Preservice Teachers' Efficacy and Beliefs about Students' Learning

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Abstract

This mixed-methods study is an examination of the beliefs of 67 preservice teachers enrolled in a credentialing program in Southern California. To identify the beliefs of these preservice teachers, the researcher administered a survey that included items with Likert-scale and open-ended response options. Quantitative data was analyzed; qualitative data was coded; and the findings were compared. The findings revealed that the majority of participants believed (a) all students can and will learn; (b) student learning is a direct reflection of teaching; (c) all students can reach grade-level proficiency; (d) collaborating with other teachers translates into student achievement; (e) appropriate instruction enables students to learn; (f) collaborating with other teachers contributes to student learning; and (g) professional learning translates into student learning. Participants also listed some caveats that needed to be in place for students to learn, including (a) students can learn under the right circumstances; (b) students learn in different ways; (c) students learn if there is a supportive home life without major struggles; (d) students can learn but not all to the same standards (e) students can learn with support; (f) students learn best in positive learning environments; (g) students can learn if motivated; (h) students can learn if they are willing to learn; and (i) students can learn if given the right instruction. The findings of this study contribute to preservice program faculties', teachers' and school principals' understanding of beliefs of preservice teachers. The findings can also inform professional development for teachers, including identification of areas in which more research would be beneficial to the field of education and the teaching profession.

Key Terms: Teacher Beliefs, Preservice Teachers, Preservice Programs, Professional Learning, Teaming, Collaboration, Efficacy

1 Introduction

Students in the United States have underperformed academically when compared to students in other nations. U.S. students placed 25th overall on the Programme for International Student Assessment (PISA) test—a triennial, 2-hour test administered internationally to measure academic achievement of 15-year-old students in 79 high- and middle-income countries (Schleicher, 2019). In literacy, U.S. students placed 13th, in science, 18th, and mathematics scores were even lower: U.S. students ranked 38th (Schleicher, 2019). The PISA is not the only assessment on which U.S. students have underperformed. In 2015, 36% of fourth graders scored as proficient in English language arts the National Achievement Education Progress (NAEP) test (The Nation's Report Card, 2015a). In math, 40% of the fourth graders and 36% of the eighth graders tested as proficient on the NAEP (The Nation's Report Card, 2015b). In 2019, these scores dipped even further. Only 35% of fourth graders and 34% of eighth graders tested at a proficient level in reading (The Nation's Report Card, 2019a). In math, 40% of fourth graders tested proficient in 2017 and 41% in 2019 (The Nation's Report Card, 2019b). Of eighth graders, 34% tested proficient in both years (The Nation's Report Card, 2019b).

Teacher beliefs around students' abilities affect how teachers teach, how students learn, and levels at which students achieve (Schmid, 2018). Teachers' beliefs affect teachers' practices and shape student achievement (Organization for Economic Co-Operation and Development [OECD], 2009; Vartuli, 2005). When teachers believe all students can learn, they teach and reteach until every student learns (Schmid, 2018). The concept of beliefs shaping behaviors relates to the theory of self-efficacy, which suggests a person's belief in an outcome of a given behavior determines whether the person will exhibit the behavior (Bandura, 1977).

According to Gibson and Dembo (1984), self-efficacy also applies to the field of education. Gibson and Dembo ascertained teachers who believe their actions affect student achievement—teachers who possess a high sense of self-efficacy—devote more time and effort to ensuring academic success for students. Bandura (1993) found "teacher's beliefs in the personal efficacy to motivate and promote learning affect the types of learning environments they create and the level of academic progress their students achieve" (p. 117).

Collective efficacy—the efficacy of a group of teachers at a school—has been shown to have the largest effect size on student achievement (Visible Learning, 2018). Given that beliefs, self-efficacy, and collective efficacy are important to student achievement, preservice programs should shape instruction about examining beliefs, efficacy, and collective efficacy. Teacher credentialing programs prepare teacher candidates. Darling-Hammond (2000), in studying the impact of teacher credentialing programs on student achievement, found teacher preparation and certification have a significant impact on student achievement. Preservice programs must graduate students who possess high levels of self-efficacy.

2 Purpose of the Study

Teachers' beliefs about students' abilities to learn affect teachers' behaviors, which affect student achievement. Therefore, it is crucial to foster appropriate beliefs about student learning. Researchers have pointed out it is crucial for educators to examine their behaviors and beliefs (Breen et al., 1989; Fullen, 1998). Education faculty must target instruction on self-efficacy, including examining beliefs and shaping and reshaping preservice teachers' mental constructs when necessary (Mohamed, 2006). Stuart and Thurlow (2000) found teacher training classes focused on beliefs, discussions and reflections resulted in changes in beliefs.

If teacher training classes are to focus on beliefs, faculty must first know what beliefs teacher candidates already possess, so they can to teach beliefs needed and not yet present or strongly held. The purpose of this study was to learn which beliefs teacher candidates already hold and to what degree. With this knowledge, teacher preparation programs know where to focus instruction on beliefs.

3 Research Question

The research questions for this study were:

- What are the beliefs of preservice teachers about students' abilities to reach grade-level standards in English language arts?
- What are the beliefs of preservice teachers about students' abilities to reach grade-level standards in math?
- What are the beliefs of preservice teachers about the relation of their teaching to students' achievement?

4 Relevant Literature

Teachers' beliefs include a mixture of thoughts, perceptions, and values about education, their roles as educators, and how students learn (Vartuli, 2005). Researchers have confirmed teachers' beliefs inform their actions (Charlesworth et al., 1991; Grant 1984; McMullen, 1999; Richardson et al., 1991; Stipek & Byler, 1997; Vartuli, 2005; Wilson et al., 2002). Similarly, scholars have reported teachers' beliefs about students' abilities to learn shape teachers' behaviors (Covey, 1989; Rubie-Davies et al., 2011; Urhahne, 2015; Van den Bergh et al., 2010; Vartuli, 2005). These beliefs can also change. Bush (2010) found preservice teachers enrolled in a course on beliefs changed their beliefs.

Several studies have included exploration of what effective teachers believe. Walden's (2008) four teacher participants believed all students can learn and that it is the teachers' responsibility to motivate students. Participants held high expectations for students and believed teachers need to provide students with challenging instruction, students should be held accountable during all learning activities, and it is the teachers' responsibility to vary pedagogical strategies and to provide students with diverse learning activities.

Askew et al. (1997) studied teachers' beliefs and numeracy and showed effective teachers believed all students can numerate and that it is the teacher's responsibility to intervene when learning is stalled. Participants believed all students, when challenged to think, explain, listen, and solve problems, developed strategies and networks of ideas. Haberman (1995) identified characteristics and beliefs that set apart effective teachers from their less effective colleagues. They found effective teachers believed all students can learn and that it is the teacher's responsibility to ensure students are learning. Participants also believed making errors was part of learning. Spencer and Spencer (1993) looked at characteristics and beliefs of effective teachers and claimed the following are beliefs that impact on student achievement (listed in order of level of impact):

1. All students can learn.
2. Errors are part of learning.
3. Joy for learning is important.

To explore teacher development, researchers have studied preservice teachers. Akiyama (2008) found six preservice teachers believed good teachers value diverse students' identities, accomplished tasks, and respected students. In a study of how students learn with text, Wilson et al.'s (2002) results indicated preservice teachers who believe in reader-based learning—the belief that the meaning making comes from within the learner—chose lessons that facilitated this type of learning. They also found preservice teachers who believed in interactive learning—the belief that the reader interacts with the text and that meaning making comes from the reader and as the text—chose lessons that were not consistent with their beliefs.

While there is evidence of patterns between certain beliefs and teacher effectiveness, some authors have indicated teachers' beliefs and actions may not match. Jones and Gullo (1999) found there is no correlation between teachers' beliefs and their practices. Similarly, Hedrick et al. (2004) reported teachers did not put into practice strategies they believed would help students succeed. They found teachers knew which strategies are effective and believed these strategies would help, yet they did not implement them. Poole-Christian (2009) found teachers' practices are often contrary to their beliefs.

Cheung (2007) and Shahid and Thompson (2001) found female teachers have stronger beliefs about their efficacy than their male counterparts. Ross et al. (1996) found female teachers held a stronger sense of efficacy in regard to engaging students in the learning than their male counterparts did. Ahmad et al. (2015) found female teacher efficacy was stronger than male teacher efficacy in regard to classroom management, instructional strategies, and student engagement. As a result, female teachers performed at a superior level, as indicated by their students' achievement, to that of their male counterparts. Nihat (2010), however, revealed male in-service teachers may have stronger self-efficacy then female in-service and male and female preservice teachers.

Another aspect of this topic is whether experience influences teacher beliefs about teaching and learning. Nihat (2010) found experienced teachers have stronger beliefs in their own competencies. Cheung (2007) found years of teaching had a positive effect on teachers' efficacy, yet others have found efficacy decreases, as years of experience increase (Hoy & Woolfolk, 1990; Ross, 1996). Mohamad (2006) found beliefs did not change with experience.

Another factor influencing teacher beliefs is professional development. Several researchers have found professional development positively affects teachers' beliefs in their abilities to teach and evoke achievement in their students (Richardson et al., 2001; Schmid, 2018; Yoo, 2016). Richardson et al. (2001) found professional development, including teaming and in-service programs, had the biggest effect on shaping the beliefs of teachers.

While there is extensive research on experience, gender, and development as factors that influence teachers' beliefs, there is a gap in the literature about whether teachers' parental status has an impact on their beliefs, particularly if teachers who have their own children hold different levels of beliefs than their counterparts who do not have children.

5 Methodology

This study included a survey of incoming preservice teacher program students to elicit beliefs about students' abilities to learn, teachers' roles in learning, and efficacy. Participants completed a survey with response options with a 5-point Likert scale, ranging from *strongly agree* to *strongly disagree*. Survey items were based on an interview protocol and study results of a study previously conducted by the researcher (Schmid, 2012).

The interview protocol, developed by Schmid (2012), had been based on the literature on beliefs held by effective teachers that (a) all students can learn (Askew et al., 1999; Haberman, 1995; Ripley, 2010; Spencer & Spencer, 1993; Thomas & Barksdale-Ladd, 1995; Walden, 2008); (b) errors are part of learning (Haberman, 1995; Spencer & Spencer, 1993); (c) joy for learning is important (Spencer & Spencer, 1993); (d) it is the teacher's responsibility to motivate students and ensure all students learn (Schmid, 2018; Walden, 2008); (e) teachers must provide challenging instruction (Walden, 2008); (f) students must be held accountable (Walden, 2008); (g) instruction must be differentiated (Walden, 2008); (h) students' learning is a reflection of instruction (Schmid, 2018); (i) all students can reach grade-level level standards, regardless of background, ethnicity, socioeconomic class, or race, if given appropriate instruction (Schmid, 2018); (j) professional development, including teaming and coaching, lead to increased student achievement (Schmid, 2018); (k) appropriate instruction enables students to succeed (Schmid, 2018); and (l) good teachers value diversity and accomplish tasks (Walden, 2008). In addition to the quantitative items on the survey, participants were asked to describe their beliefs about which students can learn and how they learn best.

Quantitative data was analyzed using descriptive statistics. Qualitative data was coded; themes were identified, investigated, and categorized; and subcategories were established under the themes. Another qualified educator reviewed the data, codes, themes, categories, and subcategories to ensure all themes and subcategories were accurately coded and appropriately interpreted.

6 Sample

All preservice students in an incoming cohort at a university in Southern California were invited to voluntarily participate in this study. Students were in their first semester of a teacher credential program. In classes, instructors read a script explaining the nature of the study to students and then stepped out of the room, allowing students who wished to participate the opportunity to complete the study confidentially. The final sample included 67 participants. Participants' names were not collected, and responses were track through unique identification numbers to preserve confidentiality.

7 Results

Sixty-seven students responded to the survey (see Table 1). Most participants agreed or strongly agreed that all students can and will learn (see Table 2). Most participants agreed all students can and will reach grade- level proficiency in language arts and math, regardless of background, ethnicity, socioeconomic class, or race, if given appropriate instruction, with larger differences between participants with kids and participants with no kids (see Table 3). When asked if students' learning is a direct reflection of the quality of teachers' instruction, most participants agreed, though there was more diversity in responses than the previous item (see Table 4). Nearly all participants agreed or strongly agreed appropriate instruction enables students to succeed (see Table 5). Most participants agreed or strongly agreed that when they team with other teachers, their students' success increases. A few participants were neutral on this item. (see Table 6). Nearly all participants agreed or strongly agreed that teacher training positively affects their students' achievement with some participants reporting neutral about it. (see Table 7). Almost all participants believed all students can and will learn, with female participants, participants with kids, and participants with experience in the classroom having stronger convictions in their beliefs. All female participants agreed and strongly agreed all students could learn. One male participant disagreed with the statement.

While most participants agreed and strongly agreed student learning is a direct result of teaching, this survey item had a larger percentage of neutral responses than other items. While many participants were neutral about students' learning being a direct reflection of their teaching, the majority of the participants agreed and strongly agreed that appropriate instruction enables students to succeed. Participants who had their own kids had a slightly higher level of agreement than their counterparts who did not have kids of their own. Participants with experience in the classroom had a higher level of agreement than their counterparts with no experience. Most participants agreed that teaming with other teachers increases student learning. This statement, like the statement that student's success reflects teaching, yielded more neutral responses than other survey items. There were similar levels of agreement when considering gender, parental status, and experience. Almost all participants agreed training leads to students' success. None disagreed or strongly disagreed. Female participants, participants with kids, and participants with teaching experience had a slightly stronger level of agreement than their counterparts.

When asked to state which students can learn and how they learn best, all but one respondent reported all students can learn. Themes emerged about differences in levels of agreement with the statements: (a) students can learn under the right circumstances, or they learn in different ways; (b) students learn if there is a supportive home life without major struggles; (c) students can learn but not all to the same standards (d) they can learn with support; (e) students learn best in positive learning environments; (f) students can learn if motivated; (g) students can learn if they are willing to learn; and (h) students can learn if given the right instruction. One participant responded not every child can be reached.

8 Discussion

The results of this study offer insight and hope. The following is a discussion of the results for each survey item synthesized with the information gathered from the qualitative data. It offers insight into preservice teachers' perspectives, providing hope because preservice teachers mostly believed all students can learn and will achieve.

8.1 All Students Can and Will Learn

Overall, respondents believed all students can and will learn. Female and male participants had similar beliefs; however, participants with kids and participants with teaching experience had stronger agreement with this statement than participants without kids and participants without teaching experience. Differences between these groups lead to questions about the influence of having kids and working in a classroom on beliefs about kids' abilities to learn, a belief that has been found in effective teachers (Askew et all, 1997; Haberman, 1995; Ripley 2010; Schmid, 2018; Spencer & Spencer 1993; Thomas & Barksdale-Ladd, 1995; Walden, 2008) and can positively impact student learning (Bandura, 1977, 1993; OECD, 2009; Schmid, 2018; Vartuli, 2005). Because there was more agreement for participants with kids and teachers with experience, this finding offers hope, as beliefs can be taught. When teacher candidates are taught all students can and will learn, they will hold those beliefs as teachers and can positively impact student learning.

Data from the qualitative portion of the survey support the data from the quantitative portion: Most participants wrote they believed all students can learn; however, they mentioned some conditions that need to be present for students to learn. These caveats included (a) students can learn under the right circumstances, or they learn in different ways; (b) students learn if there is a supportive home life without major struggles; (c) students can learn but not all to the same standards (d) they can learn with support; (e) students learn best in positive learning environments; (f) students can learn if motivated; (g) students can learn if they are willing to learn; and (h) students can learn if given the right instruction. Hattie (2012) studied some of these caveats, such as student motivation, home life, positive class climate, and students' dispositions and attitudes and found while they had an impact, teacher beliefs were the most influential on student learning.

Believing not all students can learn to the same level can negatively affect student achievement. Schmid (2018) studied teachers whose students came from underserved backgrounds and performed at high levels. These teachers believed all students can and will learn, and this belief should be taught to teacher candidates. It is disconcerting that many participants in this study, who were all teacher candidates, believed students could only learn when certain conditions were in place and that some of these conditions were out of their locus of control, such as home life; it has been shown in the literature (e.g., Hattie, 2012) that such conditions do not have as much of an effect size as teachers' beliefs—without conditions attached—that all students can learn.

8.2 Grade-Level Proficiency

While most participants believed all students can and will learn, not as many believed all students can and will reach grade-level proficiency in English language arts and math. While there is ample literature on teachers' beliefs that all students can and will learn (Askew et al., 1999; Haberman, 1995; Ripley, 2010; Schmid, 2012; Spencer & Spencer, 1993; Thomas & Barksdale-Ladd, 1995; Walden, 2008), there is less known about teacher beliefs about the abilities of all students to reach grade-level proficiency in English language arts and math.

Male participants than female participants more strongly agreed all students can reach grade-level proficiency: 78.6% of male participants (17.9% strongly agreed and 60.7% agreed) and 61.5% of female participants (33.3% strongly agreed and 28.2% agreed) agreed or strongly agreed with this statement. More females strongly agreed than males, while more males agreed than females. Studies have shown female teachers tend to have higher levels of self-efficacy and confidence in their teaching than male teachers, and these aspects are connected to student achievement (Ahmad et al., 2015; Cheung, 2007; Ross et al., 1996; Shadid & Thompson, 2001).

Almost twice as many participants without kids (34.2%) compared to participants with kids (15.4%) strongly agreed all students can reach grade level. When combining those who strongly agreed with those who agreed, 65% of participants with kids and 70% of participants without kids agreed or strongly agreed all students can reach grade level, showing less confidence in participants with kids than participants with no kids that every child can reach grade level. There were similar findings for participants without classroom experience: 77% of participants without classroom experience agreed or strongly agreed, while only 68.89% of the participants with experience agreed or strongly agreed. Participants who seemingly had more experience with kids, by having their own or by having had daily interactions with them in the classroom, had less confidence in children's abilities to reach grade levels than their counterparts who have less interactions with kids had. It is uncertain why participants who have had interactions with children may have lost their confidence in students' abilities to achieve.

8.3 Reflection of Teaching Quality

While most participants believed all students can learn and that all students can reach grade level, not all agreed student learning reflected the quality of teaching. Participants without experience in the classroom showed more disagreement with this statement than their counterparts with experience, which could be because the lack of experience leaves them with little confidence in their abilities to teach effectively. This result is consistent with some literature, showing experienced teachers have higher levels of confidence in their abilities than inexperienced teachers (Cheung, 2007; Nihat, 2010) and inconsistent with studies showing years of experience have a negative or neutral effect on levels of efficacy (Hoy & Woolfolk, 1990; Ross 1996).

While participants with experience in the classroom showed more agreement with the statement that student achievement is a reflection of their teaching, these same participants had lower levels of agreement with the statement that all students can reach grade level than their counterparts without experience in the classroom, a belief that is crucial to student achievement, as it relates to teacher efficacy. Studies have shown a connection between high teacher efficacy and high achievement and low teacher efficacy and low student achievement (Klehm, 2014). The belief that students' success is a direct reflection of the quality of teaching has been found to be one held by effective teachers (Schmid, 2018). For the goal of student achievement, teachers must hold high levels of efficacy.

There were connections between participant gender, experience, and having kids that may have influenced differences between groups. Male participants showed stronger agreement with the statement about the effect of teaching quality on learning than female participants, which is inconsistent with the majority of the literature reviewed (Ahmad et al., 2015; Cheung, 2007; Ross et al., 1996; Shadid & Thompson, 2001) but consistent with Nihat (2010): male teachers reported stronger conviction that student achievement was dependent on the quality of their teaching. Participants with experience in the classroom also showed a higher level of agreement with the statement about teaching quality than those without experience; however, 71.43% of male participants in the study had experience versus 64.1% of female participants. Thus, differences in gender might be a related to levels of experience in the classroom. Participants with kids showed a stronger agreement with the influence of teaching quality than those without kids. There was a higher percentage of male participants with kids (42.9%) than female participants with kids (35.9%), which could explain why there were more participants with kids who showed a stronger agreement than those without kids: male participants showed a strong agreement overall than their female counterparts.

In the qualitative portion of the survey, respondents mentioned students can learn when there is a supportive home life. While home life plays a role in student achievement (Jacob & Ryan, 2018), there is also a large body of literature about how students can be resilient to stresses at home, especially when they have connections with adults outside of the home, such as a teacher. This opinion that students learn when there is a supportive homelife could explain why some participants disagreed or had neutral responses when asked if student success is a direct reflection of their teaching. If they believed a supportive homelife is needed, they might also view success as influenced by homelife. Responses could also be connected the belief that all students can learn. Participants who did not believe all students can learn might view the lack of student success to be reflective of students' inabilities to learn, rather than a reflection of their teaching.

Participants reported students learn when they are in positive learning environments, which is consistent with literature that suggests a positive learning environment is crucial to learning (Macsuga-Gage et al., 2012).

A positive learning environment includes a teachers' beliefs in students' abilities to succeed; learning as relevant and connected to students' lives; students have choice and voice; and the physical environment is safe and conducive to students' learning preferences (Alvarez-Ortiz et al., 2017)

Researchers have found teachers make a difference in student achievement (Aaronson et al., 2007; Chait, 2009; Gordon et al., 2006; Rivkin et al., 2005; Rockoff, 2004). Haycock (1998) noted teachers have greater impact on student achievement than any other factor, including socioeconomic status and parent education. Individual teachers can affect high achievement in students, even in low-achieving schools (Felch, 2010; Marzano et al., 2001). Schmid (2018) said there are teachers whose students perform at and above grade levels despite their backgrounds, and those teachers believe all students can and will learn. Schmid (2018) found teacher self-efficacy yields high student achievement, even in low-socioeconomic schools.

8.4 Appropriate Instruction

While many participants were neutral about students' learning being a direct reflection of their teaching, the majority of participants agreed and strongly agreed that appropriate instruction enables students to succeed, which is consistent with a theme that emerged from the quantitative data: students learn if given the right instruction. It is unclear what these participants deemed to be the "right instruction." Researchers have identified effective practices, such as frequent assessment and analyzing data (Kannapel & Clements, 2013; Moser & Tresch, 2003; Ripley, 2010), routines (Ripley, 2010; WestEd, 2009b), opportunities for students to interact (Smith et al., 2001; WestEd, 2009b), collaboration with other teachers (Moser & Tresch, 2003; Spencer & Spencer, 1993), clear objectives (Haberman, 1995; Kannapel & Clements, 2013; Marzano et al., 2001; Moser & Tresch, 2003; Ripley, 2010; WestEd, 2009b; Wray & Medwell, 1999), and feedback for students (Kannapel & Clements, 2005; Marzano et al., 2001; WestEd, 2009b).

In the qualitative data, participants indicated students can learn but not all learn in the same ways, which relates to the concept of differentiated instruction. Tomlinson and Imbeau (2010) found for teachers to differentiate instruction, they should first get to know their students' interests, learning styles, and academic levels. Then, students' learning styles should be matched with appropriate teaching strategies, interests with corresponding topics, and academic levels with appropriate tasks and materials. Differentiated instruction is an important topic in teacher education programs.

8.5 Teaming With Other Teachers and Professional Learning

Most participants agreed and strongly agreed that when they teamed with other teachers, students' learning increases—though some participants responded neutrally. Schmid (2018) found teaming with other teachers to discuss student data and lesson planning was one behavior of effective teachers. Holding the belief that this practice leads to increased student achievement is the first step to engaging in collaborating with others.

Teaming with others is one way of professional learning. Coursework, mentoring, and student teaching is another way. Most participants believed professional learning correlates with increased student achievement. Teacher collaboration with other teachers has been found to positively affect student achievement (Moser & Tresch, 2003; Schmid 2018; Spencer & Spencer, 1993).

Female participants agreed more strongly than male participants; participants without kids agreed more strongly than those with kids; and participants without experience agreed more strongly than those with experience in the classroom that professional learning leads to student success, which is consistent with other survey responses, where participants without experience and participants without kids held stronger beliefs in students' success. Participants without experience might feel the need for more learning because of lack of experience, while participants with experience may be more confident, which is consistent with literature indicating experience raises confidence (Cheung, 2007; Nihat, 2010) and inconsistent with Hoy and Woolfolk (1990) and Ross (1996), who found that experience does not affect confidence. Because the literature has shown ample evidence that professional development positively affects teachers' beliefs in their abilities to teach and evokes achievement in their students (Richardson et al, 2001; Schmid, 2018; Yoo, 2016), teachers may be willing to engage in professional learning, coursework, and mentoring, resulting in high student achievement.
9 Recommendations for Preservice Programs and Districts

The results of this study offer hope that if university programs and districts encourage preservice and in-service teachers to evaluate, reflect on, and shape their beliefs, all students can achieve at high levels and be globally competitive. Results from this study support educational policy and reform efforts, such as resources to develop preservice, service, and mentoring programs to support beliefs and behaviors of exceptional teachers.

Another theme from this study that was while all students can learn, they may differ in ability levels. The existing literature has indicated effective teachers believe all students can and will learn (Schmid, 2018). Thus, this belief should be taught to teacher candidates and can be done through Socratic seminars, inspirational videos, class discussions, reflective writing, and other class activities.

Participants described how all students can learn but do not learn the same way. Thus, different methods for teaching different students should be taught to teacher candidates. To differentiate instruction, teachers should first get to know their students' interests, learning styles, and academic levels. Then, students' learning styles should be matched with appropriate teaching strategies, their interest with corresponding topics, and their academic levels with appropriate tasks and materials (Tomlinson & Imbeau, 2010). Thus, how to differentiate instruction needs to be emphasized in teacher education programs.

Participants mentioned students can learn when they are in positive environments. Teacher candidates, then, must learn how to create positive learning environments, including holding beliefs in students' abilities, that learning is relevant and connected to students' lives, that students have choice and voice, and that the physical environment is safe and conducive to students' different learning preferences (Alvarez-Ortiz et al., 2017).

Participants believed students can learn if they are motivated. Participants also wrote students can learn if they are willing to learn, which is connected to motivation. Student motivation is key to learning (Hatti, 2012). Teacher candidates should learn motivational theories and practices and how to foster motivation and a love of learning in students.

Hatti (2012) found while motivation, home life, and students' dispositions and attitudes all impact learning, teacher self-efficacy has the greatest impact. Self-efficacy must be developed in teacher candidates. Not all participants believed student success is a direct reflection of their teaching, which relates to teacher efficacy and can be increased through readings and discussions about teacher impact. Teacher candidates should be taught about evidence of their impact on students. Further, biases about students' home lives should be investigated to see if teachers' beliefs about students' abilities less are affected by teachers' knowledge of students' backgrounds, especially since in this study participants indicated students can learn under the condition that they have a supportive home life.

The results imply teacher training programs need to focus on teacher beliefs. Such emphasis in discussions, reflections, and class activities, researchers have found to yield positive changes in the beliefs of preservice teachers (Rocane Maija, 2015; Stuart & Thurlow, 2000). Training programs should focus on the beliefs that all students can reach grade-level proficiencies and that learning is a direct reflection of the quality of the teaching. Participants showed the lowest confidence when responding to survey items related to these topics and reported they believed all students can learn but only under certain conditions and only to certain levels, not necessarily grade levels. In teacher education classes, these beliefs should be discussed. Readings, assignments, discussions, and activities should focus on how to foster these circumstances and ensure that they are put in place in the K-12 classroom.

One participant responded not every child can be reached. It is crucial such beliefs are identified, examined, and discussed. Stuart and Thurlow (2000) found in teacher training classes focused on beliefs, discussions and reflections resulted in changes in beliefs. Programs should not graduate teachers who believe not every child can be reached. Instead, teachers should believe it is their duty to reach every child and have tools, strategies, and the heart to do so.

Borg (2011) found teacher education programs affected preservice teachers' practice the most when they also focused on preservice teachers' beliefs. Thus, development of beliefs must be included in teacher credentialing programs. Beliefs and behaviors that lead to increased student learning should be taught, discussed, and reflected on during preservice coursework. Before that, during the selection process for admissions, candidates' beliefs should be taken into consideration when making admissions decisions and in onboarding practices. Programs should clearly communicate course requirements to potential students and that coursework will have an emphasis on teacher candidates' beliefs about students learning.

Teacher candidates wrote students can learn if given the right instruction. Preservice programs should focus on effective strategies to teach so that students receive the right instruction. These include frequent assessment and analyzing data (Kannapel & Clements, 2005; Moser & Tresch, 2003; Ripley, 2010), routines (Ripley, 2010; WestEd, 2009b), opportunities for students to interact (Smith et al., 2001; WestEd, 2009b), collaboration with other teachers (Moser & Tresch, 2003; Spencer & Spencer, 1993), clear objectives (Haberman, 1995; Kannapel & Clements, 2005; Marzano et al., 2001; Moser & Tresch, 2003; Ripley, 2010; WestEd, 2009b; Wray & Medwell, 1999), and feedback for students (Kannapel & Clements, 2005; Marzano et al., 2001; WestEd, 2009b).

Lastly, universities should take into consideration applicants' beliefs when making decisions about admissions to preservice programs. If applicants' do not possess beliefs that every student can learn and that students' learning reflects their teaching, and these applicants are accepted into the program, their progress toward building these beliefs should be monitored.

Given that beliefs influence student achievement (Schmid, 2018), school districts should provide professional development sessions and coaching focused on teachers' beliefs about students' abilities to achieve. During these sessions, biases should be checked, beliefs examined and discussed, and information about students' abilities to learn disseminated.

10 Recommendations for Further Research

Teachers' beliefs influence instructional behaviors, a finding that has important implications for school leaders. Future research on how teachers internalize their beliefs about teaching and learning is needed. One way to build on this research would be to examine how teacher candidates' beliefs change during their credential programs, shedding light on the impact coursework has on beliefs and if there is a shift during clinical practice when teacher candidates teach children.

Participants indicated agreement with the statement that all students can learn given appropriate instruction, and that belief was underscored in the qualitative data: students can learn if given the right instruction. Future research could be done to explore what preservice teachers deem as right or appropriate instruction.

Participants with kids of their own and participants with classroom experience were not as optimistic about students' abilities to become grade-level proficient, a curious finding without much discussion in the literature. Future research could include exploring if having more contact with children relates to beliefs around students' abilities to succeed at grade-level standards.

In the era of Covid-19, when teachers and preservice teachers at clinical sites were tasked to quickly pivot to distance learning, inquiry into teachers' beliefs about students' abilities to succeed in this environment could yield interesting results. Research should be done on whether teachers' beliefs differ in this environment versus in the face-to-face modality. Additional research could be done to determine if beliefs have stayed consistent with the literature or if beliefs change with the shift in the teaching and learning modality.

11 Conclusion

In this study, I investigated preservice teachers' beliefs about students' abilities to succeed and professional learning. I found preservice teachers believed all students could and would learn when certain conditions were present. These conditions included (a) students can learn under the right circumstances, or they learn in different ways; (b) students learn if there is a supportive home life without major struggles; (c) students can learn but not all to the same standards (d) they can learn with support; (e) students learn best in positive learning environments; (f) students can learn if motivated; (g) students can learn if they are willing to learn; and (h) students can learn if given the right instruction. Participants, preservice teachers whose dream it is to become credentialed teachers, seemed to think students can only learn when certain conditions are given and that many of those conditions are outside of their control (e.g., supportive home life, absence of major struggles).

Most participants believed student learning is a direct reflection of the quality of their teaching. It is striking that participants with experience and participants with children of their own were less optimistic about all students' abilities to reach grade-level proficiency and proficiency levels as a reflection of the teacher. It would be discouraging to know experience with children, in the classroom and at home, negatively affects beliefs that all students can reach grade level and that this is a result of quality teaching. That would mean that in-service teachers lose this belief, as they gain experience with children. This finding should be further explored.

Participants believed professional learning positively affects student achievement. This belief could motivate participants to engage in professional development. These findings offer hope because they show preservice teachers are optimistic about students' abilities to achieve, about their own efficacy and about their dispositions toward professional learning—all of which are factors that positively affect student achievement. If preservice programs and in-service programs further nurture these beliefs, they may ensure all teachers believe all students can and will learn and reach grade level and that their learning is a reflection of the teaching; thus, teachers efficacy will grow. Efficacy will also grow as teachers gain experience, and their practice will improve, as they engage in professional development. All this combined, will lead to increased student achievement.

APPENDIX

SURVEY: TEACHER CANDIDATES' BELIEFS ON TEACHING AND LEARNING

Please fill in the following information:

1. The last four digits of your social security number
2. What is your age?
3. What is your gender?
4. What is your marital status?
5. How many children do you have?
   - 0
   - 1
   - 2
   - 3
   - 4
   - more than 4
6. What is your ethnicity?
7. What is your religious affiliation? If none, write "none."
8. What degrees do you hold?
9. What teaching credential are you seeking? If secondary, please indicate subject area/s.
10. What is your current occupation?

Please mark the appropriate box indicating your level of agreement/disagreement with each statement.

11. I believe that all students can and will learn.
    - Strongly agree
    - Agree
    - Neutral
    - Disagree
    - Strongly disagree
12. Students' learning is a direct reflection of the quality of the teacher's instruction.
    - Strongly agree
    - Agree
    - Neutral
    - Disagree
    - Strongly disagree
13. I believe that all students can and will reach grade level proficiency in Math and Language Arts regardless of background, ethnicity, socioeconomic class, or race if given appropriate instruction.
    - Strongly agree
    - Agree
    - Neutral
    - Disagree
    - Strongly disagree

14. Professional learning (coursework, professional development, coaching and mentoring, student teaching) correlates into students' success.
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

15. My faith influences my belief system around teaching and learning.
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

16. When I team with other teachers at school to help students learn, students' learning increases.
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

17. Appropriate instruction enables students to succeed.
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Please write a short response to the following prompt:

18. Please state in your own words your beliefs about which students can learn and how they learn best.

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Table 1

Sample Demographic Information

Category		*n*
Sex	Female	39
	Male	28
Parental Status	Participants with kids	26
	Participants with no kids	41
Teaching Experience	Experience working in a classroom (e.g., aide, substitute teacher, or contracted teacher without a credential)	45
	No experience working in a classroom	22
Credential Sought	Single Subject	39
	Multiple Subject	14
	Education Specialist	13
	Not declared	1

Note. n = 67.

Table 2

Survey Item: All Students Can and Will Learn

	n	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Female Participants	39	64.1%	35.9%	0.0%	0.0%	0.0%
Male Participants	28	60.7%	35.7%	0.0%	3.6%	0.0%
Participants With Kids	26	65.4%	34.6%	0.0%	0.0%	0.0%
Participants With No Kids	41	61.0%	36.6%	0.0%	2.4%	0.0%
Participants with Experience in a Classroom	45	64.4%	33.3%	0.0%	2.2%	0.0%
Participants with No Experience in a Classroom	22	50.1%	40.9%	0.0%	0.0%	0.0%
Total	67	62.7%	35.8%	0.0%	1.5%	0.0%

Table 3

Survey Item: All Students Can and Will Reach Grade-Level Proficiency in Language Arts and Math, Regardless of Background, Ethnicity, Socioeconomic Class, or Race, if Given Appropriate Instruction

	n	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Female Participants	39	33.3%	28.2%	18.0%	18.0%	2.6%
Male Participants	28	17.9%	60.7%	10.7%	7.1%	3.6%
Participants With Kids	26	15.4%	50.0%	11.5%	15.4%	7.7%
Participants With No Kids	31	34.2%	36.6%	17.1%	12.2%	0.0%
Participants with Experience in a Classroom	45	31.1%	37.8%	20.0%	11.1%	0.0%
Participants with No Experience in a Classroom	22	27.3%	50.0%	4.6%	18.2%	0.0%
Total	67	26.9%	41.8%	14.9%	13.4%	3.0%

Table 4

Survey Item: Students' Learning Is a Direct Reflection of the Quality of the Teachers' Instruction

	n	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Female Participants	39	5.1%	64.1%	23.1%	7.7%	0%
Male Participants	28	28.6%	46.4%	17.9%	3.6%	3.6%
Students with Kids	26	19.2%	53.6%	23.1%	0.0%	3.9%
Students with No Kids	41	12.2%	58.5%	19.5%	9.8%	0.0%
Participants with Experience in a Classroom	45	17.8%	64.4%	15.6%	2.2%	0.0%
Participants With No Experience in a Classroom	22	13.6%	40.9%	31.8%	13.6%	0.0%
Total	67	14.9%	56.7%	20.9%	6.0%	1.5%

Table 5

Survey Item: Appropriate Instruction Enables Students to Succeed

	n	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Female Participants	39	53.9%	46.2%	0%	0%	0.0%
Male Participants	28	57.1%	39.3%	0.0%	3.6%	0.0%
Participants With Kids	26	53.9%	46.2%	0.0%	0.0%	0.0%
Participants With No Kids	41	56.1%	41.5%	0.0%	2.4%	0.0%
Participants With Experience in a Classroom	45	62.2%	37.8%	0.0%	0.0%	0.0%
Participants With No Experience in a Classroom	22	40.9%	54.6%	0.0%	4.6%	0.0%
Total	67	55.2%	43.3%	0.0%	1.5%	0.0%

Table 6

Survey Item: When in a Team With Other Teachers at School to Help Students Learn, Students' Learning Increases

	n	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Female Participants	39	43.6%	41.0%	15.4%	0.0%	0.0%
Male Participants	28	42.9%	39.3%	17.9%	0.0%	0.0%
Participants With Kids	26	42.3%	38.5%	19.2%	0.0%	0.0%
Participants With No Kids	41	43.9%	41.5%	14.6%	0.0%	0.0%
Participants With Experience in a Classroom	45	42.2%	42.2%	15.6%	0.0%	0.0%
Participants With No Experience in a Classroom	22	45.5%	36.4%	18.2%	0.0%	0.0%
Total	67	43.3%	40.3%	16.4%	0.0%	0.0%

Table 7

Survey Item: Professional Learning: Coursework, Mentoring, and Student Teaching Correlates Into Students' Success

	n	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Female Participants	39	48.7%	46.2%	2.6%	2.6%	0%
Male Participants	28	35.7%	57.1%	3.6%	3.6%	0%
Participants With Kids	25	46.6%	46.2%	7.7%	0%	0%
Participants With No Kids	41	41.5%	53.7%	0.0%	4.9%	0%
Participants With Experience in a Classroom	45	44.4%	48.9%	4.4%	2.2%	0%
Participants With No Experience in a Classroom	22	40.9%	54.6%	0.0%	4.56%	0%
Total	67	43.3%	50.7%	3.0%	3.0%	0%