructor rating, and (c) course rating. All the results were statistically significant when correlated with the five MMI scales.

Jones et al. (2019) sought to confirm predictive validity using the 20 items in the inventory short form using three different samples of students. The researchers used Pearson's correlation coefficients to determine the predictive validity of the five different scales. Most of the coefficients ranged from 0.30 and 0.79 which indicated a medium to large effect size. Effect size measures the strength of the difference between two samples (Keith, 2015). According to Cohen (as cited in Keith, 2015), a small effect size is 0.2, a medium effect size is 0.5, and a large effect size is 0.8.

Chittum et al. (2019) also provided evidence for predictive validity between the MUSIC scales and instructor rating, course rating, student effort, and students' cognitive engagement using Cohen's  $f$  and beta squared ( $n^2$ ). Researchers reported the effect size of Cohen's  $f$  between 0.574 and 0.232 and  $n^2$  between 0.248 and 0.138, indicating effect sizes between high and medium.

### **Demographic questionnaire.**

A demographic questionnaire (Appendix D) was administered to include age, ethnicity, gender, and undergraduate degree. This information was distributed using Qualtrics and followed the MMI as part of the survey. The data were used to compute descriptive statistics.

### **Data Analysis Procedures**

The data analysis for the quantitative part of this study involved two steps: cleaning and analyzing the data. I computed descriptive statistics for MMI and demographic items using the Statistical Packages for the Social Sciences (SPSS) for data analysis.

### **Cleaning the Data**

The initial step was to clean the data. Qualtrics was set so that the pre-service teachers completed each answer before moving to the next question. The survey could be ended without completion which accounted for missing data. All pre-service teachers had to respond to the items on the empowerment, usefulness, success, interest, and caring scales to be included in the study. If any responses were missing from empowerment, I excluded the individual participant's response for empowerment from the data set. The same process was used for usefulness, interest, success, and caring.

### **Analyzing the Data**

To analyze the data, I calculated the means for the empowerment, usefulness, success, interest, and caring scales. The empowerment scale score was calculated by adding items 2, 8, 12, 17, and 26 and then dividing by five to compute the empowerment scale score. I followed the same steps to analyze the other scale scores: usefulness, success, interest, and caring. Usefulness scale items included 3, 5, 19, 21, 23 while success scale items included 7, 10, 14, and 18 and caring scale items included 4, 16, 20, 22, 24, and 25 (Jones, 2020).

Demographic information on the sample included age, race, gender, and undergraduate degree of participants. Descriptive statistics from the demographic data consisted of frequency distribution and central tendencies of mean, median, and standard deviations (Trochim, 2020).

### **Phase II: Qualitative Phase**

A qualitative phase was conducted using a case study design to understand pre-service teachers' motivated-related perceptions. There were four steps in this phase. First, pre-service teachers engaged in group discussions based on their *Pink Time* experience. Second, open-ended

questions were used on the MMI survey. Third, interviews occurred after participants completed both *Pink Time* assignments. Data were analyzed in the fourth step.

### **Case Study**

Case studies are research designs commonly utilized in qualitative and quantitative research (Luck et al., 2005; Simons, 2014; Stewart, 2017). For this study, a single case study was conducted, and qualitative and quantitative methods were used to answer the research question. Merriam's (2016) definition of a case study is "in-depth description and analysis of a bounded system" (p. 37). Bounded refers to a single unit which can be an individual, group of students, or school (Merriam, 2016). This unit may not be generalized to other settings or populations.

Case studies focus on one phenomenon, are flexible, and can be conducted over both short and long terms (Simons, 2014). Additionally, they provide opportunities to engage with participants one-on-one and allow for in-depth conversations which establish "rich data" on a particular activity or program (Creswell, 2014; Stewart, 2017, p. 147). Rich data can be used to support change at the program and policy levels due to small samples (Simons, 2014). "How" or "why" research questions are often answered through case study methods (Creswell, 2014; Stewart, 2017).

Case studies can have limitations such as small sample sizes (Stewart, 2017; Simons, 2014), consideration of participants' potential honesty, and "subjectivity of both participants and researcher" (Simons, 2014, p. 7). Researchers also point out the generalizability of case studies (Simons, 2014; Stewart, 2017) because of their bounded nature. Specific settings and participants are examples of bounded units (Marshall & Rossman, 2016).



This particular case study provided an in-depth view of motivation based upon one active learning technique, *Pink Time*. The study was bound to one university, one program, and two courses with the same participants.

### **Participants**

Interview participants were a subset of elementary pre-service teachers who participated in this study's quantitative part. During one of the course sessions, I attended the class and asked for volunteers to participate in an interview related to the *Pink Time* assignment. I assured the pre-service teachers that the talks would be confidential, had no impact on class grade, and would last no longer than 60 minutes. I also sent an email to the group as another method of recruitment. The email reiterated the purpose of the study and again assured confidentiality. Five participants volunteered and all were interviewed. They received an informed consent form to review. Participants additionally gave verbal consent before the interviews. Both the interviewer and interviewee mutually agreed on the time and location of the interview to ensure a safe, private space for their time together.

### **Data Collection Procedure**

This section is comprised of the data collection procedures and includes recordings of group discussions about *Pink Time*, analysis of the written open-ended questions on the MMI, and how individual interviews were conducted. The steps for data collection procedures were identified. References to appropriate protocols and documentation are also included. IRB approval was obtained before the start of data collection. The IRB letter is in Appendix E.

Each student completed a *Pink Time* activity. Following the activity, each class participated in a facilitated discussion. These discussions, and later individual interviews, were

informed by open-ended responses related to the MUSIC model (Jones, 2020) which allowed the researcher to understand pre-service teachers' perceptions of motivation.

The questionnaire included several open-ended questions. Jones (2020) explained in the User Guide that open-ended questions elicit a deeper understanding of perceptions related to the MUSIC Model components. Examples of the open-ended questions include: *Which aspects of Pink Time gave you control over the assignment?* (Jones et al., 2012); and *What did you find useful about Pink Time?* Open-ended questions are located in Appendix F.

I identified higher and lower group scores on the MMI. Interview questions were asked during all interviews and were based on Jones (2020). These questions allowed for more insight into the different components of the MUSIC Model. For example, the question *What did you like about Pink Time?* enabled an understanding of interest for the participants while *What parts of Pink Time were a waste of time?* helped with better understanding of whether parts of the assignment were useful or not. Questions used can be viewed in Table 7 and were asked in a sequence that allowed for the interview's natural flow. Interviews were conducted after the *Pink Time* assignment and group discussions.

## **Table 7**

### *Post-Pink Time Interview Questions*

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What did you like about *Pink Time*?

What parts of *Pink Time* were a waste of time?

You discussed that \_\_\_\_\_ made you feel successful during *Pink Time*. What made you feel as though you could not be successful during *Pink Time*?

Describe your interactions with class peers during *Pink Time*.

Final question...is there anything else you would like to add that I did not ask you about?

Prompting questions will be used throughout the interviews to encourage the participants to explore the interview questions in greater depth. The prompts will include:

---

- 
- Could you tell me more about \_\_\_?
  - Why is that important?
  - How so?
  - What else can you remember?
  - Did you have other feelings about this experience?
  - Uh-huh?
- 

Interviews are one method to collect data for qualitative research (Moser & Korstjens, 2018). By participating in the interviews, pre-service teachers engaged in the research by co-constructing perceptions of motivation and learning as experienced in real life (Simons, 2014). Semi-structured interviews allowed for flexibility during the interviews and the ability to collect data relevant to the study. Semi-structured interviews enable researchers to probe for more information through questions such as *Can you tell me more about \_\_\_?* (Baskarada, 2014). They also provide the flexibility to account for “questions to be explored” without a strict protocol to follow (Merriam, 2002).

### **Data Analysis Procedures**

Data analysis allows the researcher to understand the nature of the case (Dyson & Genishi, 2005). In this study, the first step in this qualitative analysis was to analyze the written responses to the open-ended questions. I then transcribed the interviews verbatim using an online transcribing service (Otter.ai.com). After transcription was complete, I reread the interview transcriptions several times for understanding. I commented about possible themes for both the written responses and interviews on Google Docs and in a journal. I listened to the interviews' recordings to focus on voice reflections, intonations, and emphasis of words (Maxwell, 2005). I then used Otter.ai.com to transcribe the four group discussions. One purpose of listening to the group discussions was to develop overall themes that supported the interview codes. In addition to Google Docs and the journal mentioned above, I also used written memos to record my initial

reactions, understandings, and reflections on class discussions. Following reading the responses to the open-ended questions, reading interview transcripts, and listening to the recorded interviews, I utilized memos (Maxwell, 2005). Coding the responses from survey questions, transcripts, field notes, and memos were then conducted.

### **Coding**

According to Charmaz (2006), coding is “categorizing segments of data with a short name that simultaneously summarizes and accounts for each piece of data” (p. 43). This categorization becomes the initial analysis (Yin, 1994 as cited by Atkinson, 2002). Coding thus provides a bridge between data collection and analysis (Saldaña, 2016).

### ***Open Coding***

Open coding allows the researcher to identify patterns found within the analysis and helps the researcher begin to develop categories (Marshall & Rossman, 2016) as it establishes the foundation for themes within the research (Hsiung, 2010). I open coded for both the written responses on the MMI and the interview transcripts using “line by line analysis” (Strauss & Corbin, 1998, p. 57) to gauge initial ideas and concepts.

Field notes were open-coded to analyze the collected data, and themes were generated based upon regularly-occurring and similar segments of responses and transcriptions. Some “names” for these themes came directly from the participants’ words or In Vivo coding (Saldaña, 2013). There were cases in which segments of interviews related to more than one theme. These segments were double coded.

### ***Focused Coding***

I created documents where all interview segments relating to specific themes would be copied from the original transcripts and pasted into new documents. Focus coding enables the

researcher to detect patterns within the codes and create themes (Atkinson, 2002). Using the initial open codes, I used the segments pasted into these documents and marked them in the transcripts thus making it possible to quickly identify and analyze the remaining parts of the transcripts. It was expected that there would be some sub-themes within the main themes.

### ***Subcoding***

Subcoding is based on identified theme codes that allow for sub-categories within groupings (Saldaña, 2013). After creating the theme-based documents, I analyzed each theme. I engaged in the process of reading and rereading each of these documents again. During this phase, I made comments about individual segments that contained possible subthemes.

### **Field Notes**

Field notes are one way to support data analysis procedures. These notes offer triangulation by using different data collection forms (Merriam, 1985) which are related to the collected interview data to increase reliability and decrease researcher bias (Cowin & Clemens, 2012). I took field notes after each individual interview. Taking notes after the interviews helped me focus on what the interviewees said and helped keep the participant focused on discussing her experiences (Montgomery & Bailey, 2007). Field notes were also taken after the *Pink Time* group discussions.

### **Memos**

Memos are another strategy to collect data and are defined as “any writing that a researcher does in relationship to the research other than actual field notes, transcription, or coding” (Maxwell, 2005, p.13). Memos can be used for reflection during the research process to enhance the researcher’s relationships with the data (Birks et al., 2008). Maxwell (2005) recommended taking many memos; therefore, I used memos after reading both the written

responses from the MMI and the interview transcriptions. I did this to identify first reactions and thoughts to the data. As I continued to analyze the written responses and interview transcriptions and began coding, memos recorded my ideas for categories and themes. I utilized memos for reflective purposes during each stage of the coding process: initial phase, focus phase, and subcoding.

### **Authenticity and Trustworthiness**

#### **Researcher Stance**

I have been an educator for 23 years. Eight of those years have been served as an educational administrator both internationally and in the United States. In these roles, I have supervised both in-service and pre-service elementary teachers. In working closely with teachers, I have identified successful teachers' knowledge and proficiencies both in and out of the classroom. Knowledge and proficiency is pertinent to TPPs and allows pre-service teachers to become aware and familiar with various expertise.

I currently supervise pre-service elementary teachers for my graduate assistantship (GA) for my Ph.D. program in Curriculum and Instruction in Elementary Education/Teacher Education. I have been part of this program for three years. It is highly likely that the new group of pre-service teachers have communicated with previous graduates of the MAED program. As a result of this communication, the new pre-service teachers may have known about me and my expectations and were therefore ready to participate and give the "right" answers for the assignment.

I had met these new pre-service teachers in the other group meetings and discussions. At any given time I may be a university supervisor for up to seven pre-service teachers and thus have power over the participants even though I am not assigning grades for the course.

Pre-service teachers are familiar with me due to my role as a graduate assistant and university supervisor. My role for this study included asking interview questions and following up with participants' responses to engage in a conversation about their perceptions of *Pink Time*. I also facilitated group discussions based on questions related to the MUSIC Model.

In my role as GA, I have observed different cohorts of master level pre-service teachers who have difficulty thinking for themselves. In many situations, pre-service teachers want to know what they need to do to achieve a specific grade or how to do an assignment. My observations have allowed me to reflect on their schooling backgrounds. Most of these pre-service teachers attended Virginia schools where teachers implemented the Standards of Learning (SOLs). In most cases, yearly testing includes standardized multiple-choice tests. To graduate, the pre-service teachers had to have taken these tests since the third grade. I believe that learning for the sake of learning has declined in this population as a result of standardization of tests.

SOLs first began in 1998, my first year of teaching. Virginia schools began accreditation in 1999 based on SOL scores, and from the 2006-2007 school year, schools were expected to have a pass rate of 70% in each of the four content areas: English, Math, Science, and Social Studies (Virginia Department of Education, n. d.). This is significant because the past two groups of pre-service elementary teachers were likely in elementary school during that school year.

My understanding of the proficiencies needed for new teachers has expanded over the course of my career. I have learned about TPPs and how instructors prepare pre-service teachers to develop knowledge and dispositions. In programs at the master's level that lead to teacher licensure, most pre-service teachers earn their terminal degrees; thus, pre-service teachers must

graduate with the ability to become excellent beginning teachers and the ability to support lifelong learning and development.

I participated in *Pink Time* both as a doctoral student and as an instructor. As a participant of *Pink Time* in three of my graduate classes, my experiences were positive. I was excited both about learning and having the time to learn when using this tool. During the discussion part of the assignments, I enjoyed listening to what others in the class chose to pursue. Hearing other peoples' experiences created a classroom community in which we learned more about one another. After the first assignment, I looked forward to *Pink Time* in my other two classes.

I have also conducted several *Pink Time* assignments with both master's level students and in-service teachers. Participants have expressed both negative and positive opinions during these assignments. For example, some participants acknowledged that they did not engage in an activity. One participant in particular made up a dream he had had during the nap he took for his *Pink Time*. In-service teachers expressed concerns about having their students not participate in the assignment. Other participants mentioned that *Pink Time* was not an activity they enjoyed or felt was worth their time.

On the other hand, I also observed positive opinions. In one case, a pre-service teacher commented on the amount of information gained from others' presentations. An in-service teacher made connections during the *Pink Time* discussion between other workshops he had attended and used his understanding of the assignment to make connections in his learning and understanding of the power of choice embedded within *Pink Time*.

Interviewing pre-service teachers enabled me to gain more insight into the views and opinions of what *Pink Time* does and does not offer. It is important that I made the interviewees feel safe and comfortable through both verbal and nonverbal communication during the



interviews and essential that participants knew that what they said was confidential and would not affect their grades or relationship with either the instructor or myself. Throughout my communication, I tried to remain neutral in listening to their responses. Remaining neutral may have helped pre-service teachers feel that they could give their opinions which could lead me to hear something unexpected. I needed to be open to unforeseen results since each participant approaches *Pink Time* from her own unique experiences.

### **Audit Trail**

Audit trails “document the course of development of the completed analysis... the researcher provides an account of all the research decisions and activities throughout the study.” (Carcary, 2009, p. 15). They are another way of establishing trustworthiness through “dependability and confirmability” (Schwandt, 2007, p. 19). Table 8 outlines what was included in this study for the audit trail:

**Table 8**

#### *Audit Trail*

Institutional Review Board (IRB)	Approval from university, consent forms, demographic questionnaire, MMI
Literature review	Literature review as part of the proposal
Conceptual framework	Motivation theories: Self-Determination Theory: autonomy, competence, and relatedness; MUSIC Model of Motivation
Interview protocol	Interview questions
Participant sampling	Criteria
Data collection and storage	Group <i>Pink Time</i> discussions, Interview transcriptions, MMI surveys
Raw data	Recorded data, Field notes
Partially completed data	Coded interview transcripts, Researcher's field notes, and Memos
Coding scheme	Details of process

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Trustworthiness techniques	Member checking, reflexivity, auditing, peer review
Research report	Final paper

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*Note:* Bowen, G. (2009) Supporting a grounded theory with an audit trail: an illustration.

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### **Pilot Study**

I conducted a pilot study during the 2019-2020 academic year with a cohort of master's level pre-service elementary teachers. This cohort was similar to the group of pre-service teachers who participated in the present study. I obtained Institutional Review Board (IRB) approval to conduct the pilot study, and all participants signed a consent form to allow access to both activities and discussions.

The pre-service teachers were introduced to the *Pink Time* concept at the beginning of the spring semester by the researcher, and I included a description of *Pink Time* in the syllabus. The pre-service teachers were directed to focus their *Pink Time* in education, write a reflection about what s/he learned about herself/himself as a learner, and report back to the group. Students were given one day off from their weekly seminar course session to explore their topic. The following week, each individual presented their *Pink Time* activity and engaged in a group discussion with the entire class.

The researcher facilitated the discussion which included each person's *Pink Time* activity and what they learned about themselves as learners. The presentations and discussions were audio-recorded, and the researcher took notes during the three-hour session. Additionally, pre-service teachers also wrote a one-page reflection paper about the *Pink Time* process, and the

researcher collected these. The researcher's notes, audio recording, and reflection papers served as data sources and were systematically analyzed. This pilot study supported *Pink Time's* users and allowed the researcher to gain experience in data collection procedures.

### **Member Checking**

According to Lincoln and Guba (1986), member checking is “the most crucial technique for establishing credibility” (as cited in Creswell & Moller, 2000, p.127). Participant validation of the data involves consultations with interviewees to establish the accuracy of collected data. Member checking allows interviews to be validated and can incorporate a variety of actions (Birt et al., 2016). An example of this is sending partial transcripts due to interviewees getting off-topic (Carlson, 2010); The researcher however needs to be clear about why only partial transcripts have been sent for member checking. Researchers recommend letting the interviewees know what to expect when reading the transcripts. For example, there may be grammatical errors due to the nature of “natural conversational language” (Carlsion, 2010, p. 1111). It is important to let the interviewees know that these do not need to be grammatically correct since the content is more important.

After transcribing, I sent the transcriptions to the interviewees for verification. I told the interviewees that they did not need to correct grammar, edit the transcriptions, or add new information (Carlsion, 2010). Rather, they were to read the transcripts for the concepts and understanding in general.

Creswell and Miller (2000) suggest that researchers conduct member checking toward the end of research to ensure accuracy of themes. After I coded the interviews for themes, they were shared with the interviewees to ensure the analysis was portrayed accurately.

**Peer Review**

Peer review establishes credibility of qualitative studies by allowing other researchers to review data collection and analysis (Creswell & Miller, 2000; Johnson, 1997). The researcher reflects upon the data through discussion (Johnson, 1997). My advisor facilitated this process, and I shared two interviews with him before moving on to other interviews to ensure that I collected the necessary data. My advisor reviewed my data collection of transcripts, field notes, and codes. Upon collecting my first set of codes, I consulted with him for feedback on appropriate codes and categories.

**Limitations**

A single-case study analyzing the preservice teachers' motivation-related perceptions based on two *Pink Time* activities resulted in research limitations. First, only elementary pre-service teachers at one university were utilized. Using only one university limited the study to one area of the country. Additionally, participants were not randomly selected; moreover, the small sample size was specific to one active learning assignment. Using only one university and one group of participants may make it difficult to generalize with the general population. Other factors – including other instructors, courses, and assignments – may have influenced the motivation-related perceptions. Finally, due to the nature of interviews and lived experiences, the study may be difficult to replicate because each participant's experience is unique to the individual.

The purpose of this study was to examine the effect of an active learning intervention on preservice teachers' motivation-related perception for learning. Both quantitative and qualitative addressed the research question: *How do preservice teachers describe their motivation-related perceptions and reactions to Pink Time?* Descriptive statistics from the MMI focused on

motivation-related perceptions related to a specific assignment (Jones, 2020), and descriptive statistics addressed pre-service teachers' perceptions of *Pink Time*. Moreover, a qualitative case study approach using interviews, field notes, and memos gave an in-depth understanding of pre-service teachers' motivation-related perceptions of *Pink Time*. Both methods provide an analysis of different pre-service teachers' perspectives and lived experiences of how the *Pink Time* assignment contributed to their understanding of motivation.

## Chapter Four

### Findings

The purpose of this study was to examine pre-service teachers' perceptions of motivation for using *Pink Time*. Specifically, I analyzed qualitative and quantitative data to answer the research question: *How do pre-service teachers describe their motivation-related perceptions and reactions to Pink Time?*

In this chapter, I present the results from the data analysis. The results include a description of the participants, themes analysis from the qualitative data, and quantitative results from the MMI. I also present an analysis of the participants' topics.

#### Description of Participants

Participants in this study were over the age of 18, members of a master's program with licensure in elementary education, and in the first two semesters of graduate school.

Twenty-eight students participated in the discussions, 24 of these participants completed the demographics survey, and 21 completed the MMI survey. Twenty-two participants identified ethnically as white, one as Asian (4.17%), and one as other (4.17%). The mean age was 21.9 years with ages ranging from 21 to 25 years. All participants reported being female except for one which appeared to be a mistake. Since the survey was anonymous, the researcher could not follow up with the participant to confer about the selection. All participants reported Human Development as their undergraduate degree.

I provide a list of the participants' pseudonyms, the pre-service teachers' topic presented, and how they participated (i.e., through interviews and group discussions) in Appendix G.

### Summary of Findings

First, themes that emerged from the qualitative analysis are presented. The interviews were used to develop these themes through content analysis. The four group discussions and the open-ended survey supported identified themes. The three themes that developed from the data were influencers, outcomes, and reactions. They are shown in Tables 10, 11, and 12. Second, I present findings related to the quantitative data based on the MMI. Third, I present results that emerged through topic analysis.

**Table 10**

*Influencers on Motivation Theme*

<i>Third Iteration: Theme</i>			
Influencers on Motivation			
<i>Second Iteration: Subthemes</i>			
A. External	B. Freedom of Choice	C. Stress	D. Peers
<i>First Iteration: Initial Codes</i>			
A1. No accountability	B1. Freedom of choice	C1. Timing of PT	D1. What were others' doing
A2. Not graded	B2. Motivating	C2. Outside factors	D2. Topic
A3. Field experiences	/interesting	C3. Vague directions	D3. Effort
A4: Own families	B3. Not knowing what to expect	C4. Wanting to "do it right"	D4. Comfort level
A5: Instructor	B4. Hard to get started		
	B5. Fun/interesting		

**Table 11**

*Outcomes of Pink Time Theme*

<i>Third Iteration: Theme</i>
Outcomes of <i>Pink Time</i>

<i>Second Iteration: Subthemes</i>		
A. Cognition/Learning	B. Community Building	C. Reflection
<i>First Iteration: Initial Codes</i>		
A1. About topic/material	B1. Cohort	C1. Perfectionist-getting it right
A2. What to present	B2. Interactions with others about the same interest	C2. Future use of assignment
A3. About self	B3. Interaction with others about similar experiences	C3. About own learning
A4. About others	B4. Wanting to engage others with topic and presentation	C4. About process
A5. Ideas for future classrooms	B5. Choosing useful topics	C5. Discussion: lull and redundant
A6. How to implement in future classrooms		C6. Approaches to Pink Time:
A7. How to present		C6.1. Nervous
A8. Using multiple sources		C6.2. Doesn't mean anything
A9. Ability to relay to others about the topic		C6.3. Understanding
		C6.4. Confident
		C6.5. Useful
		C6.6. Interesting
		C6.7. Didn't like

**Table 12***Reactions to Pink Time Theme*

<i>Third Iteration: Theme</i>		
Reactions to <i>Pink Time</i>		
<i>Second Iteration: Subthemes</i>		
A. Love of learning	B. Mixed	C. Getting it right
<i>First Iteration: Initial Codes</i>		
A.1. Understanding	B.1. Waste of time	C.1. Not knowing what to expect
A.2. Confident	B.2. Stress	C.2. Needed "rules"
A.3. Useful	B.3. Nervous	
A.4. Excited	B.4. Didn't like	
A.5. Motivating	B.5. For others	
A.6. Interesting		
A.7. Fun		



## Themes

### *Influencers on Motivation*

The first theme that evolved from the interviews was *influencers on motivation*. Participants relayed how various types of influencers impacted their perceptions of *Pink Time*. The participants indicated that peers, personal choices, external influences, and stress helped guide their responses to *Pink Time* (see Table 10).

#### **Peers.**

Peers were another influence on *Pink Time* as they helped determine how to implement the assignment through topic choice and effort put forth. Peers were viewed as supportive and encouraging because of the 'cohort' style of the master's program.

Before completing the assignment, several participants indicated they were in contact with class members to determine what others were doing regarding topics and amount of effort. For example, Marsha revealed during the first *Pink Time*, "I feel like some...would randomly ask each other like, what are you going to do? What are you going to research on?" Likewise, Riley said, "...we were in the group chat, what is this? What are y'all doing? Maria mentioned, "...before especially people were like, What are you talking about? What are you talking about? Is anyone doing this? Has anybody started?"

Other participants noted the importance of selecting a topic while considering what the group might want to know. Marsha expressed concern about wanting to be perfect "because we were going to share, and I didn't want to pick a topic that seemed almost not useless." Carol made a similar comment during the group discussion, "I guess I just didn't want to pick a lame topic and everyone be like, 'Oh, that's what Carol's interested in? She's boring' Or something

like that.” Likewise, Joan “felt like that my topic was like, pressured by what I felt like, my peers want to hear more about.”

Participants acknowledged that understanding the amount of effort others were putting in was important. Maria recalled, “I definitely texted my peers and seeing the amount of work that they were putting into it.” Furthermore, Riley recalled asking peers, “What did you do? And then even, what did you write? How much should you write? What should I have there? Because I think we're just programmed so much to have that expectation.” The second *Pink Time* also evoked conversation between peers about not wanting to repeat a topic. Charlie said, “I don't want to repeat. So, I guess the second time like brainstorming what they were doing, but definitely how much work they're putting into it.”

Peers also influenced how participants would present, and the effort put into the assignment. Marsha indicated that “...when it was time for me to share with the class, I made sure to make it engaging, I guess, to educate other people but also just share about what I researched. Similarly, Charlie did not “...want to give like a 30-minute lecture if everyone's just doing a couple of quick highlights...” Meg also recalled talking with members of the course: “...when this first came out, people were like, are we doing a PowerPoint slide? Are we doing this?” Moreover, Alaina talked about her conversation with her roommate who is also in the program:

So, I definitely asked her, ‘How much are you doing? How many articles did you read for this?’ So, I've been just comparing to make sure that I was on a similar level to other people. So, I wouldn't show up with too much or too little information.

Similarly, Maria discussed coming prepared to be useful to the group. She “didn't want to just show up with something that I looked up at a Wikipedia page and talk for a minute, and stop, like I wanted to be able to contribute to that.”

Other participants noted the comfort level they felt with their cohort group. Anne said, “But since I'm so comfortable with everybody here and know everybody's so supportive and encouraging that I had no fear coming into this and sharing my ideas.” In the same discussion, Paula responded to Anne's comment:

Kind of just going off of what Anne said, I thought that it was kind of reaffirming to know that no matter what I talk about or chose, or like what I said, that I know that they [classmates] would be supportive and encouraging.

Blake also noted the close-knit feel of the group:

And also, I think we all talked about how comfortable we feel with each other already. So we didn't think twice about coming into this and talking about something that we were passionate about because we knew that people were passionate about it.

### **Freedom of Choice.**

Another influence on the assignment was personal choice. All interviewees expressed that the work allowed for freedom of choice. Freedom included topic choice, how to learn about the topic, ways to present, and how much effort to put into the assignment. Each of the interviewees addressed the opportunity to choose their own topic to learn. Five participants responded to the open-ended questions that it was interesting for them to choose their own topic. Charlie said, “So we got to choose between the topics.” Mary said, “I had the opportunity to look at stuff that we don't look at in class.” Marsha used the internet for the first *Pink Time* and the second time, she “...interviewed my mom, as well as conducting online research.” Later she

noted, she “mainly did research with YouTube videos.” Likewise, Sally mentioned, “we have the choice about how we wanted to go about it because I know some people interviewed their parents. I just did research, other skimmed articles. I actually went in-depth...”

Other participants communicated about their choice on the way to present. Charlie said, “I guess how we presented it to our class as well, whether we just want to speak it to them, or I drew up some diagrams to show them.” Sally mentioned how she presented, “... I was one of the people that made a Powerpoint because this is a lot of useful information.” Maria also mentioned having a choice in the amount of effort one needed to put forth. She expressed that she had a choice in “how much effort I wanted to put into it and how long I wanted to talk and write.”

During the discussion, a couple of the participants articulated choosing a topic to support their understanding of that specific topic. For example, Jen wanted to gain knowledge to increase her confidence in the classroom:

The topic that I was on was teachers' pre-service teachers' self-efficacy, which is their confidence in themselves to carry out a task. I was drawn to that because sometimes I question myself and I don't know what to do, and I look to other people for help, especially now like with the online format, like with my CT, I look to her for help a lot. And I would like to get better at being more confident in running the whole class because I know that I can handle it.

Similarly, for her first *Pink Time*, Kim noted:

... At first, I didn't really know what I wanted to do for this. But then I thought that I tried to think of what is something that I don't know much about, or I haven't experienced that... my future students will have experienced a lot or that they'll be exposed to.

### **Outside Influences.**

External motivators also had an impact on pre-service teachers' perceptions of *Pink Time*. Notably, field experiences from both undergraduate and graduate programs helped support the pre-service teachers' topic choice. Family members, the instructor, and Covid also influenced participants. It was evident that grades factored into this assignment as *Pink Time* was a self-graded assignment. Furthermore, there were components of the assignment that influenced perceptions of control.

During the summer, pre-service teachers acknowledged that their past experiences helped guide their topic choice. Theresa articulated, "...I personally chose this topic because I worked at or I volunteered and worked at [X] Elementary School. Greta said, "So I did my field study at [X] Elementary School in second grade... It is an all-inclusive school. I had a child with [a disability] in my class, so I did my research on all-inclusive classrooms." Similarly, Carol expressed she, "...was in a classroom, a year ago that had flexible seating and it was just complete chaos. And so, I wanted to see if that was how it was for all classrooms."

Several participants made mention of how their experiences influenced their topic during their fall field placements. Barbara relayed that she had observed students in her field placement not knowing how to use a mouse with their Chromebooks which sparked an interest in choosing her topic: she reported on screen time for young children. Alex chose "how to create an inclusive environment in the classroom...because of the students who are in special education in my own class." She also expressed that because she was in the classroom, she was more motivated to complete the assignment:

I think overall, for this time around, I felt more motivated because I was in a classroom, and I had students to base my research off of...I can apply this right away. This isn't a theoretical concept I'm learning right now. I can go and do this tomorrow.

Kim specified that her placement and background also guided her choice, "So I did equity issues and rural education because I'm placed in [X] County this semester. And I also have a background with growing up in a rural setting." Likewise, Danielle discussed equity through homework because of her observations in the field:

So, I did my topic on homework and whether teachers should be assigning students homework or not. Because there are a lot of equity issues surrounding that. I'm in [X] County, and I personally have seen the effect it has on students because they might not have the internet access as other students might.

Charlie also found it "helpful being in the classroom. It's an awful thing to say. But I got inspired from my student. I saw him frustrated. I was like, Oh, this is a great topic for *Pink Time*." Alex also added that she felt "it was a lot easier because we had inspiration from our own lives in our own classrooms."

Participants also discussed the influence of family members when looking into a topic. For example, Meg used her mother as the inspiration for her topic:

I landed on the topic of comparing different school systems around the world, like internationally. My mom is from [country] and she came to the US for the first time for grad school...

Likewise, Alex chose her topic based on conversations she had with her mother:

My mom's a teacher, and she kept talking about going back [to school] after the pandemic or during the pandemic right now, that we need to be aware of children's socio-emotional

development, and I had no idea what that word meant. So, that's kind of what my inspiration was.

Marsha was also encouraged by her mother. She gathered information on year-round school and was also able to interview her mother. She said:

I got to interview a parent during that time. So, I feel like I learned way more than I would have just by researching pros and cons. Because those, I guess, can get repetitive online with online research. But hearing from my mom, someone who actually, like, went through, I learned things that I would not have found online.

Participants also mentioned the role of the instructor when choosing a topic. Mary “thought it was kind of like, minimal. I didn't really think about who was going to be reading this or like who I was giving it to. I was just kind of like researching a topic. Like, I don't think I picked it because I was like, Caryn’s going to love this.” In contrast, Theresa noted, “I respectfully disagree. Since you're my GA, I felt a little bit more pressured into doing a little bit better because I just know you more personally now compared to like, over the summer.”

Likewise, when asked the open-ended questions about the instructor and what she did or did not do to support caring during the assignment, most participants responded with the impression the instructor did care. Two participants noted “little instruction/direction” and “no requirements for what we had to learn or how much....” Another participant wrote about assigning their own grades. “If we felt like we did not try our best to learn anything in this assignment, she gave us the freedom to reflect that in our grade.”

The effects of Covid-19 guided the pre-service teachers in choosing their topics. Sally decided on group work because “kids right now literally can't leave their seats.” She went on to say, “So, it was very applicable in my life. So, I was more interested in it.” Similarly, Carrie

researched half-day and full-day Kindergarten because, "...my [cooperating] teacher mentioned to me that normally [X] County does full day but because of Covid and everything, they're half-day." Georgia looked into classroom greetings, "And then I also saw with this new year, a teacher who had used that sort of classroom greeting with touching of hands or hugging, and they were upset because they obviously couldn't do that this year."

Covid influenced one participant in her learning. When Meg was trying to figure out her topic, she recounted, "And while doing so was just feeling very zoned out and couldn't focus and whatever." This led to her realizing, "Oh, I'm virtually trying to learn something. Why don't I just do this on virtual learning?"

Participants discussed the assignment had little accountability concerning grades, and individuals addressed different components of *Pink Time*. Maria expressed, "If there was no grade, and no. So, not holding me accountable for doing it except just presenting." Sally also mentioned the *Pink Time* not being graded. She specifically addressed the self-reflection write up, "I don't know the reflection didn't really get graded. I got a grade myself, but I didn't get graded on it, really." Carrie mentioned she prioritized other assignments: "Getting myself to do it because it wasn't for a grade and I had things that were for a grade that I prioritized before this."

Mary revealed how she felt during the discussion, "I'm just going to say it's like, also, I know, I'm not going to be like graded on what they're saying. Or have to do a homework assignment on what they're saying. So, I'm just listening casually. I'm not listening because I'm going to have to do this in a second." Mary also commented on the ability to achieve all points because she, "felt like I did really well, I gave myself a 10 out of 10. I was like, good job, Mary." Joan also discussed self-grading:



...I feel like all of us were, oh, we put in the work. We did what we were supposed to do. But so, this time, I gave myself a 10 out of 10 just because, hey, I had a positive attitude. Last time... I had a really bad attitude. So I gave myself a nine out of 10 just because my attitude was subpar.

Haley expressed her “distrust” over self-grading:

I know it's probably not valid, but I just distrust self-grading. I'm always like, I gave myself a 10. Is someone going to give me a nine? And then I saw that I got a 10 out of 10. Because I gave myself a 10 on 10 last time. And I was just like; I don't know, is this like a grade? Or is it really because I gave myself a 10. So that part of it always makes me nervous.

Others viewed the self-grading as an ungraded assignment. For example, Shea conveyed:

I think I kind of viewed it as ungraded because if I grade myself, I don't know. So, it was something we had to do, but it wasn't really graded. So, I just did the research because I was interested in it and wrote a reflection because I just had to write a reflection and reflect on my experiences...I don't really feel like the point value changed anything. For me personally, I was kind of like, okay, I mean, I'm not going to give myself a seven out of 10 because I put effort into it. I'm going to give myself a good grade.

However, Greta denoted the fact that it was not a graded assignment that allowed for freedom:

By making it not graded and giving us free choice, I think we had a lot more choice with what we wanted to choose and not the pressure that we would get from a normal assignment. So, I think it was more authentically what we would actually do and like what we would actually present versus like, us trying to research a bunch of stuff. And like, for lack of better words, like Bs, add into this huge, long research paper.

Participants also commented in the open-ended survey about areas in the assignment that influenced their decisions. For example, there were aspects that did not allow control over assignment. These areas included writing a reflection, the due date, and that fact *Pink Time* was a requirement for the course. Others wrote about how their topic was limited to education. Five participants wrote how they were in control of their *Pink Time*.

### **Stress.**

Participants repeatedly mentioned the word *stress* in both the interviews and group discussions. Stress was used in connection with the timing of the assignment, workload, and/or the vagueness of the assignment.

The first *Pink Time* occurred at the end of the summer semester while the second *Pink Time* took place in the middle of the fall semester. A couple of pre-service teachers indicated that final projects were due at the end of the summer term and thus pushed *Pink Time* to the side. As Sally stated, "...it was a very stressful time over the summer with all of our classes and stuff. So it wasn't at the top of my head, so I wasn't as motivated to do it." Charlie discussed the workload for the second *Pink Time* conducted during the middle of the semester:

So rather than feeling like a celebratory, like you just did research, now go present it. It's all kind of like, I'm already head underwater... I don't know if it was a waste of time. But it was definitely harder when we had a lot of work going on to pick up *Pink Time* again because we're like, oh, my gosh, we're so stressed out.

The struggle of getting started and finding time for *Pink Time* was also mentioned in the participants' comments in the open-ended survey questions. Six noted that it had been difficult to get started. Another wrote she found it hard to "find time to do research." Likewise, Maria recalled, "Second time I did not like it. I'm just so busy."

During the group discussion, Charlie acknowledged feeling stressed because of the assignment. "I think because I was more stressed out this time frame, that having that freedom just kind of made me stressed out more." Similarly, nine participants on the open-ended questions referenced their struggles with choosing a topic.

Several participants discussed how the first *Pink Time* was vague and that they were unsure of expectations. Sally stated that it was "pretty frustrating at first because I feel like all of us in this program are such like, we want examples, we want to know exactly how to do it. And there wasn't one. We were all just kind of like lost puppies, which is done purposely." Similarly, Joan expressed, "And like I agree, for me, when we did that, the summer it was stressful, not having clear directions. That was a little overwhelming for me." There was a strong need in wanting to "do it right." Marsha said, "There was that much freedom, people, I guess we're like, even myself, would text somebody and just double check to make sure that I wasn't doing it wrong, even though there wasn't a right or wrong." Mary articulated a similar perspective:

But I guess I was a little bit more stressed in the first one, just like, oh, no, did I do it wrong? And I just think, you know, I've been told since I was little you have to do it correctly, so I'm like I don't want to do anything wrong. So I think I was just slightly stressed.

Mary also discussed her living situation as stressful. "And I just thinking it was just a stressful time...I was living at home, and we were going to the beach, and then I was like, 'Oh, I'm going back to work.'"

Participants also acknowledged not being stressed, or less stressed, for the second iteration of *Pink Time*. For example, Mary said, "...it wasn't stressful this time, and I think I'm,

it's like just a lot less stressful because I'm just listening to things that interest me.” Similarly, Paula expressed:

And so, when she gave us the freedom and stuff to do it, I kind of felt like, okay, this isn't something that's like, going to be super stressful or hard or going to take up so much time. It's really just what you make of it.

Marianne summed up the stress in the group. She observed that... ‘it's very interesting how to see our different perspectives on it. Some people get a lot of anxiety, and then like, there's no anxiety [for some].’

### ***Outcomes of Pink Time***

The second theme that came out of the interviews was *Outcomes of Pink Time*.

Sub-themes included cognition and learning, community building, and reflection.

#### **Cognition/Learning.**

The *Pink Time* assignment enabled each pre-service teacher to control his or her learning and provided the opportunity for participants to personalize their learning experiences.

Participants reported on learning by discussing how they researched, the importance of being interested in a topic, applying the topic, and learning about themselves. Learning about peers and useful ideas for future classrooms were also relayed. Participants also indicated how they perceived their success on the assignment.

A couple of participants discussed recognizing their own biases when researching. For example, Carol communicated, “I mean, we're looking for just pros instead of looking on both sides of the argument when I was doing my research, so that's also what I learned about myself.” She added later, “I did learn that I do better research when I don't already have a preconceived idea on the topic.” Similarly, Sally, “...realized... I'm really not focusing on the other side of

things. I was kind of being biased.” Therefore, she used “a variety of points of view on the subject matter. I tried to look at many different perspectives...”

Meg discussed that she “learned that I do a lot better with tangible experiences.” For example, she explained, “I could hear my mom talk forever about what her life was like growing up.” She went on to say, “and then I loved watching videos or reading different articles that people wrote about their own experiences.” However, she mentioned, “when it was straight research articles packed with statistics, I found it interesting, but obviously took a lot more focus. But I think I didn't know that about myself.”

Others expressed how being interested in their topic kept them engaged. For example, Carrie recalled:

And then what I learned about me as a learner as I was really interested in the topic actually, once I started researching it, and so then I found it hard to find a stopping point. I kept thinking should I keep going? Diving more into it? Because I wasn't sure. Like when I had found enough information, and I think that's just because I was actually interested in what I was learning because if I was doing something boring that I didn't care about, then I probably wouldn't have wanted to keep looking into it.

Likewise, Anne chose responsive teaching and learned:

It's really important to check in with ourselves and constantly want to be learning about ourselves and just acknowledging what's going on inside and be willing to learn to improve on ourselves and the whole self-reflection aspect. And awareness is what we strive for every day. So, motivating ourselves and learning about ourselves helps us learn, which is like, kind of interesting.

In the same manner, Sally realized, "I learned a lot about a bunch of other topics because I was actually interested." Rachel felt that when she was "able to find something that applied to more of my interest" which made *Pink Time* "more enjoyable." Shea talked about reading an article that interested her, "I was actually interested in the topic, and the information I got from it would be put to use in the future and for the betterment of my students."

Blake found her topic interesting since it related to her future career goals, "During like doing this, I was definitely extremely interested because, like, this is literally what I want to do I want to I mean, my goal is to teach for three years and then do this [becoming a principal]."

The assignment also reaffirmed what the pre-service teachers knew about themselves. Maria noted in her interview, "So it was just a reminder of things I already know that I have to have very explicit prods in the butt to actually get me to do anything." However, during the first group discussion, she "realized...that I am always more likely to participate if there's a creative aspect." She went on to say that, "I guess I was successful because it got me thinking about it [motivation]." Marsha asserted, "I learned again that I like watching videos and doing visual things even like talking on the phone with (a family member) versus staring at a screen and reading something." In a like manner, Meg had researched online learning. She came to "realize why I was zoning out while trying to do this. I learned that I cannot stare at a computer screen for 12 hours a day, which is what we all just ended up doing nowadays, which is fine."

Others discussed the ability to apply their learning in the classroom. For example, Sally determined the motivation she felt when she could implement what she learned from researching her topic: "... and I was more motivated to do it because I could apply what I learned to the classroom." Mary also commented on the fact she could implement her new knowledge to support her current students, "So it was really cool to see the different things that I could do even

as a student intern to like, help those students.” Likewise, Marianne delved into the topic of the inclusion of special education in general education classrooms. She stated:

But as a learner, well, actually, I'll tie it into my classroom real quick. I found that it's very true in my classroom. Just from personal experience, I spend a lot of time with my students individually, talking to them about how they're feeling about work and trying to help them in any way that they can.

Paula was also able to apply her new knowledge. She learned about how music could support student learning and then practiced on herself:

And then also I tested it on myself. I found that it was harder to focus when the music was fast and especially if there were lyrics and stuff going on, because I kept getting distracted by the song compared to if it were just slow or soft instrumental music.

Not everyone agreed with the open-ended assignment. Theresa did not feel the student-directed task supported her learning:

... and like that's your job [to learn in college] has opened my eyes to being the teacher-directed stuff, because I very much need structure slash guidance, more than just doing it myself.

Patricia learned that she is:

... terrible at retaining information because I just read all of that straight from my notes after three weeks. And I learned that I need to take better notes because I get really into clicking different links and looking at things, but I don't actually write down what I'm learning.

In addition to learning about themselves, participants learned about their classmates. The assignment provided class members the opportunity to share their topic and interact in a

discussion after the sharing. For example, Charlie articulated, "... it [*Pink Time*] just brought a lot of individuality. I got to see like [what] everyone else was really interested in which was awesome." Sally remarked, "I just feel like I learned so much about everyone a little bit." Mary commented on how they all had different ways of learning:

I thought it was interesting that Marsha said she really liked watching videos, and I was like, 'Oh, I don't really like watching videos.' So, we all have different styles of learning. So, I just thought that was really cool.

Pre-service teachers learned about different ideas that could be useful in their future classrooms. In the class discussion, Mary "took a few little jottings of when people talked about the classroom library...I was like, 'Oh, wow, people are really on top of their game.' So maybe I need to write this down." In her interview, she also mentioned how she had not thought about the idea of a classroom library:

Someone brought up classroom libraries. And it was something I never thought about before. And I was like, 'Wow, I should be more aware of this because I need to build my own in eight months.'

Additionally, Barbara commented that "if we really are interested, it gave us some background knowledge, and we can go and find out more about it ourselves." Mary generalized the ideas she gathered, "I obviously, as a future educator, I love getting ideas to better my future classroom... So, I just liked how it was about something that I could use in my future."

Participants discussed how they knew they were successful on the assignment by setting expectations and goals for themselves. Marsha said, "I guess first, having personal expectations. I told myself to at least probably write a page about something I researched." Setting goals also supported her motivation to complete the assignment, "Also to motivate myself to make sure that



I was doing enough.” Similarly, Charlie established that “my goal was to learn at least one thing new that I didn't know before.” Moreover, twelve participants noted on the open-ended questions, they felt successful because they learned something new.

Anne identified being successful if she had completed the assignment requirements, “I think I measure success if I could if I first of all if I did it. If I took the time to sit down and did it, which I did. And I was going to be complete with mine. And I knew I had enough information. And like I said at the beginning, I guess the goals for me were like the questions I set myself.” Sally felt successful “by what I learned from others and what I learned about myself from others.”

However, Patricia denoted:

It's also based on your own goals, like what you get out what you put in. So, if you didn't go in with wanting to learn a lot, you're not going to get a lot out of it. But if you go in and put the effort in, you're going to feel a lot better and feel like you deserve the grades you give yourself.

Similarly, Jo suggested setting your own goals may not ensure success:

If you meet your goal, and if your goal is to learn one thing new, then you're successful. But if your goal was to be an expert on this topic, then you will not be successful. So, it just depends on the goal you set.

Participants felt successful with *Pink Time* if they were able to present the topic to others. Charlie said, “And then to find some kind of way to present it to my peers where I didn't have to read off of a slide... so being able to like recall what I had read about at a later date.” Mary also had a similar expectation, “And then if I was able to tell my peers, which I was able to tell them about the topic. Anne discussed her goal, “So, at the beginning, like I said, my goal, obviously,

like everybody wants, I could share the topic with somebody else.” Eight participants wrote in the open-ended questions they felt successful through sharing with their peers.

### **Community Building.**

Participants reported *Pink Time* provides opportunities to increase community building. Group discussions were specifically mentioned as creating a sense of belonging among members of the cohort, and participants also engaged in conversations outside of class based on the assignment. Additionally, the facilitator provided the opportunity to establish a classroom community.

Group discussions reinforced interactions among classmates. For example, fourteen participants commented on the open-ended questions with answers being related to enjoying what their peers discussed. Charlie “thought the interactions were really good because we got to talk to each other about the interesting stuff, and we got to engage.” Similarly, Mary “liked listening to all my peers, especially because they all are going into education. So, a lot of the stuff they had to say I was already interested in.” Sally also “really liked hearing everyone present” and “felt like I got to know people.”

Marsha suggested there was some interaction, “And then during the sharing, I guess we kind of, after we shared when we talked about what we liked, there was a little bit of interaction there.” During the summer group discussion, Riley expressed:

I like how after we did our research, we all were able to share with each other versus just doing it on our own, submitting it, and then never talking about it because I was able to hear what everyone else said and get some new ideas and learn about stuff that I wouldn't have thought of before.

Listening to what others were passionate about creating both engagement and a sense of relatedness to others. Maria described:

When people start talking about things they're passionate about, it's cool to watch them do it. Um, so yeah, mostly, I was just listening and nodding and vibing off the energy they gave, which shows I was up and down as they were up and down."

Mary shared a similar thought when recalling what others had shared:

I think it's really fun watching what people are super interested in. I remember one of them did something about self-defense, which I thought was really cool. I didn't even think of doing something like that. So, I think it's really fun seeing what they're interested in and maybe like, new ideas that I didn't think of. Like another person said something about a school pet. So, hearing just the things that they think of was really cool."

Likewise, Kim mentioned, "...we got to choose something we're passionate about, and then hear what each other, or what everyone else is passionate about. So I think that's a really important thing, too."

Rachel described the passion people displayed:

Personally, I love hearing about things that people are passionate about. So, I have more of a chance to be more attentive and pay attention the whole time, rather than get distracted when it's just like a lecture. So, like, the change in people and like the people are talking about things they care about. You can hear it in their voice, and you can hear it with what they're talking about.

Sally expressed a related idea about passion:

When people are talking about, at least personally, for me, when people are talking about things that are interesting to them or that they're passionate about, it's a lot more interesting to listen to than just like reading about it.

The concept of “cohort” came up several times and led to feelings mentioned by Marianne: “it also has to do with the group that you're doing in front of like, we're all very comfortable with each other. So, we don't have any problem, like talking about what we actually want to talk about to each other. It just feels very natural.” Charlie expressed, “And then, because we're like talking with our peers and stuff, we're all being very respectful and caring.”

In the fall discussion, Riley disclosed, “I think it just makes my heart swell that so many people picked things that they saw happening in their classroom, just like you guys are precious for that.” When asked about what she had said, Riley added, “because they are listening and paying attention to what’s going on, and just being attentive, which is not something like, I don’t feel like any of my elementary teachers knew me...”

Another outcome of the *Pink Time* assignment was the ability to continue to build a community outside of the course. Participants expressed that they learned about others’ similar interests during the *Pink Time* discussion which led to personal conversations. For example, when Sally learned another in the group shared interest in becoming a principal, “...we started texting about it.” Marsha also recalled a similar experience. She shared an interest in American Sign Language, “I remember the first one, Paula did sign language, and I almost did that topic. So, I kind of brought that up. And then we kind of had a little bit of a discussion there on how like a bunch of us had similar ideas...” Maria described the interactions with peers about similar experiences. “Somebody talked about school uniforms. And that just started a whole conversation like us texting in the group chat [during the group discussion], like our

experiences...She just picked something that she cared about, and then we all were able to relate to it. I thought that was really cool.”

Theresa also picked up on the shared learning experience:

[I] Zoomed with another person from our cohort, and we were working on our individual topics separately. But if we saw something interesting, we'd be like, 'Oh my gosh, look what I just learned.' ... I was doing it with Gru, and so she was like, 'Dude, this is so cool.' ... So, I thought it was kind of interesting bouncing off like what I was learning while I was learning it with another person.

The ability to consult with others in the course created a sense of community. As described in the subtheme *Peers*, members of the cohort discussed with one another to understand the assignment. For example, Marsha “would text somebody and just double check to make sure that I wasn't doing it wrong...”

The role of the facilitator also provided an opportunity for community building. Charlie discussed this role in her interview:

You never judged us on how much or how little we talked. You just kept engaging us, and you would provide us with your feedback. It wasn't us just telling everyone. We always knew there was going to be some back, which is really reassuring.

She went on to say:

I noticed that after each one of us would talk, you would be able to find some kind of personal connection that you had or related something else. So just that little feedback on the end really made us feel good. And we had been listened to.

Participants wrote similar responses on the open-ended questions when asked about their impressions of how the instructor showed she cared through the assignment. Eighteen comments

were made about follow-up questions and feedback on presentations and topics. Other comments included how the instructor made connections to *Pink Time* and the learning process, “seemed passionate” and “had a very welcoming presence...”

In comparison, Paula recalled her past experiences with her instructors:

But like, when they [instructors] make you feel like what you're about to do is just this big thing that you need to put a lot of work into it, like you can kind of like sense with, like what you said about expectations and stuff, you kind of match that.

### **Reflection**

A third subtheme, *reflection*, was noted as an essential outcome of *Pink Time*. Since reflection is unique to the learner, the interviews and group discussions allowed participants to discuss their understanding of their learning and how the assignment affected their thinking. For some, the work led to thinking at a deeper level.

Charlie reflected on how she could present in class. She indicated that “...maybe I can work on how I present information because I’m a big talker.” Sally verbalized her understanding of the informal presentations. For the first *Pink Time*, she created a PowerPoint; however, for the second presentation, she realized, “Oh, wait, I don’t have to do that. It’s not that formal.”

The comparison of the two *Pink Time* assignments allowed for an understanding of the process. For example, Marsha recalled:

I like the prompt. At first, I didn’t like the prompt or know that I didn’t like it. But I was like, this is so vague...But now, looking back at it, I liked how it was that vague so you could have the freedom to do whatever.

Similarly, Sally expressed:

And then this time around, I was like, 'Oh, she wants us to think about being motivated and why it was more interesting this time.' So, then I was like, 'Okay.' I was able to think about it more. It made more sense to me.

It also became clear for Mary:

But I understood why it was kind of like that. And I kind of liked it. After we all came together, I was like, why was I even stressed at all. So it's kind of a light bulb moment. Oh, it doesn't have to always be stressful if you're doing it for school.

A couple of participants mentioned how it was hard to stay engaged during the different presentations and discussions. Seven participants commented on the length of presentations and how it was hard to stay engaged. One participant suggested conducting the presentations in smaller groups or break out rooms to facilitate more discussion. Marsha expressed:

But I didn't like listening to other people's..., but I guess it could, I started feeling redundant, once everybody started going. And maybe it wasn't that I didn't like it. It just felt redundant. And I was trying to remain engaged when other people were sharing about their research, but sometimes that can be hard to stay engaged.

Charlie perceived her role was to support her peers:

And maybe there were a couple moments in the discussions, I guess, where you could see the audience was losing interest. So then it was kind of like, okay, what kind of answer can we give to move the conversation along and get everyone back into it.

Others reflected on how they could use Pink Time in their future classrooms. For example, Charlie also articulated, "I think that would be an interesting thing to bring into an elementary classroom. She then noted:

You usually run into that case where a student will say, 'I'm not good at this. I don't know how to do this.' And if you show them if you give them a project where they have a choice, and they can see how they learn. Then going forward, even if you have to give them certain information, they're going to know how they want to learn it, and that learning isn't just being given information. It's making their own meanings from it. And I think that's a very important thing to have in elementary.

Similarly, Riley thought about how the assignment could support her future students' learning process:

It could be a fantastic starter in the classroom. If you just let students choose their own topic and you don't narrow that and then it can start like this classroom dialogue, 'Sometimes the expectations are going to be on you. And you have the choice in that.' And I think that helps learning tremendously when people get to take ownership of their work. And then we're also helping them become better humans, but to better students and better learners, so we'll probably definitely use it.

Others referred to future careers as teachers and how this assignment supported their understanding of their prospective students. Paula commented about her role as a future teacher and how the work provided a positive opportunity to learn:

I definitely feel in the future, if I want to learn about something, I feel I will be more motivated to do it just because of the experience that I had with this. I enjoyed doing it, and I feel like it was successful. I think that in the future, especially as a teacher, if there's something that I want to learn more about, I'll probably be more likely to do it now.

Mary discussed using topics that could support her future learners:



I had a choice in any topic, really, because, like you said, kinda toward education, but really, you could choose anything because you'd be like, 'Oh, I could teach my future kids this.'

Barbara connected *Pink Time* with professional development and how the assignment supported her both now and in the future:

What I learned about myself and in my reflection, I was talking about how it felt like a professional development thing sort of that I got to choose the topic. So, I found that a lot more interesting than I might otherwise. And then I agree with what Carol was saying about how we did have a lot of other assignments this week, and it made it difficult to put a lot of time into this. But I did really enjoy it because I got to choose and because as a future teacher, there's a lot in my head of things that I want to know more about, and I think that this is a good opportunity to be able to sit down with them. Mostly because it ended up being really helpful and beneficial.

Others were able to get a deeper meaning of their learning through the assignment. For example, Theresa discussed her understanding of her knowledge. Her insight led her to her saying:

I guess when I was going through school, I definitely didn't think of myself as being the person in charge of my learning. I think that coming to college and actually kind of becoming like, your sole responsibility is to learn.

Patricia related the assignment to her future job as a teacher. She stated:

Like a year from now, when we're teachers, we're not going to have clear instructions on how we should set up our classroom or how we should teach. So, I think it was a good way to kind of start thinking about what we're going to do when we're put in a situation

where we're the ones in charge. We'll have some guidelines, but there's no one telling us exactly what to do.

Patricia additionally voiced that "... more opportunities like this would be cool because then we can figure out things that we're interested in that we want to learn about and learn how to set those goals for ourselves." Charlie reflected, "Because as a teacher, we can see how we learn. And we can see how our students sometimes learn, but it's good to get that practice of getting the different types of learners."

Others reflected that learning also occurs outside of the classroom walls. During the discussion, Sally surmised:

After hearing everyone just reminded me that we're always learning. There's so much that I didn't know that now, I'm like, 'Oh my gosh, I could totally use that in my classroom.' or 'Oh my gosh, I really hate dress codes.' There's so much even as teachers that like what we teach, we also have to learn to adapt.

Meg, who was in a different group discussion than Sally, made a similar realization after discussing the assignment with her roommate. She said:

And I think I don't know if this was necessarily a question. But I think we all obviously did topics related to education. I don't think that was a specific instruction that we were given, maybe over the seminar we were given. But I live with Jo, who's in the other cohort. And when she was doing her Pink time research, she was like, 'I think I'm gonna learn self-defense.' And I was like, 'Huh?' And then she was like, 'Well, it's educational, right? Like anything's educational. She's like, go make brownies. Write your Pink Time about that. And so, it was just like, I think we all take it. We're also that's how we're

trained is like, they say it's educational school. And so, like, literally everything in life is educational.

Others compared what they learned from *Pink Time* to past schooling experiences and other course assignments. Paula discussed how as a student, she had been taught to do what she was told, "...like the first time, [*Pink Time*], it's just because we're trained to have directions and go with what we're told to do. So, it just feels unnatural sometimes when we have that type of freedom." Meg likewise discussed how the assignment was different, "the way like there was no explicit instruction almost taught us more because I feel like we're also like, taught to the test from schooling." She continued in discussing instructors' expectations:

What's their [instructors'] expectation, and we just keep, like, want to know, we always want to know how you as an instructor, or whoever, as an instructor wants us to do something in order to get that grade. And so, it was just kind of cool. And you're like, 'No, you have free rein.' Not zero expectations. I think it almost pushes us more in a weird way to come up with our own different things.

Maria compared it to passion projects she had completed in the past:

I've done passion projects before where it's like teacher passion. So, people will come in with stuff that they're a genuine like interest of theirs like a hobby. So, I saw that this was kind of a similar assignment, but I was expecting it to be a lot more like a school report and less passionate since there were more parameters that we had to pick. But then I was so surprised when everyone came in today. I was like, 'Hey, here's the thing, and they presented it passionately.'

Patricia discussed being used to following explicit instructions in her school career:

I'm so used to having a checklist of things I need to do, like we were trained to that way from elementary school through undergrad. So, not having clear directions and instructions was a little overwhelming because I was like, I don't know where to start, you know? So, I think more opportunities like this would be cool because then we can figure out things that we're interested in that we want to learn about and learn how to set those goals for ourselves.

In the same manner, Mary thought about her experiences with former instructors:

It is important for us to not always have those strict rules because I think ...growing up I always was like, this is the rubric. This is exactly what you do. And I don't think it really allowed me to like problem-solve as much or just kind of come up with my own idea.

Like I get stressed. I'm like, oh, I want to do it correctly the first time like, I want it to be right, I want to get a good grade on it and set up focusing on what I'm learning. I always am focusing on doing it correctly. So, I think that was like a really good point, just like focusing on learning not doing it correctly, exactly correctly, how they want it.

*Pink Time* reminded Jen of a class she previously took that implemented student-directed learning:

But I had one class where we just weren't given exams and we could kind of like grade ourselves on things. And I realized ...that's one class that I learned the most in because I wasn't so stressed out about grading, and actually, that was a community college class ...And I made a scrapbook, and I had fun with it. And that this just reminded me that without the stress of like the grading and just being a whole like a formal project like you're actually like, more interested in it and then you can like remember it too because I took that class like years ago and I can still remember a lot.

In response to Jen, Meg stated:

It was really interesting how, at first, I was almost it's funny, cuz ...this was one of the first times where it wasn't scary. Not that it was scary, but it's almost more of like a I have no idea because for our entire education, it's been like go home do this here is your [sic] parameters...And so when you're told, like, do whatever you want, you're like, or at least I was very quiet, and, I'm looking at like 10 different things because I couldn't decide. So I think that has a lot that shows a lot of what our education...has been like and also...even in schools when we're allowed to do projects on whatever we want to or like to the topic feel like everyone goes for like the easy topics because if it's what you can low effort easier.

Two other participants compared this assignment to other course assignments in their graduate program. Riley voiced, “some things I remember from last time, I feel like have been more applicable and beneficial than some of the things we spent like four weeks in the summer session talking about...” Charlie expressed similar thoughts:

I feel like a couple of assignments we've done have been like, more regurgitating information, you read it, and maybe you'll try to apply it, but you don't really go to that next level. And I think I'm because there's not like that choice, those assignments seemed more stressful and more like work, and not something I really look forward to.

Two participants discussed how the assignment was more for the researcher than for themselves. Sally stated, “... it was just like, oh, I'll just spend 10 minutes writing this [self-reflection] up and never think about it again. So, I guess that's the only thing. But I think that's more for you than it is for us.” Additionally, five participants answered in the open-ended survey they thought writing the reflection was boring.

Similarly, Maria stated, "...while you say, it's a day off of school, it didn't feel like that to be required to do an extra piece of assignment that's for someone else, not for myself, was hard."

### ***Reactions Toward Pink Time***

The third theme that evolved was *Reactions Toward Pink Time*. The pre-service teachers experienced different reactions to *Pink Time*. Each, to varying degrees, struggled to make sense of the assignment. The resulting emotions included a love of learning, mixed feelings, and getting it right.

#### **Love of Learning**

Participants communicated that the assignment was fun. For example, Marsha remarked, "So I was like, okay, so number two, I was more confident going in and I had I felt like I had more fun with it, because I wasn't as stressed." She went on to add, "And it made it [choosing own topic] more fun because I was more interested." Charlie found the assignment to be relaxing, "overall felt like I wasn't doing work. And it felt very cathartic researching on my own, just because it was something that I wanted to do."

Likewise, Georgia expressed:

I felt like this is the first assignment I've had in the whole summer that wasn't scary. It wasn't super high stakes. It was fun to get to choose what we wanted to talk about. And so, I wish that more, but we still learn so much like, I wish that more assignments in school could be like that where you could take your learning into your own hands. And then if you missed a certain article that had something important, it's not the end of the world.

Danielle added:

When I was looking up articles and papers, usually when I'm assigned a reading I procrastinate a lot, and I don't enjoy it. But like with this because I got to do a topic that I really liked. When I was researching it and reading all about it. I was actually reading every single word and not just skimming through, which I usually do on given assignments.

### **Mixed Emotions**

Participants also conveyed mixed feelings about the assignment. For example, Maria recalled the first *Pink Time* as a positive experience while she resented the second *Pink Time*. Maria asserted that “anything else was put on me, I’m resentful and tired. And I think that that was kind of the overarching mood, especially before being tired from everybody was okay, another thing to do.” However, she also indicated that this mood changed when the time came to present, “but then, when it came to actually the day of presenting, it was the same level of I love this. I love hearing what other people are talking about.” During the discussion, she expressed, “And this was the first thing was like, I can just do whatever I want to do. However, I want to do it. So, this is a little refreshing.”

During the discussion, Joan expressed, “I was odd about it. I don’t want to do this. Like I really did it last minute. And then I ended up enjoying my topic.” She relayed that she “enjoyed hearing about everyone else’s discussions, which kind of pleasantly surprised me.” She also described her attitude toward the assignment. “And I had a positive attitude this time...the first time before, and I was very negative.” In the end, she “figured out that I can enjoy learning if I go in with a positive attitude.”

Sally also described mixed emotions. Her final comments during the interview were, “I surprisingly liked it. Found the biggest shock I was like, this is such a waste of like an hour, both,

at least the first time. The second time was like, wait, this is interesting.” She also had made a note of this during the group discussion, “And this time I like I actually was excited. I was encouraged to start earlier, just because of that reason.”

### **Getting It Right**

Others reacted to feelings of getting the assignment completed correctly. For example, Sally described being cautious, “So, a lot of us were actually like, thinking like, we like I can't say the word. But we're very cautious of how we were going about presenting it.” Marsha discussed “not feeling nervous” for the second *Pink Time* because she was worried if she “did it wrong” in the first *Pink Time*.” This was the same participant who felt the “need to pick the most perfect topic to research.” Likewise, when asked about being successful, Charlie described at first, “I don't know because I'm a perfectionist.” She also explained that she did not want to put in too much time if others were not, “I don't want to give like a 30-minute lecture if everyone's just doing like a couple quick highlights and stuff.”

In the same manner, Meg shared:

What I want to make sure I'm doing it quote-unquote, right? Even though there's no right or wrong, there's that thing still in my brain where it's like come and talk about something that nobody else, which is the point but the formatting and everything was still just like a question in my head.

Patricia brought up:

I think I'm so used to having like a checklist of things I need to do, like we were trained to that way from elementary school through undergrad. So not having clear directions and instructions was a little overwhelming because I was like, I don't know where to start.

In contrast, Marianne explained:



I've learned to take like, especially in this program, I've learned to take things how they are. So, when you give me an assignment, and you say, okay, you have to do this, I'm like, Alright, I have to do that. And that's it. Because I'm not going to take the time to think more into it. So, when you said you have the freedom to do whatever you want, I'm like, Alright, the freedom, let's just wing it. Let's do what I want to do. But I totally understand that, like, why some people might be overwhelmed by that. But I've learned to pick my battles. And this battle, there was no battle to fight. So, I was like, you know what, I can't do it wrong. So, might as well just go for it.

Jo indicated, "the assignment still confused me. So, I went to the website, and it was like, cancel class for a day. Just have students look up a skill. They're interested in something they're passionate about, just anything. So, I was like, 'Oh, I can literally do anything.'"

Blake acknowledged that she "was definitely more into the *Pink Time* last time, just because I was that one super directly related to me because I wanted to know more about being a principal..."

Shea also recalled:

I think at first it was hard because we were all like, what do we do because it was so open and especially with what we've been doing this whole summer. We're like, wait [*sic*] is an assignment like what do we have to do for it?

### **Quantitative Analysis**

In addition to qualitative analysis, quantitative data were collected and analyzed using MMI to answer the research question *How do pre-service teachers describe their motivation-related perceptions and reactions to Pink Time?*

Following the steps outlined in Chapter Three, I narrowed the sample to 21. Twenty-five participants agreed to take the survey. However, four participants did not complete the survey which led to the elimination of those surveys.

Next, I analyzed the data using SPSS for each set of questions that make up the five MUSIC components: *Empowerment*, *Usefulness*, *Success*, *Interest*, and *Caring*. I calculated the mean, standard deviation, and range for each question. I then transformed each of the five variables by using the questions to create the new variables: *Empowerment*, *Usefulness*, *Success*, *Interest*, and *Caring*. Last, I computed the mean, standard deviation, minimum and maximum for each of the five components.

Table 13 shows the overall scores for each of the MMI scales. The five scale scores were all very high, ranging from 4.96 to 5.70. The empowerment scales showed the highest scores and the interest scales were the lowest.

**Table 13**

*MUSIC Model Inventory Scores for Pink Time*

	N	Mean	SD	Minimum	Maximum
Empowerment	21	5.70	.377	5.00	6.00
Usefulness	21	5.43	.492	4.40	6.00
Success	21	5.63	.367	5.00	6.00
Interest	21	4.96	.653	3.67	6.00
Caring	21	5.46	.456	4.50	6.00

### Topic Analysis

Topics were an observable reaction to the *Pink Time* assignment. To address the second part of the research question, I analyzed the topics that participants chose to learn. As I labeled

the pre-service teachers' topics, I noticed a commonality of social-emotional learning topics. I started analyzing the topics for patterns and then developed eight different educational categories from the topics the pre-service teachers had presented: *social-emotional support*, *state/district educational policies*, *instructional strategies*, *classroom environment*, *academic content*, *technology*, *assessment*, and *instructional leadership*.

I defined *social-emotional support* as issues related to supporting students and adults with emotional well-being and cognitive functioning. *State/district educational policies* were determined by school or district level decisions concerning the implementation of different concepts and programs. *Instructional strategies* were identified by teachers' ability to implement a particular method to support student learning and achievement. The *classroom environment* was defined by teachers' ability to create a specific type of classroom atmosphere. *Academic content* was classified as specific learning topics. *Technology* was identified as the utilization of computers in learning. *Assessment* was characterized by determining a students' understanding of a subject based on a formative or summative assessment. *Instructional leadership* represented topics related to educational administration. Tables 19 and 20 shows a breakdown of the categories and topics that the pre-service teachers presented during the discussions.

The 16 topics in the social-emotional support category included research for both students and pre-service teachers. For example, topics related to children included children's socio-emotional development, responsive teaching, trauma-informed teaching, and addressing grief in children. Topics that focused on adults included recognizing and acknowledging stress, stress relief/productivity, and self-efficacy. Sixteen topics presented were related to state/district educational policies. Concepts presented included bilingual education, charter schools, and year-round school. Three participants additionally focused on inclusive education. Another

category, *instructional strategies*, included seven topics. Some examples include personalized learning, use of group work, differentiation, and project-based learning. The *classroom environment* category had six different topics. Within this category, different participants chose the same topics: classroom libraries and flexible seating. Others included the pros and cons of having a class pet and average class sizes. *Academic content* included five items related to teaching American Sign Language, math, foreign languages, and self-defense. The two *Technology* topics included online learning and screen time for children. *Assessment* and *instructional leadership* each had one topic, Phonological Awareness Literacy Assessment (PALS) and what is needed to become a principal, respectively.

**Table 19**

*Topic Categories*

Category	Number of topics
Social-emotional support	16
State/district Educational Policies	16
Instructional Strategies	7
Classroom Environment	6
Content	5
Technology	2
Educational Assessment	1
Instructional Leadership	1

**Table 20***Categories and Pink Time Iterations*

Category	First Pink Time	Second Pink Time
<i>Social-emotional support</i>	Importance and benefits of incorporating yoga, and just overall like mindfulness into the classroom	Frustration in the classroom ADHD
	Trauma-informed teaching	Stress relief/productivity
	Behavior management (2)	Self- efficacy in teachers
	Recognizing and acknowledging stress	Addressing grief in children
	Responsive teaching	Incarceration of students' parents
	Children's socio-emotional development	
	Supporting students when peers move away from their school	
	Trauma in the classroom	
<i>State/District Policies</i>	Color psychology in classrooms	
	Average class sizes and the benefits and disadvantages of big or small class sizes in different	Year-round school
	Inclusive classroom	Bilingual education
	School uniforms	½ day Kindergarten vs. full-day Kindergarten
	Comparing different school systems around the world	Charter schools
	Personalized Learning	Inclusive environment (2)
	Open classroom concept	Common Core
School dress code	Equity in Rural Settings Homework	

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<i>Instructional Strategies</i>	Project-based learning	Group work
	Benefits of using songs to teach	Classroom greetings
	Benefits to adding cooking or baking to curriculum	Drop Everything And Read (DEAR)
	Flexible seating	
<i>Classroom Environment</i>	Designing classrooms to maximize student achievement	Flexible seating/traditional seating (2)
		Class pets
		Classroom library (2)
<i>Content</i>	Cursive writing	Self-defense
	American Sign Language	
	Teaching foreign languages in elementary schools in America, and the importance behind that.	
	Gender differences in mathematics development	
<i>Technology</i>		Virtual/online learning
		Screen time for children
<i>Educational Assessment</i>		PALs Testing
<i>Instructional Leadership</i>	How to become a principal	

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### Summary

This study shows a multiple method approach supports comprehensive understanding of pre-service teachers' perceptions of motivation of *Pink Time*. I developed themes from the five interviews that participants further supported in the four group discussions. Themes included *Influencers of Pink Time*, *Outcomes of Pink Time*, and *Reactions Toward Pink Time* and came from codes developed from the interviews which were supported by the four group discussions. The themes represented the pre-service teachers' perceptions of motivation related to the *Pink Time* assignment. Stress, peers, personal choices, and external factors influenced participants. These factors influenced topic choices as well as the amount of time and effort devoted to *Pink Time*. Outcomes of *Pink Time* also related to how the pre-service teachers viewed the assignment which supported learning and understanding of themselves and others. The engagement that came with hearing others' passion and conversations elicited because of *Pink Time* contributed to community building. Participants were engaged in self-reflection that provided opportunities for critical thinking and a deeper understanding of learning in their classrooms.

Quantitative data was utilized to understand the pre-service teachers' perceptions of motivation in *Pink Time*. Participants completed the MMI upon completion of two *Pink Time* assignments. The MMI data analysis resulted in the following scale score means: *Empowerment* (M=5.70, SD=.377), *Usefulness* (M=5.43, SD=.492), *Success* (M=5.63, SD=.367), *Interest* (M=4.96, SD=.653), and *Caring* (M=5.46, SD=.456).

I also analyzed the participants' topic choices. This resulted in eight different categories. The top three categories included *social-emotional support*, *state/district educational policies*, and *instructional strategies*, and in which the pre-service teachers chose to learn about their *Pink Time* assignment.

Findings from this study suggest that Pink Time can be an effective assignment to support motivation in pre-service teachers particularly in terms of empowerment, usefulness, success, interest, and caring.

In Chapter 5, I will describe how the findings align with Self-Determination Theory and The MUSIC Model of Academic Motivation and situate the findings of this study in the existing research literature on motivation utilizing. I will also address motivation and active learning in TPPs and in the PK-12 setting and recommendations for using Pink Time.



## Chapter Five

### Discussion

Active learning is an essential instructional strategy that must be implemented within Teacher Preparation Programs (TPPs). One particular assignment, *Pink Time*, is an active learning assignment that has been shown to facilitate autonomy and motivation among learners. Specifically, *Pink Time* is designed to provide students direct experiences with factors that contribute to motivation such as *empowerment* (by choosing a topic), *usefulness* (to learn about something with the potential to inform professional practice), *success* (the learner chooses their topic), and *interest* (the nature of the topic has personal relevance). Facilitated discussion among instructors and students based on shared experiences with the assignment fostered a *caring* community essential for deep learning.

The study's purpose was to understand pre-service teachers' motivation-related perceptions of the *Pink Time* assignment. *Pink Time* is an assignment designed to promote motivation and deeper understanding of learning among students. While there is some literature on the efficacy of this assignment (Baird et al., 2015; Baird et al., 2020), no studies have addressed a single cohort of graduate students who participated in the assignment multiple times. Importantly, no previous studies address the use of this assignment in the context of preparing future teachers who are arguably a group that would benefit from novel approaches to learning processes. Prior literature focused on undergraduate students' experiences with self-regulated learning and academic motivation (Baird et al., 2015). In a follow-up study (Baird et al., 2020), both graduate and undergraduate students' experiences with *Pink Time* were examined, including their perceptions of self-regulated learning.

Other research studies have focused on a range of instructional methods such as portfolios, peer assessment, and course design to support pre-service teachers' motivation through autonomy, competence, and relatedness (Chye et al., 2012; Delandshere & Arens, 2003; Denney et al., 2012; Mentzer, 2017; Parker et al., 2019). Additionally, studies using the MUSIC Model have broadly explored university students' perceptions of motivation (Jones et al., 2019; Pace et al., 2016; Lee et al., 2013).

The current study contributes to the literature on motivation, the MUSIC Model, active learning in general, and specifically the use of *Pink Time*. By focusing on one instructional assignment, this study examined how pre-service teachers experience an assignment designed to foster motivation particularly in terms of its ability to influence autonomy, competence, and relatedness.

In this study, I utilized a combination of qualitative and quantitative methods to examine how pre-service teachers describe their motivation-related perceptions of *Pink Time*. Namely, I collected data through an established instrument, the MMI, which provided a way to quantify pre-service teachers' perceptions. Additional data were collected through individual interviews, group discussions, and responses to the open-ended survey items to understand both perceptions and reactions of the pre-service teachers. This multi-method approach provided insight to pre-service teachers' lived experiences during the assignment.

Twenty-one participants from a single education graduate program completed survey instruments, and five were interviewed for the study. The MMI was administered and scored after the second *Pink Time* assignment. Audio recordings of the interviews were transcribed by the researcher and patterns in the data were identified through an open-coding process (Marshall & Rossman, 2016). Codes were grouped into categories and themes were developed to describe

collective student perceptions. Classroom discussions and open-ended survey questions were analyzed to support the themes.

### **Discussion of Findings**

The MMI results, interviews, group discussions, and open-ended survey questions informed the findings. Three themes emerged from the data: *influencers of motivation*, *outcomes of Pink Time*, and *reactions toward Pink Time*. What follows is a discussion of these themes and related findings from the MMI. These results showed that *Pink Time* is a valuable active learning assignment that supports pre-service teachers' perceptions of motivation in empowerment, usefulness, success, interest, and caring.

#### **Theme One: Influencers of Motivation**

The first theme, *influencers of motivation*, consisted of personal choice, peers, stress, and external factors. These categories influenced participants' understanding of educational topics, the desire to pursue learning, and how to pursue learning. Topic choice, amount of effort, when to do the assignment, and grading were specific factors that drove their motivation.

The very nature of the instructions for the *Pink Time* assignment provides an opportunity for learners to choose a learning topic and how they will approach it. Empowerment is defined, in part, as an individual's ability to control their learning (Jones, 2020). In this study, empowerment was notably the highest score on the inventory,  $M=5.70$ ,  $SD= .377$ . This is not surprising because other studies on *Pink Time* found similar results (Baird et al., 2020 and Baird et al., 2015). Given that students are given wide latitude to identify a topic, most embraced the opportunity to learn more about something that excites them. These scores are consistent with participants' thoughts during the interviews and discussions. Participants relayed their freedom of choice in topics, the amount of effort to put into the assignment, and the method of learning. The

findings related to freedom of choice are consistent with previous studies on autonomy and motivation (Gustavsson, et al., 2016; Kaplan & Madjar, 2017; Reeve, 2006). In autonomous classrooms, learners have been found to demonstrate higher levels of motivation than more teacher-directed environments.

Peers had significant influence through interactions inside and outside of the classroom. Several pre-service teachers reported ongoing discussions with peers about the assignment. This group asked for help, clarification and “checking” topic ideas or effort levels. The novelty of the assignment prompted students to reach out for confirmation about how much effort was appropriate as they were planning their work. This part of the assignment also allowed participants to interact with their peers to support professional development and knowledge. Some participants discussed what topics they would like to learn while others needed reassurance on how to present. Using peers for support created a relatedness between the cohort members through shared commonalities and “acceptable” submissions.

Stress was a prevailing force for many students and seemed to have influenced perceptions of interest. This is first evident in participants' lower perception of interest on the MMI ( $M=4.96$ ,  $SD= 0.653$ ) compared to the other components. This data is different from Baird et al. (2020) who denoted curiosity as high for *Pink Time*. Three items ranged from a minimum of 3 and a maximum of 6: 1) *This coursework held my attention.* 2) *The instructional methods engaged me in the coursework.* 3) *I enjoyed completing the coursework.* Although the interest score on the MMI was the lowest score, it does not necessarily mean participants were not interested in *Pink Time* as interest may have been mitigated by exposure to stress. Specifically, participants acknowledged stress because of other classes, workload, and timing of the assignment. These “normal” stressors may have been exacerbated by the courses occurring

during a global pandemic. In spite of the extraordinary global events that could have caused stress to the pre-service teachers, these findings are closely related to Shekhar et al.'s (2020) results which show various negative responses to active learning assignments including time constraints and workload. It has been found that stress can negatively affect academic performance (Jones, 2018; Pascoe et al., 2020). If participants felt stressed based on academic performance, their engagement in the assignment could have been low (Pascoe et al. 2020) which could have impacted interest in *Pink Time*.

The lack of explicit instructions and an unclear understanding of the assignment may have also contributed to lower interest levels. Researchers have cited the importance of explaining the active learning assignment to increase awareness of the reasoning behind active learning (Tharayil et al., 2018). Suggestions for engaging in *Pink Time* are intentionally vague; in this case, the only instructions were for pre-service teachers to choose a topic related to education, learn about it, and write a one-page reflection about what was learned from the project and what was learned about themselves as a learner. The purpose of the vague instructions is to create a student-directed assignment. Taking control of their learning, including how to learn and what to learn, was different from past schooling experiences of this cohort which caused frustration for some learners and lower levels of interest. Although some participants noted initial frustration with the student-directed assignment, they all engaged in learning as observed through their participation in them presenting and discussing their assignments. This demonstrates that learning can still occur without being teacher driven.

Grades were an external factor discussed by the participants and may have influenced the perception of interest. Pre-service teachers assigned themselves a grade, and instructors did not have a role in grading the assignment. The self-grading practice aligns with Tharayil and

colleagues (2018) who observed that in supporting student participation in active learning assignments, many of the instructors in the study did not use direct grading.

Participants noted that other assignments had greater point values and were due close to the *Pink Time* assignment; therefore, those assignments were deemed a priority. On the other hand, other pre-service teachers believed that *Pink Time* was not graded or did not “trust” self-grading. These findings were consistent with Baird et al. (2015). In contrast, Lynam and Cachia (2018) found university students reported that self-assessments supported their learning process. One participant referred to having difficulty with the self-assessment since she never had self-assessed before. Another participant made a connection with her passion project from community college and mentioned that because there was no grade, she remembered her project very clearly. In the present study, participants did not refer to how the self-grading supported their awareness of individual learning. The lack of connection between learning and grading speaks to the education system where the focus is on the grade. Participants commented on the lack of motivation due to the “ungraded” or self-graded nature of the assignment. Pertinent in both PK-12 and teacher education settings is the focus on learning. If TPPs focus on learning rather than grades, new teachers can begin to change the system through assignments and beliefs about how the learning process and learning are more important than the grade.

Interestingly, pre-service teachers also reported that previous school experiences led to feelings of being “overwhelmed” and contributed to their levels of stress. The lack of clear directions for *Pink Time* led to pre-service teachers situating this component of the assignment in past education experiences. Students reflected on these past experiences to make sense of *Pink Time*. For example, students recognized that teachers and professors typically teach to the test and most assignments gave specific directions to follow without options to be creative.

Despite the assignment's ambiguity and the sense of being overwhelmed, pre-service teachers showed high perceptions of *success* ( $M=5.63$ ,  $SD=.367$ ). These findings run counter to previous research in which competence was significantly lower in an online setting than face-to-face (Filak & Nicolin, 2018), yet consistent with the findings of Jones (2010) in which students reported similar scores on the success scale for online and face-to-face courses. This study is unique in that participants came from a single cohort of graduate students who experienced a common curriculum. This may have contributed to students' sense of success because they were part of a professional preparation program. Delivery mode, online, may not have as large an impact as on other programs or degree levels. Success then comes from a narrowed focus on specific content knowledge and experiences that contribute to career preparation. This may have contributed to pre-service teachers' perceptions of success because as graduate students they had elevated self-efficacy: they researched topics directly related to their chosen profession, set goals for themselves, and taught their peers without reservation. When combined, this approach to the assignment led to a higher perception level of success which led to learning occurring in many different ways.

### **Theme Two: Outcomes of Pink Time**

The second theme that emerged was *outcomes of Pink Time*. Despite feeling stressed and overwhelmed, as noted in the first theme, participants who completed the assignment reported new experiences and insights with engagement in learning. Previously, researchers have pointed to cognitive dissonance as important to learning (Cooper, 2011). While pre-service teachers reported notable stress, they also indicated important learning taking place during *Pink Time*. Specific sub themes found here--cognition/learning, community building, reflection--further illustrate where the assignment may contribute to various dimensions of learning.

### ***Cognition/Learning***

*Pink Time* was created to support the learning process and to be an experience that allows students to understand how humans learn differently. Participants made connections to *what* they learned and *how* they learned through the assignment. The latitude given to pre-service teachers in selecting and performing learning tasks often results in wide-ranging yet personalized learning experiences. One participant noted she learned by watching videos while another noted she does better with structure from a teacher-directed assignment. Another pre-service teacher realized that, due to her interest in the subject, she read more thoroughly and did not skim. The pre-service teachers also observed how interesting it was to explore their own interests, likely rooted in past experiences but in anticipation of how they could use what they learned in the future ones, was evidence of the assignment's efficacy. Coupled with deeper awareness of unique ways of learning, the assignment showed pre-service teachers how this type of assignment could support their own students. In some ways, the assignment served as a professional development experience because there were tangible connections to the pre-service teachers' work and careers. Participants discussed how they researched a topic with one perspective and became aware of their biases. They found themselves researching their subject from different perspectives. For example, one participant said, "I'm really not focusing on the other side of things. I was kind of being bias...Okay, I'm gonna look and try to find things that were on the other side of it." This "self-awareness" during the learning process is consistent with similar findings by Baird et al. (2015).

One central outcome of TPPs has been the development of teachers who are independent and think critically about their work. This is one attribute of so-called "master-teachers" who have been identified by researchers (Darling-Hammond et al., 2019; Toy & Ok, 2012).



Pre-service teachers noted that past schooling experiences did not always provide problem-solving opportunities that hone these skills. They recognized and appreciated the opportunity to learn about professional interests and gained important insight into how they learned through *Pink Time*. These skills may likely transcend the graduate program to their first teaching positions.

Comments such as being “trained” in school and “taught to the test” gives insight into how the education system has been established. Teaching the learning process and providing time for pre-service teachers to explore and learn about their interests and themselves would benefit teacher preparation programs. While pre-service teachers discover their own learning process, *Pink Time* may lead to deeper understanding of PK-12 students' learning processes by forging a tightly coupled connection between theory and practice. Importantly, *Pink Time* provides a new tool for teachers to explore active learning strategies such as student-directed learning that result in earlier exposure to content knowledge *and* awareness of cognition. This is important as teaching young learners about the learning process is notably absent in PK-12 education.

Although most chose subjects specifically related to teaching and learning, one participant acknowledged that “literally everything in life is educational.” This comment is one underlying reason to implement *Pink Time*. The assignment allows learners to think outside the box in terms of learning and, perhaps, realize learning takes place everywhere. During the interviews and discussions, participants routinely acknowledged ways they could use what they learned for their future careers in education.

The MMI's overall *Usefulness* score (M=5.43 SD .492) points to this consideration. Participants scored two statements on the inventory with a broader range—*In general, the*

*coursework was useful to me*—with a range from 3 to 6. The other statement, *The coursework was beneficial to me*, ranged from 1 to 6. These findings indicate that some students did not find Pink Time very useful because they disagreed with these statements (1 = *strongly disagree*). Some participants noted that because the assignment was self-graded, it was not useful. Others were not interested in some topics that were presented and felt the discussion was redundant at times. These findings are in line with Deslauriers and colleagues (2019) who found that university students perceived an increase in learning during passive lectures compared to learning in active learning conditions. Researchers found that students in teacher education programs who had lower levels of professional experiences needed more scaffolding to make decisions based on synthesizing knowledge (Chernikova et al., 2019). Some pre-service teachers in this current study may have needed more guidance with making connections between topics learned during *Pink Time* and how they could be useful in the future. This theory-to-practice conundrum has notoriously plagued TPPs: thus, programs would benefit from increasing the relevance of learning theory in the classroom.

During the class discussions and interviews, participants provided examples of how they could use what they learned about their chosen topics through the assignment. For instance, one participant aspired to become a principal and used the assignment to understand the process of becoming a principal. Another practiced listening to different types of music while studying to test what she had learned. Participants also commented on using different topics discussed by others during *Pink Time* in their future careers including books for their class library, flexible seating, and yoga. The assignment facilitated a stronger learning community among pre-service teachers not only through shared experience, but also through sharing what they learned with like-minded classmates. Pre-service teachers were cognizant of the newly learned content and

how they contributed to their own and their classmates' learning, and the future impact this would have on their own students.

Besides useful topics, participants were cognizant of the usefulness of the assignment as a whole. For example, one pre-service teacher spoke about not having clear directions being similar to teaching. She remarked, "I think it [the *Pink Time* assignment] was a good way to kind of start thinking about what we're going to do when we're put in a situation where we're the ones in charge." Another made the connection that *Pink Time* was a form of professional development. Making these ties to areas outside of the course showed that participants were able to understand the assignment as key to engaging in a deeper level of learning. These findings were similar to Baird et al. (2015) where students connected learning with other courses and had the opportunity to generalize their learning to other areas (Darling-Hammond et al, 2006a; Parker, 2019). As these pre-service teachers continue in the education field, they understand they are in charge of their learning and how it will impact what they do in their classrooms. All of the pre-service teachers recognized the responsibility of educators and recognized no one would provide explicit directions on how to implement lessons. This made the cohort practice decision-making skills through the *Pink Time* assignment which may help to produce confident and decisive teachers if they are placed in a supportive environment.

### ***Community Building***

Both SDT and MUSIC Model focus on the importance of quality relationships with others: SDT through relatedness and caring in the MUSIC Model. Caring scores on the MMI (M= 5.46 SD=.456) were indicative of the fact that students felt cared for during the *Pink Time* assignment.

Pre-service teachers reported a sense of community which was demonstrated through learning *about* peers and comfort level within the group. Peers also engaged in learning *from* one another. The relationship with the instructor, in this case also the researcher, during discussions led to community building through feedback and the sharing of personal experiences.

Participants commented on the enjoyment of learning about their peers by observing one another's interests and passions. Pre-service teachers felt comfortable sharing their new knowledge and contacting others outside of class to discuss the assignment which facilitated stronger relationships between peers in the cohort. This is among the most important findings of this study because participants were exclusively online due to the global COVID-19 pandemic. These findings are similar to those in the Jones (2010) study, but differ from Filak and Nicolini's (2018) research where students demonstrated significantly lower levels of relatedness in virtual settings than in face-to-face settings. Pre-service teachers in this study were in a cohort program and had developed relationships which may have led to higher levels of caring. *Pink Time* also encouraged interactions and relationship building through discussions. For example, peers were able to learn about shared interests and similarities, and engaged in conversations outside class. Participants also initiated side conversations in group texts during the *Pink Time* discussion. These actions contribute to a classroom environment which is arguably facilitated by the participants themselves and promotes peer learning and supports motivation to learn (Velayutham & Aldridge, 2013). *Pink Time* is one approach that facilitates such learning environments.

*Pink Time*'s class discussion clearly supported the class community through a unique path by listening to and learning from peers. Some participants took notes on what others presented and learned about topics they had not previously considered. This component aligns with recent

findings of the importance of class discussions in sharing personal and professional experiences (Berry, 2019) as social presence positively influences motivation (Geng et al., 2019). Participants acknowledged the ability to engage and listen to one another despite the presentations and discussions being conducted via a virtual platform. Although attrition rates in the virtual classroom are higher than traditional face to face courses (Bawa, 2016; Jagger & Bailey, 2010), *Pink Time* may increase perceptions of motivation and keep students engaged in virtual environments since it is a personal experience that can easily relate to professional learning.

*Pink Time* is a student-directed assignment in which the instructor facilitated discussions rather than gave lectures. This assignment puts the instructor intentionally in the background. Since the instructor's role is more of a facilitator, perceptions of caring may have been scored low because the instructor may not have given clear examples of the assignment, specified explicit directions, nor graded the assignment. All of which were intentional elements to support a student-directed approach. Areas that showed lower scores were (1) *The instructor was available to answer my questions about the coursework.* (2) *The instructor was willing to assist me if I needed help with the coursework.* Participants referred to the instructor's role as minimal, and because the pre-service teachers had full control, other participants felt pushed to do more. However, participants acknowledged the instructor demonstrated she cared when they answered the open-ended survey items. Some pre-service teachers commented on how the instructor engaged in active listening during the discussions as demonstrated by feedback, questions, and vignettes related to topics. Through these actions, the instructor helped to create an environment conducive to supporting learners. Participants' comments on the MMI clearly indicated they perceived the instructor cared. This finding closely aligns with findings from other researchers that students demonstrate more active learning engagement when they trust their instructors

(Cavanagh et al., 2018). Pre-service teachers in this study demonstrated this trust in their instructor by participating and learning as observed through discussions and interviews although some may have felt reluctant at the beginning due to the lack of clarity for the assignment.

The caring scale of the MMI used in this study focused on the instructor and did not consider the role peers play in teaching and learning. Peer-led instruction is one way to support an increase in cognitive knowledge (Zha et al., 2019), and *Pink Time* discussions elicited group interactions, increased knowledge, and supported the cohort dynamics. This was evident in participants' comments about being comfortable with the group as they shared and learned from one another. Future studies should focus on the role students play in educating classmates.

### ***Reflection***

Another outcome of *Pink Time* was related to how participants reflect on the learning experience intended by the assignment. Reflection is when learners think about performance relative to the learning experience and beliefs about one's actions (Zimmerman, 2002). Reflection allows individuals to examine their own learning behaviors in order to consolidate acquired knowledge (Zimmerman, 2002). Through the *Pink Time* assignment, most participants reflected the aims identified by Zimmerman, but only at a surface level. In fact, some participants struggled with reflecting on their experiences. Specifically, participants compared the two assignments and addressed how they were unsure of the assignment at first. By the second assignment, they knew the expectations and felt "more sure" of themselves. Thus, practice with the assignments supported pre-service teachers' feeling of competence and success.

Other pre-service teachers reflected in deeper ways about the meaning of the assignment. One participant had not considered that she was in control over her learning until she attended college. Another connected the assignment to learning how to be a teacher. Participants

acknowledged that when teaching, they will not have clear directions on how to implement topics.

Pre-service teachers also discussed writing their reflection paper. One participant mentioned that she did it for the researcher rather than for herself. Others believed that the reflection was a waste of time. This reaction may be due to the fact the researcher or instructors did not give feedback on the written reflection. Instructor feedback is important in supporting learner motivation (Jones, 2018).

### **Theme Three: *Reactions Toward Pink Time***

Learners' have a range of responses to active learning assignments (Shekhar et al., 2020), and positive student reactions to active learning include "enjoyment" and "satisfaction" (Nguyen et al., 2016; Shekhar et al.). Conversely, negative responses to active learning and how instructors can mitigate those responses have also been observed. (Finelli et al., 2018; Shekhar et al., 2019; Shekhar et al., 2020). *Pink Time* was designed to disrupt traditional assignments, approaches to learning, and rewards for learning with the expectation that participants would have different reactions to the assignment.

Participants in the study exhibited a range of *reactions toward Pink Time*. These reactions included a love of learning, mixed and evolving emotions, and a desire to "get it right." Some participants described the assignment as "interesting" and "fun." Others reacted negatively at first and (after completion) found that they enjoyed the assignment. A number of pre-service teachers discussed feelings of having to get the assignment correct although there was no "correct" way to do it. I have participated in and facilitated several *Pink Time* assignments and informally observed similar responses in both peers and students.

Love of learning was seen through several different examples. Some discussed the excitement of being able to choose the topic. This freedom of choice is not a part of most educational practices even when student-centered learning is purported. Some participants talked about the joy of choosing their topic and how “cathartic” it was to learn something that was of interest. The *Pink Time* assignment is one that allows the learner to choose a topic of consequence. The assignment is one that holds meaning for the participant and might not be understood by or hold meaning for others. The opportunity to have time to learn about something that interests the individual participants creates a sense of ownership in learning because students often choose a topic they are passionate about which drives their motivation to learn. This is a key function of the *Pink Time* assignment.

Some participants described having mixed reactions to *Pink Time*. They discussed pushing the assignment aside, being overwhelmed, and having feelings of resentment towards it. However, when they focused on *Pink Time*, they ultimately enjoyed what they were doing and put more effort into learning. These participants described how their negative feelings dissipated when listening to their peers. These reactions align with the need for competence and having an appropriate challenge level for learning (Deci et al., 1991). These groups of participants were at first challenged by the assignment’s ambiguity or by not knowing what topic to choose. However, once they decided on a topic and delved deeper into learning about something of interest, participants found the assignment enjoyable if not a meaningful learning experience. Although at the beginning of the assignment pre-service teachers felt frustrated, they were able to overcome the challenge and engage. This supports motivation to learn through both the concept of challenge and interest of the assignment.



Another reaction among pre-service teachers to the assignment was a sense that there was a correct way to do it and the need to get it right. A sense that failure was possible seemed to overshadow the positive aspects of the assignment. Participants spoke about being conditioned to learn with grades, checklists, or rubrics which were used to measure success on past assignments over many years of education. Because of this, they did not know what to expect with *Pink Time* due to the vague directions. This was particularly true of the “grade yourself” condition. To ensure they got the assignment correct, participants reached out to classmates to compare the amount of effort others were putting in and used peers as resources to confirm their understanding of the assignment directions. Some pre-service teachers talked about how they were perfectionists and needed to choose the perfect topic rather than what was personal. This supports the observation that teachers create images of perfect teaching which drive students desire to engage in learning (Appova & Arbaugh, 2018). *Pink Time* is a self-directed assignment that encourages learners to explore meaningful interests. The need to get it right is rooted in fears of failure and possibly in what some have called “imposter syndrome.” Educators at all levels, regardless of assignment, should take note of how assessment and grading regimes have lasting impacts on student learning.

### ***Pink Time* Topics**

The choice of topics warrants analysis because they are indicative of how the assignment likely influences pre-service teachers' perceptions and reactions to motivation. Among this group of participants, the variety of topics in the two *Pink Time* assignments coalesced around professional interests that had not been addressed in coursework and might never be addressed. These topics included social-emotional support, state/district educational policies, instructional strategies, classroom environment, academic content, technology, assessment, and instructional

leadership. Topics of interest can support future discussions to support both interest and engagement. Fletcher et al. (2019) acknowledged the importance of assessing pre-service teachers' engagement in learning. Using topics that were important in *Pink Time* can be a way to continue motivating students.

### ***Social-Emotional Support Topics***

Numerous pre-service teachers explored topics related to social-emotional support. The pandemic may have impacted participants as they sought to understand how to support themselves and their students. This could be seen in the fact that several pre-service teachers explored concepts such as recognizing and acknowledging stress and stress relief for adults. Understanding how to address stress in TPPs may help teachers avoid high stress and burnout. Understanding stress is essential and researchers have found that engaging in self-care provided a positive sense of well-being for first-year teachers (Baker, 2020). Topics related to social-emotional concepts may serve as a foundation for their future well-being.

Some participants researched instructional approaches that could be implemented in the classroom to mediate students' social-emotional health. Approaches included yoga, mindfulness, and understanding student trauma. One pre-service teacher specifically recalled a conversation about understanding children's social-emotional state upon returning to school. Since this pre-service teacher "had no idea what that word meant," she decided to research the subject.

In addition to teachers' well-being, these pre-service teachers considered their future learners' well-being particularly in terms of issues related to the COVID-19 pandemic. Understanding possible long-term impacts of the pandemic and gathering information on how to mitigate stress and trauma, may allow pre-service teachers to be more prepared in serving their future students.

**Other *Pink Time* Categories**

The other *Pink Time* categories were *state/district educational policies, instructional strategies, classroom environment, academic content, technology, assessment, and instructional leadership*. *State/district educational policies* were identified as educational decisions made at the state or district level related to programming and included year-round school, inclusive education, and bilingual education. *State/district educational policies* ultimately drive what is implemented in schools and classrooms; thus, participants demonstrated curiosity in seeking to understand these different areas. Since TPPs are more focused on content specific areas such as math, science, social studies, and language arts, educational policies may not necessarily be addressed in the coursework for education programs. This was seen in the side chat in group texts that was created regarding the topic of school dress code. Participants relayed personal past experiences that were related dress-codes and were very passionate when sharing said experiences.

*Instructional strategies* and *classroom environment* are areas that teachers can control. *Instructional strategies* are specific methods to support student learning. Topics in instructional strategies (including group work, flexible seating, and differentiation) are a common area of interest in education. The importance of providing various teaching strategies is crucial to engaging learners (Darling-Hammond et al., 2005). Pre-service teachers are creating the proverbial “tool-belt” in order to provide a plethora of learning methods for students. It is not surprising that the participants of the present study were interested in understanding more about other strategies they may or may not have observed in field placements or discussed in academic settings.

Similar to *instructional strategies*, *classroom environment* helps create an environment conducive to learning. Areas of interest discussed during this study included flexible seating, class pets, and a classroom library. Creating positive classroom environments are imperative for student learning (Young, 2014). *Academic content* related to subject matter. With the exception of gender difference in math, the subjects that were chosen are not typical areas for elementary education. *Technology*, *educational assessment*, and *instructional leadership* were areas that garnered the least number of topics. Interests in technology may be related to participants being online more during the pandemic which translated into having explored numerous areas of technology or needing a break from technology.

*Educational assessment* is embedded in many content areas and may not have been of interest due to feelings of competence in this area. Finally, instructional leadership may not be a topic in pre-service teachers' mind as they are just beginning their careers and are focused on understanding instructional methods and subject matter. The examples given here show that the eight categories defined in this study support pre-service teachers' curiosity about topics related to education and that these categories support them as they begin their careers.

### **COVID-19**

Especially during COVID-19, researchers have recommended, making time during class for interaction and collaboration (Darling-Hammond & Hyler, 2020). *Pink Time* provides collaborative learning experiences during class discussions when peers share what they have learned and discuss the learning process. These discussions prompt learners to make connections between theory and practice. Actively engaging in course material, particularly through direct experience, has been shown to enhance academic skills, content knowledge, and motivation (Darling-Hammond et al, 2019; Darling-Hammond 2006a; Deci et al.,1981b). In the present

study, pre-service teachers were highly influenced by a learning environment heavily influenced by a global pandemic.

It has been widely reported that educators are concerned about inadequate or deficient learning through online, virtual, and hybrid modalities. *Pink Time* serves as one assignment to engage learners by encouraging students to ask questions and engage in conversations about their project topic and the learning process. Darling-Hammond and Hyler (2020) noted the importance of providing learning opportunities that align with current educational needs. The opportunity for pre-service teachers to choose topics related to their personal experiences is the predominant point of *Pink Time*. In this study, participants chose topics influenced by Covid, including socio-emotional learning, online learning, and group work. The nature of topics selected by pre-service teachers are likely a reflection of current circumstances including, but not limited to, what happens in the formal classroom. It is important that topics reflect the broader context of education such as political, social, and other world events.

### **Methodological Critique**

Case study methodology offers deep insight into one particular event and allows for flexibility with data collection that can be implemented in a real-world environment (Hamilton & Corbett-Whittier, 2014; Pearson et al., 2015). Case studies are considered helpful to researchers answering the “how” or “why” of a specific phenomenon (Yin, 2003 as cited in Stewart, 2017). This case study allowed for participants to communicate during group discussions and interviews in an informal environment. The group discussions were consistent with previous coursework requirements which enabled participants to feel comfortable with one another.

### **Limitations**

There were some limitations in this study. First, instructors were asked to implement the assignment in their course. Neither instructor had implemented nor participated in *Pink Time* previously, and instructors were given a protocol to read about the assignment which had been written by the researcher. The researcher was not in the classes when the reading occurred; thus, it could not be determined if further explanations were given or how the instructors delivered the protocol. There were also two different instructors for the courses which may have had an effect on participants.

Another limitation was the use of self-reported data. Participants may have been biased based on their experiences with class assignments or eagerness to please. Interviews, group discussions, and responses to open-ended survey questions were used to triangulate the data in order to gain a robust understanding of pre-service teachers' perceptions of motivation.

A third limitation was the response rate on the surveys. Not all participants responded to the demographic questions or the MUSIC Model of Motivation. Links were sent via email to participants after the discussions during class to encourage completion of the two surveys.

### **Implications**

This study provides several implications for educational practices. What follows is a discussion of the implications of this study. The first implications apply to teacher education. Implications for motivation are then explained. After this, I offer implications relevant to *Pink Time*. Finally, implications for practicing teachers and school leadership are discussed.

#### **Implications for Teacher Education**

Pre-service teachers require opportunities to practice their classroom skills particularly during supervised student teaching (Jenset et al., 2018, Darling-Hammond, 2020). However, many programs do not include stepping-stones to this preparation experience. It is important to

note that the study involved students in an elementary school pre-service program. Students in a secondary education program may differ in how they approach and experience the assignment. *Pink Time* allows elementary pre-service teachers to integrate theoretical frameworks to practice learning which researchers recommended in order to solidify understanding Darling-Hammond (2006a). Through discussion, the instructor can facilitate how *Pink Time* is grounded in theory and provide a model of how this type of instruction could be implemented within the PK-12 classroom.

Researchers have shown that it is crucial for pre-service teachers to seek learning, have opportunities to apply theory into practice, and create equitable assignments (Darling-Hammond, 2006, Darling-Hammond et al., 2019). *Pink Time* provides the opportunity for autonomy and enables learners to apply newly gained knowledge in a context that is directly meaningful to them. In this study, participants relayed how they had a chance to discuss what they learned with the group. Additionally, they discussed how they might use what they learned in their future classrooms. Peer-led teaching and learning experiences may be the first times that elementary pre-service teachers teach in their education program. It is a low-stakes chance to start a mental transition from being a student to forming an identity as an elementary teacher.

*Pink Time* can enable pre-service teachers to seek learning based on their interests and values leading to equity within the classroom. Implementing student-directed assignments such as *Pink Time* supports taking action and breaking down barriers for students. *Pink Time* empowers students through multiple opportunities and reinforces motivation-related perceptions. It allows educators to meet students where they are and provides scaffolding to support their learning. Teaching students how to learn is imperative (AASA, 2020). Understanding their

learning process breaks down barriers to education and career development as individuals can understand their future work and careers.

Creating an opportunity for students to choose a topic to learn about and how to learn provides empowerment. Students also have a choice in how to present the material. There is no approval process for topic selection, and students are often encouraged to pursue something meaningful to them (i.e. a topic that excites). In other words, permission is given to pre-service teachers to follow what is closer to their hearts than their heads. Some of the elementary pre-service teachers did not trust this the first time they experienced *Pink Time*; however, they quickly realized with subsequent iterations that they can explore topics closely linked to personal, cultural, and professional identities.

*Pink Time* arguably allows elementary pre-service teachers to engage in relevant topics geared towards their interests which is important as project-based learning enables equity for diverse learners (Gonzalez, 2020). *Pink Time* provides an avenue for students to explore their learning processes through a topic of interest. Reflection is a critical component in learning (Harvey et al, 2020), and PBL is “grounded in reflection” (Gonzalez, 2020). I argue that *Pink Time* is as well. Self-reflection is part of the learning process. However, some participants in the current study had difficulties engaging in deeper thinking and noted that the self-reflection was not beneficial or only for the researcher. Teacher educators can support pre-service teachers in understanding their learning by asking questions throughout the discussions. Asking questions and guiding pre-service teachers also models how these future teachers can scaffold their prospective students. It may also be important for teacher educators to examine with students the literature on the role of reflection in learning. No assumptions should be made that pre-service teachers understand or can apply reflection in their own learning.



One role of teacher educators is to prepare preservice teachers for their future classrooms. Assignments like *Pink Time* support the ability to make individual decisions, think critically, and begin to understand the learning process. Participants commented on the assignment's vagueness and compared it to other projects with explicit directions and rubrics. These assignments may or may not allow for independent learning as *Pink Time* does. Rather they are used to reproducing the given information described by one participant. As future teachers, pre-service teachers will be in charge of a classroom, teaching curriculum and standards, and assuring that their learners gain knowledge and achieve academic success. Teacher educators assume responsibility for providing different learning opportunities including active learning in teacher education coursework (Hayward et al., 2018). This allows pre-service teachers to experience different pedagogy. This further serves as a way to support the transition from student to professional and instill autonomy in professional development (Parker et al., 2019). Teachers may feel more ownership of professional learning when they have the opportunity to choose relevant topics (Riordan et al., 2019).

Another critical component of TPPs is the modeling of the concepts and strategies that need to be implemented within future classrooms (Darling- Hammond, 2006). *Pink Time* empowers learners in choosing their topic and method of learning. It also provides the time for peers to learn from one another rather than just the instructor. Learning for one another helps create an inclusive learning environment; it also denotes that the student can also be the teacher.

Teacher educators can use pre-service teachers' chosen topics to include during other teacher education coursework. Using these topics will enable pre-service teachers having input into classroom practice. By including pre-service teachers' ideas, learning engagement may increase (Hayward et al., 2018). Sykes et al. (2010) made the case for collecting data embedded

within teacher preparation programs to improve content and pedagogy. Teacher educators could use the information to improve programs by honing practices that support pre-service teachers.

Outside influences can affect topic choices which may help teacher educators to be cognizant of influences outside of the classroom. This was seen in the participants who participated in *Pink Time* during the summer and fall sessions. During the summer course, the preservice teachers were not in a field placement. However, they were doing their field experiences in elementary school settings in the fall. Field experiences may have thus had an impact on *Pink Time* topics.

### **Implications for Motivation**

One sub-theory of SDT—Basic Psychological Needs Theory—was used as the theoretical framework for this study. Areas related to learning and motivation to learn are found in theory with autonomy, competence, and relatedness being specifically relevant. The MMI was used as the instrument to assess pre-service teachers' perceptions of motivation in areas of empowerment, usefulness, success, interest, and caring. As shown earlier, these align with elements of SDT. Although the assignment can support perceptions of motivation, it may not address all learners' motivation. The assignment does not purport to be “life changing.” While many students do in fact report positive implications that extend beyond the assignment and possibly the course, others see it as yet another assignment to complete to pass so they “play along.” However, this does not preclude reluctant students from seeing the benefits of the assignment at a later point in time.

*Pink Time* embeds both autonomy and empowerment. Although participants were given directions that told them to choose a topic in education, they were able to decide on a topic that interested them. Participants acknowledged that they had a choice in how they learned. Methods

of learning included interviewing others, reading articles, and watching videos. Other embedded opportunities for autonomy and empowerment included how they presented their topic. For the first *Pink Time*, some pre-service teachers created a Powerpoint or had another visual such as a diagram. Expectations were that they should spend as much time engaging in Pink Time as they would to prepare for class; however, the amount of effort they put into the assignment was something they could choose. Some participants noted, since the assignment was ambiguous, they felt overwhelmed in choosing a topic and did not know the expectations related to *Pink Time*. This sense of being overwhelmed was stressful and may have been attributed to lower levels of motivation-related perceptions. The root cause of these feelings of being overwhelmed may stem from an education system that overemphasized rigid curriculums, standardized testing, rubrics, and other external motivators. Any deviation from these norms may result in a sort of academic anxiety.

Participants demonstrated their competence and success through *Pink Time*. The ability to share their knowledge with others created a perception of competence. Some set goals such as writing a page about the topic, presenting to their peers, and completing the assignment. Some participants indicated they were successful in achieving their goals. However, one participant felt she would have been more successful with a teacher-directed assignment. She discussed how she needed more guidance with *Pink Time*. The intentional lack of formal directions creates dissonance for some learners and may be related to stress-inducing autonomy noted above. This could be addressed in classroom discussions to help pre-service teachers come to terms with differing experiences with Pink Time.

Relatedness and caring both were supported through *Pink Time*. Relatedness showed when participants reached out to others for support in understanding the assignment and the

desire to know what others were doing. Group discussions created opportunities for peers to share their knowledge and ask questions. Participants communicated how much they enjoyed listening to their peers because of the passion they had when presenting. Others discovered their peers had similar interests which created connections since they reached out to talk about their interests. These organic conversations were a result of the group discussion and created a sense of caring amongst the group. In contrast, some participants expressed that the discussions could be “redundant” at times and some people presented longer than others suggesting a time limit could be used.

Usefulness is another component in the MUSIC Model perceived participants in *Pink Time*. For the second iteration of *Pink Time*, pre-service teachers were in their field placements. One described the practicality of her topic: she could immediately apply what she learned during *Pink Time* into her classroom. Others discussed how they could use the knowledge for their future classrooms. A couple of participants researched what books they could put into their classroom library. Another participant expressed that she had not thought about that idea [books in the classroom library] and jotted down ideas during her peer's presentation. Some participants felt the grading on *Pink Time* was not useful. In discussions, participants made reference to feelings of not trusting self-grading, how other assignments that were due were “grade-dependent assignments,” and that it was “ungraded” because the instructor did not grade the assignment. Another noted, “It felt like a long amount of time I could have spent doing something else.” These examples may have led to perceptions that *Pink Time* was not a useful assignment. Eliminating the grade entirely has not been tested with this assignment but may be worthy of consideration. If, in fact, the assignment is intended to facilitate internal motivation, then arguably the grade hinders this purpose.

The *Pink Time* assignments occurred during the stress caused by the COVID-19 global pandemic and may have impacted both participants' topics and the effort they gave the assignment. With this in mind, it is useful to examine the categories of topics that capture pre-service teachers' approaches to the assignment. First, the *social-emotional support* category contained 16 different topics. Some participants researched ways to recognize stress, stress relief, and impact on productivity related to stress. Another focused upon children's socio-emotional development and how the pandemic may affect children upon returning to school. These are topics that are unlikely to be taught in their courses; however, they were useful to the pre-service teachers because it served as a release valve from the stress of isolation and uncertainty caused by the pandemic. Selecting topics related to education and the pandemic may have been a way for pre-service teachers to assume some control in uncertain times. This topic area may also be indicative of an effort among pre-service teachers to learn self-care strategies and be able to practice these strategies for future use in their careers. Teacher burnout is troubling and has been especially notable during the current global pandemic. Nationally, school districts are reporting high teacher turnover. Thus, preparing new teachers to overcome work-related stress with wellness skills may be an important consideration for teacher preparation programs.

Participants' perception of interest in *Pink Time* presented itself in different ways. Participants discussed that it was interesting to hear what others had to say. They also showed interest in their chosen topics. One participant expressed her surprise in how much she liked the assignment. *Pink Time* provides the opportunity for learners to choose their own topic, and when choosing a topic, learners were inclined to choose something of interest. This was acknowledged by some participants when discussing why they chose their topic. One participant was curious about group work due to the fact that she had not been able to observe group work during the

pandemic. Another participant researched flexible seating as she was interested in knowing more about that topic since classrooms used during the pandemic look very different than they did pre-pandemic. In contrast, some participants said they were not interested in some of the topics presented by their peers. Others struggled with getting started on the assignment due to various reasons including no grade motivation, not knowing what topic to choose, and finding time to complete the assignment. A few noted the difficulty in writing a reflection and knowing how much to write. These are no different than any other assignment. Instead, the assignment may resonate with a certain type of student that wants to experience learning on their own terms.

### **Implications for *Pink Time***

*Pink Time* is a relatively new researched assignment that has been implemented at the university setting for both undergraduate and graduate students. Professors who have given the assignment have followed basic guidelines to shift the purpose of time usually reserved for class time in order to provide time for students to engage in student-directed learning. *Pink Time* allots time for group discussion in which students report their findings. Research has not, however, indicated areas that may need focus during the assignment. Through this study, two recommended improvements were identified: support instructors can provide to the learners and individual feedback on reflection papers.

During the discussion, learners presented their topics and what they learned about themselves. After these presentations, the instructor facilitated a discussion to gauge learners' understanding of the assignment. In this study, I focused the discussion on perceptions of motivation. Based on the discussions with the participants in this study, inclusion of explicit reasons for implementing the assignment and supporting learners making connections between explicit learning and motivation is recommended. Researchers have found that providing

structure through an autonomy-supportive environment contributed to an overall increase in the quality of teaching teacher/student relationships and instructors' well-being (Cheon et al., 2019).

Providing feedback for individuals about their reflection paper is another recommendation. Some participants felt the reflection paper was a waste of time or for the researcher. The value of writing to Tsai et al. (2019) noted that students suggested guidance from instructors during self-directed learning. Oral feedback was provided during group discussions, "You just kept engaging us, and you would provide us with your feedback." More guidance and support could be utilized in a one-to-one manner through written feedback since instructors must provide facilitation strategies for students during active learning (Finilli et al., 2018). Instructors can also support more in-depth reflection by developing guiding questions to scaffold pre-service teachers' thinking. Writing supports comprehension and helps to solidify gained knowledge (Langer & Applebee, 1987). Journal writing has been shown to enable pre-service teachers to become aware of their learning process (Cho et al., 2017) as they identify important views and topics (Jado, 2015). Reflection allows individuals to examine their own learning behaviors in order to consolidate acquired knowledge.

### **Implication for PK-12 Education**

*Pink Time* may offer a different approach to learning in the PK-12 classroom. Students and teachers might find this approach beneficial to learning, gaining more insight on interest, and understanding the learning process. Moreover, instructional leaders may offer *Pink Time* as a form of professional development for their faculty.

Approaches like *Pink Time* may be lacking in the PK-12 schools based on some participants' comments. PK-12 educators can provide opportunities for learners to choose a topic and learn about the chosen topic in a way that is meaningful to the participant. For example,

students may find talking with a parent about something they are interested in or research how a certain video game was designed. Encouraging students to seek out these meaningful experiences can open endless opportunities of learning outside the walls of the classroom to them. *Pink Time* allows younger students to explore approaches to learning that they may not yet have engaged in which could support them in future assignments. Providing opportunities for *Pink Time* can also develop an awareness for the young learners of the fact that they are in charge of their own learning. This idea was new to some participants of the current study.

Professional development for teachers is often not relevant. Instructional leaders can support their PK-12 faculty in providing *Pink Time* opportunities for professional development. This could be useful as *Pink Time* provides an avenue for teachers to pursue areas of interest that supports their understanding of concepts relevant to their professional growth. Teachers can report back to other members of the faculty and thus create dialogue about areas of interests. Through these discussions, faculty may develop close relationships and support one another in professional growth. As an instructor, I have implemented *Pink Time* with PK-12 teachers. The teachers appreciated the time given to pursue areas of interest and noted they rarely have time for themselves. The discussions were productive in sharing with and making connections to others.

### **Unintended Consequences**

Several unintended consequences occurred in this study that had not been observed in the pilot study. Due to the pandemic constraints, summer and fall courses were conducted online. The four discussions for *Pink Time* were also conducted online rather than in a face-to-face classroom setting. Additionally, the idea of having perfect topics was mentioned during this study. Finally, participants chose an overwhelming number of topics related to social-emotional support.



### ***Distance learning***

Distance learning is a teaching method that has been implemented in higher education. In 2016, distance learning comprised just over 30% of higher education enrollment. This has increased each year since 2012 (Seaman et al., 2018). Prior to this study, *Pink Time* had not been formally researched using an online platform. Baird (2020) argued *Pink Time* is a useful learning tool that instructors can utilize through remote teaching. Based on my prior experiences facilitating *Pink Time*, the overall format and participation were similar to other observed *Pink Times*. Participants presented their topic and what they learned about themselves as a learner. Afterward, participants engaged in answering questions and having conversations about *Pink Time*. Based on interviews and discussion, this online format seemed to have no significant effects on the assignment. The ability to conduct *Pink Time* virtually provides similar opportunities for active learning which is in line with the argument put forth by Baird discussed above (2020).

A couple of participants in this study reported trying to choose and report back about the “perfect topic.” The idea of having the perfect topic did not come up in the pilot study. This is interesting since topics were based on interests and personal choice rather than having to please the group or instructor. Since the assignment was self-graded instructor grades did not have an impact on the chosen topic.

Topics of choice were overwhelmingly related to social-emotional support. These choices may be attributed to the pandemic. Pre-service teachers showed an awareness of how stress can impact themselves and their students. Understanding this impact could lead to support for wellness in both teachers and students.

### **Implications for Future Research**

Given the findings and critique of the study, there are areas for future research with *Pink Time*. First, researchers can examine how pre-service teachers perceive learning through the assignment. Second, research can be conducted to understand *how* pre-service teachers access their learning. Third, a longitudinal study of pre-service teachers who participated in *Pink Time* and how they may have used what they learned in their future classrooms could be done. Third, researchers can study the instructor's perception of the assignment.

*Pink Time* fosters the individual learning process and self-regulated learning (Baird et al., 2015; Baird et al., 2020). Future research may include an in-depth analysis of pre-service teachers' perceptions of learning. Understanding and experiencing the learning process may support students in their future classrooms. Pre-service teachers must engage in the learning process and enhance self-regulated learning skills because "...designing instructional activities for the teaching and learning of practice is an extensive and vital part of developing a curriculum focused on the enactment of professional practice" (Ball & Forzani, 2014, p. 504). By engaging in the process, pre-service teachers can begin to practice what they will eventually be implementing in their classrooms.

In addition to examining how pre-service teachers' perceive learning, researchers may also investigate how pre-service teachers access their learning and understanding. In this present study, participants learned by reading, watching videos, and conducting interviews. Understanding modes of learning may help teacher educators with designing courses and including a variety of assignments.

Another area of research for *Pink Time* is a longitudinal study. *Pink Time* has only been studied in the university setting. Researchers could study pre-service teachers who have participated in the assignment and what impact *Pink Time* may or may not have on their teaching

practice. A longitudinal study would help researchers understand if there are long-term effects of the assignment and possible impact on PK-12 learners.

In this study, pre-service teachers were given the parameter of learning something related to education. Other Pink Time assignments have first started with “do whatever you want” and then added a second or third Pink Time assignment focusing on topics related to the course. Researchers can also examine how students engage in the *Pink Time* assignment when given a more narrow focus on education topics compared to directions to “do whatever you want.”

Future research could also focus on the instructor's role in *Pink Time* and motivation perceptions. Faculty may have a hard time letting go of both the traditional instructor role and the content discussed when implementing active learning (Strayer et al., 2019). Instructors can use the MMI to understand their perceptions of motivation related to *Pink Time*.

### **Conclusion**

*Pink Time* is an active learning assignment that can be implemented in graduate courses to encourage student-directed learning. This multiple method study sought to identify pre-service teachers' perceptions of their motivation for *Pink Time*. This study used the sub theory, Basic Psychological Needs (BPNT) for the meta-theory (Self Determination Theory) as a theoretical framework. Qualitative data was collected using interviews, group discussions, and answers to the open-ended survey questions. Analysis of the interviews determined three themes that helped answer the research question of how pre-service teachers describe their motivation-related perceptions of *Pink Time*. Group discussions and answers to the open-ended survey question were analyzed as means to support the interview themes. Quantitative data was collected using The MMI to gain a deeper understanding of the five motivational components: empower, usefulness, success, interest, and caring.

The purposeful sample of 28 pre-service teachers from one large university engaged in the group discussions with 14 participants in each of the four discussions. Twenty-one participants completed the MMI after the second *Pink Time* assignment. Using a subset of volunteers from the initial 28 participants, five interviews were conducted.

The three themes (*Influencers on Motivation, Outcomes of Pink Time, and Reactions Toward Pink Time*) answered the research question: *How do pre-service teachers describe their motivation-related perceptions and reactions to Pink Time?* *Influencers on motivation* were identified as stress, peers, personal choices, and external factors. These influencers had an impact on how the pre-service teachers approached their *Pink Time* assignment. The theme *Outcomes of Pink Time* demonstrated how the assignment affected the pre-service students. *Pink Time* contributed to cognition, learning, community building, and reflection of the participant. The third theme, *Reactions toward Pink Time*, gave insight into how participants reacted to the *Pink Time* assignment. Participants displayed a love of learning, mixed emotions, and the need to get it right.

Eight categories emerged from the topic analysis. The social-emotional support category contained 16 different topics relating to ideas for both students and teachers. The pandemic may have affected participants' choices. Other categories included state/district educational policies, instructional strategies, and classroom environment.

Teaching requires utilizing various instructional methods to reach students (Huang, 2006; McKeachie, 1974; Prince, 2004). The findings of this study indicate that *Pink Time* is a purposeful, student-directed assignment that bolsters motivation to learn as denoted through pre-service teachers' perceptions of motivation in the areas of empowerment, usefulness, success, interest, and caring.

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## **Appendix A**

### **Protocol questions for Pink Time group discussion**

What are your impressions of this assignment?

Describe the freedom of choice you had in selecting a project.

How did this support your learning?

How do you know if you were successful with the assignment?

What role did the instructor play in how you approached this assignment?

How did the role of other students play in how you approached this assignment?

What would you do differently now that you have experienced Pink Time?

How could you implement Pink Time within your own class?

Adapted from Baird, et al., 2015



**Appendix B****Sample *Pink Time* Assignment****EDRE 6794****Assessment in Higher Education (CRN 13928)****Spring 2019****Instructor:** David Kniola, Ph.D.**Pink Time**

One important outcome of your education is that you become a life-long learner (independent, discerning, intentional). It is important for you to understand and experience “self-regulated learning,” the act of taking responsibility for (or ownership of) one’s learning. It is a complex and multifaceted idea, but one important element is the act of being self-directed. This implies self-motivation and curiosity. In other words, the activity holds meaning or value to you, the learner rather than in response to an external prod or pressure (e.g., a grade). An important goal of this class is to promote and support self-regulation because research shows that it leads to high-quality learning through long-term knowledge retention (you remember it after a test or course) and knowledge transfer (you can use knowledge in different situations...not just on a test or in one course). This assignment allows you freedom to explore **a topic related to this course** but one that is important to you. You choose what to do and assign your grade. There are no other parameters. Seriously, no parameters. However, you’ll need to report to class what you learned and how you went about this project.

## Appendix C

### Pink Time Protocol

Our class will be involved in a Pink Time activity (Baird, et al., 2015) during the course of this semester. Pink Time is a concept designed to give students time away from formal classes to participate in alternative learning experiences. Students choose a learning topic, identify an opportunity to have direct experiences related to the learning topic, engage in the experience and give themselves a grade. Individuals present what they learned and what they learned about themselves as learners.

As part of the coursework this semester, each student will participate in Pink Time by choosing an educational topic to learn about, and engage in learning experiences related to your topic. You will also write a reflection about what you learned and what you learned about yourself as a learner. You will also assign yourself a grade. In class, Pink Time activities will be presented and faculty members and graduate assistants will facilitate a group discussion. This group discussion (approximately 2.5 hrs) will be included during class time.

As part of a research study, Caryn Caruso is asking for consent of your coursework to be analyzed for research and publication. The research will take place in class during Pink Time discussion which includes presentations and group discussion. The data collected will be analyzed for research and publication. Participation in the study is not a requirement of the course. Two surveys will also be completed during class. One survey will take about 2 minutes, while the other may take about 20-30 minutes.

In addition, as part of the research, Caryn is asking for several volunteers to participate in interviews. If you agree to participate in this part of the study, one interview, of one hour or less, after the second Pink Time assignment (approximately weeks of Sept 28 and Oct 5). During that meeting, you will be asked to participate in an audio-recorded interview of approximately 30 minutes. This interview will involve sharing with the investigator your experiences of learning and Pink Time. The interview will take place at a mutually agreed upon place.

Pink Time data analysis participation is voluntary. If you agree to participate in the research, you will sign the Participant Consent Form. Data analysis and writing about the study will be conducted in such a way as to protect participant confidentiality. Your decision to participate or not participate will not affect your relationship/s with others in the program or your grades. The risks of participating are low and similar to those of daily living. The benefits of participation may be to support faculty in developing methods of other preservice teachers with motivation and increasing student academic achievement.

If you choose not to consent for analysis, you will participate in the same activity and recording will be shut off during your presentation and participation in discussion. Again, your decision to participate or not participate will not affect your relationship/s with others in the program or your grades.

If you have any questions about the research study, you may contact the researchers, Caryn Caruso, [ccaruso@vt.edu](mailto:ccaruso@vt.edu) or Dr. Kniola at [dkniola@vt.edu](mailto:dkniola@vt.edu).

For questions concerning your human subject rights, you may contact the Virginia Tech Institutional Review Board at [irb@vt.edu](mailto:irb@vt.edu).


## Appendix D

### Qualtrics Demographic Survey

**Pre-service teachers**

▼ Default Question Block

Q1 **Gender**


  Male

Female

Prefer not to answer


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Q2 **Age**



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Q3 **Ethnicity**

  White

Black or African American

American Indian or Alaska Native


Asian


Native Hawaiian or Pacific Islander


Other

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Q4 **Undergraduate major**



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## Appendix E

### IRB Approval Letter



Division of Scholarly Integrity and  
Research Compliance  
Institutional Review Board  
North End Center, Suite 4120 (MC 0497)  
300 Turner Street NW  
Blacksburg, Virginia 24061  
540/231-3732  
irb@vt.edu  
<http://www.research.vt.edu/sirc/hrpp>

#### MEMORANDUM

**DATE:** July 22, 2020  
**TO:** David John Kniola, Caryn Caruso  
**FROM:** Virginia Tech Institutional Review Board (FWA00000572, expires October 29, 2024)  
**PROTOCOL TITLE:** The Effect of Active Learning on Academic Motivation Among Preservice Teachers  
**IRB NUMBER:** 20-442

Effective July 22, 2020, the Virginia Tech Human Research Protection Program (HRPP) determined that this protocol meets the criteria for exemption from IRB review under 45 CFR 46.104(d) category (ies) 1,2(ii).

Ongoing IRB review and approval by this organization is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these activities impact the exempt determination, please submit an amendment to the HRPP for a determination.

This exempt determination does not apply to any collaborating institution(s). The Virginia Tech HRPP and IRB cannot provide an exemption that overrides the jurisdiction of a local IRB or other institutional mechanism for determining exemptions.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

<https://secure.research.vt.edu/external/irb/responsibilities.htm>

(Please review responsibilities before beginning your research.)

#### PROTOCOL INFORMATION:

Determined As: **Exempt, under 45 CFR 46.104(d) category(ies) 1,2(ii)**  
 Protocol Determination Date: **June 1, 2020**

#### ASSOCIATED FUNDING:

The table on the following page indicates whether grant proposals are related to this protocol, and which of the listed proposals, if any, have been compared to this protocol, if required.

*Invent the Future*

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY  
An equal opportunity, affirmative action institution

**SPECIAL INSTRUCTIONS:**

This amendment, submitted June 30, 2020, updates research protocol to revise Study Design and Statistical Analysis Plan, Study Timelines, Procedures Involved, and Recruitment Methods. Recruitment materials were updated to add an opportunity to volunteer for one interview. Consent forms were updated to revise IRB consent Pink Time Discussion and Interview verbal consent. Data collection instruments were updated to add open-ended questions to the MUSIC Model Inventory for participants to complete and use the responses to inform the interview questions and to only conduct post-Pink Time interviews.

Date*	OSP Number	Sponsor	Grant Comparison Conducted?

\* Date this proposal number was compared, assessed as not requiring comparison, or comparison information was revised.

If this protocol is to cover any other grant proposals, please contact the HRPP office (irb@vt.edu) immediately.

## Appendix F

### Open-ended Questions

1. Which aspects of Pink Time gave you control over the assignment? (Jones, et al., 2012)
2. Which aspects of Pink Time did not give you control over the assignment?
3. What did you find useful about Pink Time? (From Jones MUSIC)
4. What did you find not useful about Pink Time?
5. What made you feel successful during Pink Time? (From Jones MUSIC)
6. What were your struggles during Pink Time?
7. What did you find interesting about Pink Time? (From Jones MUSIC)
8. What was boring about Pink Time?
9. What did the instructor do to provide you with the impression that she cares about whether you learn using the Pink Time assignment? (Jones et al., 2012)
10. What did the instructor do to provide you with the im

## Appendix G

### Participants' Topics and Participation

<b>Participant</b>	<b>First Pink Time</b>	<b>Second Pink Time</b>	<b>Participation</b>
*Charlie	Flexible seating	Frustration in the classroom	Group Discussions Interview Participant
*Maria	Cursive writing	ADHD	Group Discussions Interview Participant
*Marsha	Importance and benefits of incorporating yoga and mindfulness in the classroom	Year-round school	Group Discussions Interview Participant
*Sally	Average class sizes and the benefits and disadvantages of sizes	Group work	Group Discussions Interview Participant
*Mary	Trauma-informed teaching	Bilingual education	Group Discussions Interview Participant
Greta	Inclusive classroom	Flexible seating vs. traditional seating	Group Discussions
Georgia	Behavior management	Classroom greetings	Group Discussions
Carrie	School uniforms	½ day Kindergarten vs. full day	Group Discussions
Paula	American Sign Language	Stress relief/productivity	Group Discussions
Elizabeth	Project-based learning	Charter schools	Group Discussions
Meg	Comparing different school systems around the world	Virtual/online learning	Group Discussions
Blake	How to become a principal	PALs testing	Group Discussions



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Alaina	Classroom behavioral management	Differentiation: advanced learners	Group Discussions
Marianne	Recognizing and acknowledging stress	Bridging special education and general education	Group Discussions
Patricia	Personalized Learning	Common Core	Group Discussions
Jen	Gender differences in mathematics development	Self- efficacy	Group Discussions
Anne	Responsive teaching	Addressing grief in children	Group Discussions
Jo	Benefits of using songs to teach content	Self-defense	Group Discussions
Barbara	Color psychology in classrooms	Screen time for children	Group Discussions
Carol	Flexible seating	Class pets	Group Discussions
Rachel	Benefits to adding cooking or baking to curriculum	Classroom library	Group Discussions
Alex	Children's socio-emotional development	Inclusive environment	Group Discussions
Joan	Teaching foreign languages in U.S. elementary schools/ importance behind that.	Flexible seating	Group Discussions
Shea	Designing classrooms to maximize student achievement	Classroom library	Group Discussions
Theresa	Open classroom concept	DEAR Time	Group Discussions
Riley	Supporting students when peers move away from their school	Incarceration	Group Discussions
Kim	Trauma in the classroom	Equity in rural settings	Group Discussions
Danielle	School dress code	Homework	Group Discussions

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Note: \* denotes participants who completed an individual interview