

TEACHING GIFTED LEARNERS:
MAPPING OPPORTUNITIES IN PRE-SERVICE TRAINING

A Capstone Project
Presented to
The Faculty of the School of Education and Human Development
University of Virginia

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

by
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May 2022

Abstract

Educator preparation programs (EPPs) are responsible for preparing pre-service teachers (PSTs) to meet the needs of diverse learners, including those who are gifted or advanced. To ensure that all P-12 students have equitable learning opportunities, PSTs must be prepared to differentiate their teaching to address the learning needs of gifted populations upon exiting their EPP.

However, the existing literature remains inconclusive about the optimum ways in which EPPs should cultivate PSTs' capacities to teach gifted students, perhaps because the efficacy of curricular and instructional experiences is dependent upon the specific contexts of individual EPPs. In Mid-Atlantic University's (MAU) secondary ELA post-graduate Master of Teaching program (PGMT), the ways in which PSTs were prepared to meet the needs of gifted learners was unknown. However, the program needed to ensure that its PSTs developed the ability to work with gifted learners in order to satisfy accreditation and licensure requirements. Therefore, I conducted a qualitative case study aimed at better understanding what transpired in the PGMT program in terms of preparing PSTs to meet gifted learners' needs. Findings suggested that (1) the program developed a foundation for teaching PSTs about all students' learning needs, (2) gifted students' needs were infrequently addressed in coursework, (3) numerous barriers influenced the program's ability to address giftedness, (4) PSTs struggled to plan for and implement instruction that was responsive to gifted learners' needs, and (5) PSTs employed one-size-fits-all teaching methods despite showing awareness of learner variance.

Keywords: pre-service teachers, educator preparation programs, gifted

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Approval of the Capstone

This Capstone (Teaching Gifted Learners: Mapping Opportunities in Pre-Service Training) has been approved by the Graduate Faculty of the School of Education and Human Development in partial fulfillment for the degree of Doctor of Education.

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DEDICATION

To my family: Many thanks.

ACKNOWLEDGEMENTS

Without the guidance and support of others, this Capstone would not have been possible. To show my appreciation for everyone's numerous contributions would take more than a few pages, but I do want to extend a very special thank you to:

Dr. Tonya Moon, for setting high standards and challenging me to meet them. You have given me so many opportunities to grow as an educator and as a scholar, and have been instrumental in shaping not only this Capstone project, but also my professional path forward. Thank you for your unfailingly incisive feedback on all of my work over the last few years, which has made me a more critical thinker and has left me better prepared for whatever comes next. It is immensely appreciated.

Dr. Jillian McGraw, for sharing your expertise in the world of teacher education and for bringing me into the fold in so many different projects. Without the opportunities that you gave me – and without the insights that you shared as I gained familiarity with the field – I could not have completed this project. I am so grateful that you were willing to help me explore my interests in both gifted and teacher education.

Dr. Jennifer Pease, for modeling what it means to be a teacher educator who endeavors to support all learners. Your teaching practices have influenced my own, and as a result, I am more prepared to better serve my own students. Thank you for allowing me to work with you and learn from you and for all of your support in completing this Capstone.

Dr. Kelly Hedrick, for always reminding me of the importance of translating theory into practice. As an instructor, you provided me with guidance from a practitioner lens, which helped me to better understand the world of gifted education. As a committee member, your

perspectives helped me keep my work practical and grounded, which truly helped to make this Capstone a more successful project.

My fellow doctoral students, for your kindness, support, and friendship. I am so grateful to have found myself among such a wonderful community of peers.

My family, for supporting me unquestioningly. I owe you all thanks for more things than I could list here. Without you, none of this would have been possible. You are more appreciated than you know.

Matthew, for convincing me, despite my skepticism, that this was something that I was capable of doing. You tend to have more clarity about these things than I do, and appreciate your continual reminders. Thank you for your unwavering support throughout this process, and for listening to me talk about work all of the time with few protestations. You are too kind.

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Chapter 1

Statement of the Problem

Educator preparation programs (EPPs) are expected to produce well-started teachers who are ready to enter the profession with specific knowledge, skills, and dispositions for meeting the needs of all learners (Council of Chief State School Officers [CCSSO], 2013; Richmond et al., 2019). However, EPPs in the United States have been widely criticized, with detractors claiming that the training that pre-service teachers (PSTs) receive is inadequate and leads to broader issues of teacher attrition and low levels of student achievement (Darling-Hammond, 2016). In response to this, EPPs have engaged in programmatic restructuring designed to enhance coherence, maximize PSTs' learning outcomes, and reduce financial and time-related barriers to program entry and completion (Darling-Hammond, 2006). EPPs have also attempted to respond to the increased diversity of P-12 students by reshaping their programs to better prepare PSTs to serve all students more equitably (Darling-Hammond, 2016; DeCuir, 2020).

The importance of preparing PSTs to attend to issues of learner diversity is underscored by requirements set forth by EPP accrediting bodies, such as the Council for the Accreditation of Educator Preparation (CAEP). Utilizing the Interstate Assessment and Support Consortium (InTASC, CCSSO, 2013) standards for well-started teachers, CAEP requires that EPPs prove that their PSTs can demonstrate a series of research-based competencies that are indicative of effective teaching. Language around supporting equitable access to the curriculum through the use of instructional practices that are responsive to learner diversity is woven throughout the InTASC standards (CCSSO, 2013). In this way, the InTASC standards clearly establish that being able to act upon knowledge of learner variance is a marker of well-started teacher. The InTASC standards clearly describe numerous types of diversity, including academic diversity,

which accounts for the spectrum of readiness levels that students may have for engaging with specific content in their zones of proximal development (Vygotsky, 1978). Learners with more advanced readiness levels (either across or within specific domains) may be classified as “gifted” or “talented,” and sometimes require differentiated curricular or instructional experiences beyond what is offered in a traditional classroom (National Association for Gifted Children [NAGC], 2014a; 2019). The InTASC standards, therefore, specifically indicate that a teacher must be able to provide advanced learners with equitable opportunities for growth in order to be considered well started (CCSSO, 2013).

At the secondary level in the United States, it is increasingly expected that teachers will meet gifted learners’ needs through the use of differentiation (Rinn et al., 2020). However, the difficulties that both in-service and pre-service teachers face in doing this is well documented in the literature (Park & Oliver, 2009; Pedersen & Kronborg, 2012; Tomlinson et al., 1994). Despite the challenges associated with providing instruction for the gifted, EPPs seeking CAEP accreditation must demonstrate that their PSTs have the knowledge and skills needed to meet gifted learners’ needs. Moreover, EPPs in the state of Virginia – according to licensure regulations from the Virginia Department of Education (VDOE) – remain responsible for ensuring that PSTs are prepared to teach the gifted upon program completion. Therefore, given that Mid-Atlantic University’s (MAU) secondary post-graduate Master of Teaching (PGMT) program must meet the requirements of both CAEP and VDOE, it must necessarily ensure that its PSTs are prepared to work with gifted learners.

To achieve this goal of developing well-started teachers who are ready to work with advanced learners, the secondary PGMT program must provide the PSTs with coherent, systematic curricular and instructional events that support their learning. However, the secondary

PGMT program was recently converted from a two-year to a one-year course of study, resulting in substantial shifts to the sequencing and structure of the program. Program redesigns of this nature have been associated with reduced coherence, and as a result, may benefit from analyses of the degree to which licensure and accreditation standards are being met through revised coursework and clinical experiences (Hammerness & Klette, 2015).

To evaluate this coherence, I conducted a curriculum-mapping review of the English/Language Arts (ELA) endorsement area of the PGMT program in spring of 2021. During this review, evidence emerged suggesting that PSTs may not have access to learning opportunities that would fully prepare them to work with gifted students. If this is true, then it is possible that the ELA PSTs may not yet have met the InTASC standards (CCSSO, 2013) or VDOE licensure regulations (2018) for well-started teachers who can attend to issues of academic diversity. Therefore, this Capstone study seeks to better understand what the ELA PGMT program does to prepare PSTs to meet gifted learners' needs, what PSTs' perceptions are of their preparation for working with gifted learners, and what the nature of PSTs' experiences are with these learners in their clinical placements. Based on the study's findings, I generated commendations and recommendations for the program in order to support its efforts towards cultivating well-started teachers who are prepared to teach gifted students.

Conceptual Framework

The conceptual framework for this study begins with the idea that PSTs enter their teacher training programs with pre-existing beliefs about the nature of teaching and learning, which inform their conceptions of what should transpire within a classroom (Lortie, 1975). Given that beliefs are known to influence practice (Fives & Buehl, 2016; Pajares, 1992), EPPs must account for PSTs' beliefs when designing learning experiences intended to develop PSTs

into well-started teachers. Although EPPs cannot control the beliefs that PSTs have upon program entry, they can shape elements of coursework and clinical experiences that impact the development of PSTs' professional knowledge (Korthagen et al., 2006). For the purposes of this study, I draw upon Fenstermacher's (1994) conception of professional knowledge as a construct composed of the formal knowledge of teaching (i.e., what is known through empirical evidence) and the practical knowledge of teaching (i.e., what is known through practice-based experiences).

The conceptual framework represents these dual strands of professional knowledge as coursework in the ELA endorsement area (formal knowledge of teaching) and clinical experiences (practical knowledge of teaching). Coursework and clinical experiences are mutually reinforcing and are both mediated by existing beliefs. Additionally, if coursework and clinical placements are effective, they can become agents of belief and behavioral changes over time (Fives & Buehl, 2016; Pajares, 1992). EPPs seeking to produce well-started teachers must ensure that coursework and clinical experiences support PSTs in negotiating their beliefs and in acquiring professional knowledge. The development of PSTs' abilities to serve gifted learners is influenced by the following elements of their coursework: (1) content relating to learner differences and needs, (2) content relating to the ways in which attending to those needs relates to equity, (3) content focused on preparing PSTs to use instructional methods that are responsive to learners' needs, and (4) the degree of conceptual coherence across a program (i.e., consistent messaging across courses such that PSTs' learning is built over time).

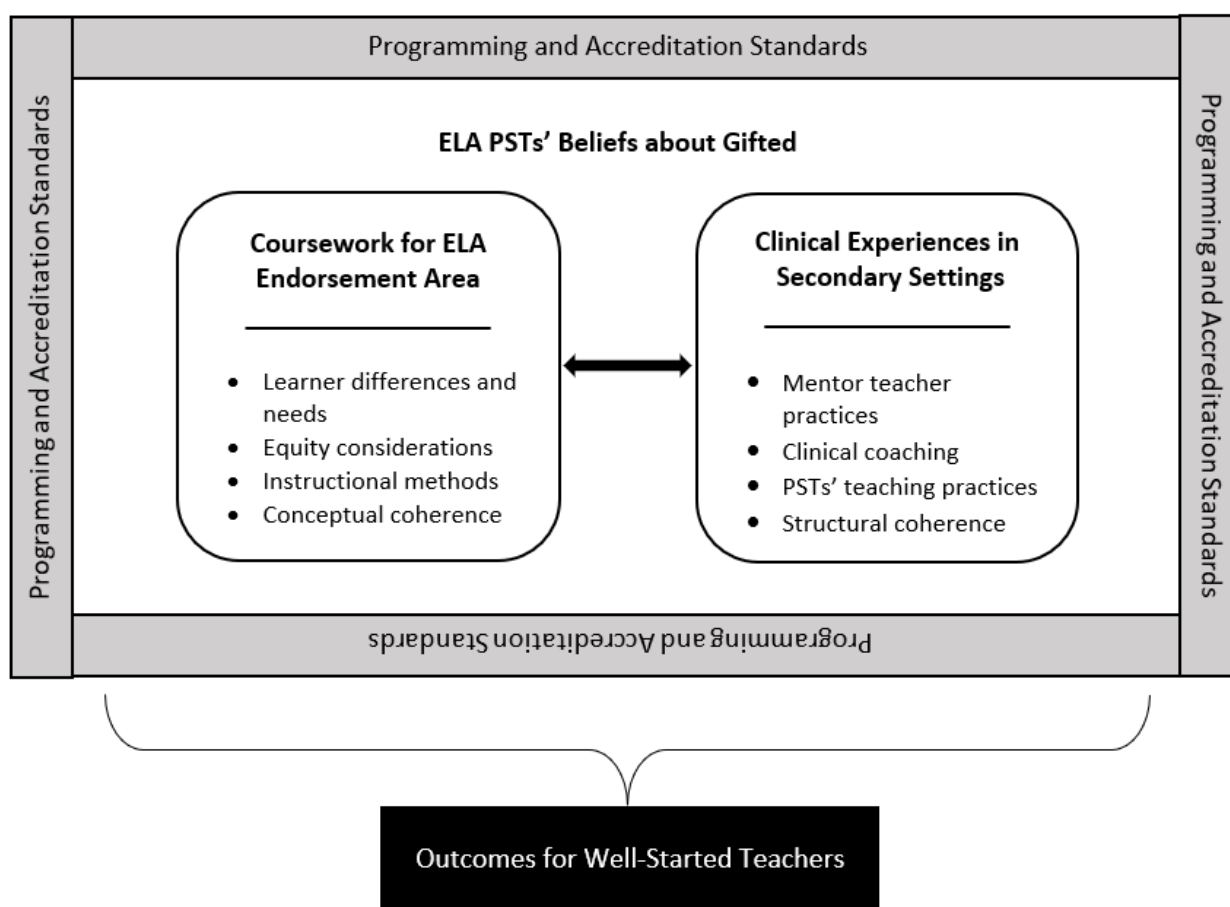
PSTs' professional knowledge is further developed in their clinical experiences, where PSTs are likely to be influenced by the practices modeled by their mentor teachers (Loughran, 2006). Additionally, PSTs' practices can be influenced by their engagement in structured

reflection with clinical coaches about PSTs' own lesson planning and implementation (Roberts et al., 2021), and can also be shaped by the structural coherence of their program (i.e., the degree which clinical experiences are aligned with coursework [McQuillan et al., 2012]).

Given that numerous variables influence PSTs' development towards becoming well-started teachers, EPPs must be intentional in the design of their coursework and PSTs' clinical experiences. In doing so, EPPs will help PSTs become well-started teachers who can meet the needs of diverse learners – including those who are gifted – upon program completion, which is a requirement for programming and accreditation standards.

Figure 1.1

Conceptual Framework



Purpose of the Study

According to accreditation and licensure guidelines for MAU's secondary PGMT program, PSTs must be prepared to meet the needs of gifted learners. However, the ways in which PSTs within the ELA program cohort are prepared to do this is unknown. Therefore, this study is intended to help the ELA endorsement area of the secondary PGMT program better understand the ways in which its PSTs are prepared to teach gifted learners. The study also seeks to provide the program with information about PSTs' perceptions of their preparation, as well as the nature of PSTs' interactions with gifted learners in their clinical settings. To better understand what happens in the secondary ELA PGMT program context, I utilized a case study approach to answer the following research questions:

- Research Question 1: In what ways does the secondary PGMT program prepare ELA PSTs to address the needs of gifted students?
- Research Question 2: What are ELA PSTs' perceptions of their preparation to address the needs of gifted students?
- Research Question 3: What is the nature of ELA PSTs' teaching experiences with gifted learners during clinical experiences?

Significance of the Study

Prior studies suggest that EPPs' efficacy in preparing PSTs to be well-started teachers is contingent upon the programs' curricular and instructional design, including coherence across courses and between the university and clinical settings (Hammerness & Klette, 2015; Korthagen et al., 2006; Richmond et al., 2019). Several other features of EPPs (e.g., opportunities for PSTs to collaborate, build reflective skills, enact microteaching practices, etc.) have also been shown to influence PSTs' learning outcomes (Holmes et al., 2020; Kourieos, 2016; Pekdağ et al., 2020;

Plöger et al., 2018; Roberts et al., 2021). Existing studies (e.g., Akar, 2020; Gentry et al., 2011; Vidergor, 2015) have also attempted to identify what it means to be an effective teacher of the gifted, focusing specifically on the beliefs or attributes that these teachers possess. However, little research has been done to fully explore what a well-started PST should know, understand, or be able to do in order to work with gifted learners.

Although the InTASC standards (CCSSO, 2013) and VDOE regulations (2018) clearly indicate that well-started teachers must possess the ability to teach the gifted, they offer no prescribed formula for what curricular and instructional approaches an EPP should take to achieve this objective. The research, similarly, offers no conclusive suggestions as to what EPPs should do to ensure that their PSTs can meet gifted students' needs. Several studies (e.g., Berman et al., 2012; Hansen & Feldhusen, 1994) indicate that coursework alone can be helpful in preparing PSTs for this work, but the findings are inconclusive as to what the nature of the coursework should be and how much of it is necessary. Other studies (e.g., Chamberlin & Chamberlin, 2010) suggest that clinical experiences with gifted learners can better prepare PSTs to teach this population, although findings about the features and quantity of these placement experiences are also inconclusive. Based on existing research, it seems as though a combination of coursework and clinical experiences may yield the most promising outcomes in terms of preparing PSTs to teach gifted students (Bangel et al., 2006, 2010; Frazier, 2018; Hudson et al., 2010; Watters et al., 2013). However, this research again offers no specific formula for what combination of courses and clinical experiences is most effective among PST populations.

The studies noted above have distinct limitations that prevent their generalizability to MAU's EPP. First, most studies have small sample sizes and are embedded within a context that may not be comparable to MAU's, which means that what worked (or did not work) may not be

transferable beyond the bounds of those specific sites. Second, these studies typically do not control for or consider other variables (e.g., PSTs' pre-existing beliefs, self-selection into gifted coursework) that could influence their findings. Given these limitations and the lack of generalizability, MAU's secondary ELA PGM program cannot solely look to the literature to determine how best to prepare its PSTs to teach gifted students. Therefore, this study aims to gather data from sources that are embedded within the specific program context, and through systematic analyses, to generate findings that are relevant to the program's particular teaching and learning space. I will then make recommendations to the program's stakeholders that help them better prepare ELA PSTs to teach gifted students within the context of the secondary PGM program framework.

Definitions of Key Terms

Appropriately Differentiated Curriculum and Instruction: The Virginia Board of Education (VBOE, 2020) defines “appropriately differentiated curriculum and instruction” for gifted learners as “curriculum and instruction adapted or modified to accommodate the accelerated learning aptitudes of identified students in their areas of strength. Such curriculum and instructional strategies provide accelerated and enrichment opportunities that recognize gifted students' needs for (i) advanced content and pacing of instruction; (ii) original research or production; (iii) problem finding and solving; (iv) higher level thinking that leads to the generation of products; and (v) a focus on issues, themes, and ideas within and across areas of study. Such curriculum and instruction are offered continuously and sequentially to support the achievement of student outcomes, and provide support necessary for these students to work at increasing levels of complexity that differ significantly from those of their age-level peers.”

Clinical Experiences: According to the Virginia Legislative Information System (VLIS, 2018), “‘field experiences’ (also known as ‘clinical experiences’) means program components that are (i) conducted in off-campus settings or on-campus settings dedicated to the instruction of children who would or could otherwise be served by school divisions in Virginia or accredited nonpublic schools and (ii) accredited for this purpose by external entities such as regional accrediting agencies. Field experiences include classroom observations, tutoring, assisting teachers and school administrators, and supervised clinical experiences (i.e., practica, student teaching, and internships).”

Conceptual Coherence: Hammerness (2006) defines “conceptual coherence” as “a shared conception of teaching that undergirds and pervades [a] program,” which involves having a cohesive program vision that is reinforced across coursework (p. 1242).

Differentiation: Differentiation is a framework for guiding classroom curriculum, instruction, and assessment that is response to students’ needs on the basis of their varied readiness levels, interests, and learning preferences. Classroom content, processes, and products can be shaped to augment student engagement and provide all students with equitable opportunities to access information and demonstrate their learning (Tomlinson, 2003).

Educator Preparation Program: In Virginia, an “educator preparation program” refers to the “institution, college, school, department, or other administrative body within a Virginia institution of higher education, or another Virginia entity, for a defined education program that is primarily responsible for the preparation of teachers and other professional school personnel” (VLIS, 2018).

Gifted Student: In Virginia, “gifted students” refers to “those students in public elementary and secondary schools beginning with kindergarten through twelfth grade who demonstrate high

levels of achievement or who show the potential for higher levels of achievement when compared to others of the same age, experience, environment, or cultural background. Their aptitudes and potential for achievement are so outstanding that they require special programs to meet their educational needs. These students will be identified by professionally qualified persons through the use of multiple criteria as having potential or demonstrated aptitudes in one or more of the following areas:

1. General intellectual aptitude. Such students demonstrate or have the potential to demonstrate several of the following characteristics beyond their age-level peers: advanced thinking and reasoning; persistent intellectual curiosity; exceptional problem solving; rapid acquisition and mastery of facts, concepts, and principles; or creative and imaginative expression across a broad range of intellectual disciplines.
2. Specific academic aptitude. Such students demonstrate or have the potential to demonstrate several of the following characteristics beyond their age-level peers in selected academic areas that may include English, history and social science, mathematics, or science: advanced thinking and reasoning; persistent intellectual curiosity; exceptional problem solving; rapid acquisition and mastery of facts, concepts, and principles; or creative and imaginative expression.
3. Career and technical aptitude. Such students demonstrate or have the potential to demonstrate several of the following characteristics beyond their age-level peers in career and technical fields: advanced thinking and reasoning; persistent technical curiosity; exceptional problem solving; rapid acquisition and mastery of facts, concepts, and principles; or creative and imaginative expression.

4. Visual or performing arts aptitude. Such students demonstrate or have the potential to demonstrate several of the following characteristics beyond their age-level peers in visual or performing arts: advanced creative reasoning and imaginative expression; persistent artistic curiosity; or advanced acquisition and mastery of techniques, perspectives, concepts, and principles” (VBOE, 2020).

Learning Needs of Gifted Students: According to the VBOE (2020), “learning needs of gifted students” refers to “gifted students' needs for advanced and complex content that is paced and sequenced to respond to their persistent intellectual, artistic, or technical curiosity; exceptional problem-solving abilities; rapid acquisition and mastery of facts; conceptual thinking processes; and imaginative expression across a broad range of disciplines.”

Pre-Service Teachers: In this study, “pre-service teachers” refers to teacher candidates who are seeking initial licensure and are enrolled in an educator preparation program.

Structural Coherence: Hammerness (2006) defines “structural coherence” as “organizing and aligning courses and student teaching placements around a particular conception of teaching and learning in an effort to construct an integrated experience, or trying to create courses that build sequentially on one another and reinforce one another” (p. 1242).

Student Outcomes: “Student outcomes” for gifted learners refers to “the advanced achievement and performance expectations established for each gifted student, through the review of the student's assessed learning needs and the goals of the program of study, that are reviewed and reported to parents or legal guardians” (VBOE, 2020).

Chapter 2

Chapter 1 traced the process by which I identified the problem of practice under investigation in this Capstone and situated the challenge of preparing PSTs to work with gifted learners within the secondary PGMT program's current context. In Chapter 2, I explore the literature that framed my understanding of the problem of practice and that shaped the research methods and recommendations that are part of this Capstone project. Through this literature review, I examine:

- attributes of effective educator preparation programs
- attributes of effective teachers of the gifted
- present practices in gifted education in P-12 settings and EPPs
- EPPs' accreditation requirements relating to gifted education
- PSTs' beliefs about gifted students and gifted education
- EPPs' practices for preparing PSTs to teach gifted students

Effective Educator Preparation Programs

A review of the literature on EPP effectiveness suggests that several factors influence the degree to which PSTs exit programs as well-started teachers. In this section, I describe what the literature suggests it means to be a well-started teacher and examine the features of EPPs that support PSTs' preparation.

Well-Started Teachers

Teachers' professional knowledge and skills increase with experience over time (Melnick & Meister, 2008; Taylan, 2018), yet there are still baseline competencies that beginning teachers should possess in order to effectively serve students (CCSSO, 2013). According to the InTASC standards, well-started teachers should be able to recognize and respond to learner diversity,

create positive classroom environments, demonstrate knowledge of content and standards, design and implement effective instruction and assessments, and engage in continued professional learning (CCSSO, 2013). Many EPPs use these standards as the basis for determining whether or not their PSTs could be considered well started upon exiting their programs.

However, studies show that first-year teachers may not be meeting these standards, which calls into question the degree to which EPP program completers are well started. For example, Zhukova (2018) found that in the first year of teaching, teachers focus largely on behavioral and management issues and are primarily concerned with their own personal experiences in the classroom. It is not until their second year that they grow increasingly concerned with the implementation of student-centered pedagogies and the effects that their teaching has on students. However, it should be noted that although Zhukova (2018) followed the teachers in this study for two years in order to gather detailed data, the study's sample was limited to four participants, and therefore not generalizable across contexts. Additionally, it is likely that the teachers' performances during their first year could be attributed to a host of additional factors (e.g., the school working conditions) beyond the control of the EPP.

Although the Zhukova (2018) study has clear limitations, similar findings have been noted by other researchers. For example, Miles and Knipe (2018) found that in their study of 51 first-year teachers (all graduates of the same EPP), 13 reported feeling "not at all prepared" for their work. Nine reported feeling prepared only because of their personal attributes and 14 indicated that they were prepared only because of their clinical work. None of the teachers in these groups reported feeling prepared by any coursework in their EPP. Only 15 of the 51 surveyed teachers suggested that their EPP has prepared them for the profession in any way. Most of the first-year teachers in this study explained that their lack of preparation was rooted in

the EPP's focus on breadth (rather than depth) of coverage, given the accelerated nature of their particular program. To feel more prepared, participants in this study indicated that they would have liked to learn about more instructional strategies, particularly for attending to the various types of learner diversity present in their classrooms (Miles & Knipe, 2018). However, these findings should be considered alongside the evaluations of the supervisors who rated the work of the 51 PSTs in this study. Overall, the supervisors rated the PSTs' preparedness and competence levels higher than the PSTs rated themselves, which Miles and Knipe (2018) suggest is indicative of supervisors' understanding of the continuum of expertise, which the PSTs themselves may lack.

Based on the above findings, EPPs must take steps to ensure that their own completers derive value from the program and are prepared to enter the profession. In doing so, EPPs can better prepare first-year teachers to focus on student-centered teaching and outcomes at the onset of their professional careers and to attend to the varied types of learner diversity in all classrooms (Smith-Sherwood, 2018). One significant challenge in realizing this goal, however, is the inability to accurately measure what constitutes EPP or beginning teacher effectiveness. Although accrediting bodies (e.g., CAEP) attempt to measure efficacy through program completer and employer data, these measures often rely on subjective reports. Attempts to evaluate EPPs' efficacy also utilize value-added measurements (VAMs), which aim to examine the degree to which changes in students' standardized test scores are attributable to their teachers (Welsh, 2011). Boyd et al.'s (2009) examination of VAMs across New York EPPs indicated that variation in PSTs' value-added scores reflected student achievement gains (after controlling for background characteristics of teachers, such as scores on certification exams) that could possibly be linked to EPP effectiveness. However, As Gansle et al. (2012) note, value-added measures

may tell us that differences in teachers' or EPPs' performances may exist, but they cannot conclusively point to *why* there is variability.

Despite not having conclusive evidence about how best to demonstrate EPP effectiveness, programs must still endeavor to ensure their PSTs are well started. This can be done by first acknowledging the research that indicates that EPPs may not have statistically significant influences on PSTs' performances (von Hippel & Bellows, 2018), and therefore, the degree to which PSTs can be considered well started. This awareness can lead EPPs to adopt a goal-orientation, which may be a precursor to programmatic shifts designed to lead to greater coherence (Newmann et al., 2001), and therefore, to improved learning outcomes for PSTs (Hammerness, 2006). Then, using the research on which features of EPPs *do* lead to PST preparedness, EPPs can engage in self-studies in which they compare themselves against the criteria set forth in the literature. Through self-analysis, EPPs can work towards developing and implementing program improvements that assist in the cultivation of well-started PSTs. In the subsequent sections, I describe the research-based features of EPPs that can assist programs in reaching this goal.

Developing Professional Knowledge

PSTs often enter their EPPs with beliefs about teaching and learning that have been informed by prior experiences in educational settings, which Lortie (1975) refers to as the "apprenticeship of observation." Teacher education programs, therefore, are charged with reshaping these beliefs and helping PSTs cultivate professional knowledge that is rooted in best practice (rather than based on what they had observed in their own experiences as students). However, developing professional knowledge is a challenge, as what constitutes this type of knowledge is continually debated in the field (Munby et al., 2001). One definition, for example,

posits that professional knowledge is a dichotomized construct including both the formal knowledge of teaching (developed through research) and the practical knowledge of teaching (developed through experiences in schools) (Fenstermacher, 1994). Cochran-Smith and Lytle (1999), however, suggest that the foundations of professional knowledge are threefold: knowledge for practice, knowledge in practice, and knowledge of practice. Although these competing definitions exist, research seems to align more frequently with Fenstermacher's (1994) view that professional knowledge consists of both formal and practical knowledge, often referred to as episteme and phronesis, respectively.

For example, both Loughran (2006) and van der Linden and McKenney (2020) suggest that teachers' professional knowledge should exist as a confluence of episteme and phronesis. Loughran (2006) defines episteme as the propositional, theoretical knowledge that emerges from empirical study and that is communicated in abstract terms and applied across a variety of generalized contexts. Episteme is often the focal point of university coursework in pedagogy, whereas phronesis is the more concrete, situated knowledge that emerges through experiential teaching moments during clinical placements. Together, episteme and phronesis should lead to the development of professional knowledge that forms the basis of teachers' praxes through "self-directed theory building," a process that is deliberately facilitated by successful EPPs (Korthagen et al., 2006, p. 1027). However, episteme is often privileged at the university level, which may prevent PSTs from engaging in sense-making around the knowledge that they acquire in the field, thereby leaving them unprepared to contend with classroom realities (Korthagen et al., 2006; Yin, 2019). Effective EPPs recognize that phronesis should act as a conduit for the development of episteme, such that practice informs theory and theory informs practice (Loughran, 2006; Smith-Sherwood, 2018). Therefore, EPPs seeking to produce well-started

teachers should design coursework that reinforces both episteme and phronesis in order to help PSTs acquire professional knowledge that helps them navigate teaching demands. To accomplish this, EPPs need to cultivate strong university/school partnerships that support meaning-making surrounding both theory and practice (Millwater & Yarrow, 1997; Smith-Sherwood, 2018).

Tsafos (2009), for example, investigated an EPP that developed a pre-service model in which PSTs were required to conduct action research into a problem of practice within their clinical placement. As part of this action research, the PSTs engaged in systematic observations of a classroom for a two-month period, then determined an intervention or set of teaching strategies (based on what they learned about pedagogy in their university coursework) designed to address an identified problem of practice. After implementing the intervention, the PSTs were required to evaluate its effects and to reflect on considerations for future practice. Therefore, the model was intentionally designed to decrease the theory/practice divide by requiring PSTs to blend episteme and phronesis in a way that could be transferred into their future professional context. As a result of their work, the PSTs in Tsafos's (2009) study reported having greater insights into how schools function as a consequence of unearthing the complexities of the teaching/learning process (a finding that was similarly observed by Ralston et al.'s [2017] study of action research in EPPs). The PSTs, therefore, were able to develop professional knowledge negotiated by both the university and clinical setting (Tsafos, 2009), which Wilson (2012) suggests is integral to any effective model of teacher education.

A major challenge that EPPs face in attempting to mimic this approach, however, is the need to have a strong university/school partnership and effective mentor teacher involvement. Without those conditions, this model is unlikely to be effective in helping PSTs develop the

professional knowledge that is integral to being a well-started teacher. Additionally, the time and resources needed to implement such a model might not be realistically attainable for many EPPs.

Collaboration and the Co-Construction of Learning

Research indicates that EPPs should provide PSTs with opportunities for collaboration, as change often happens at the social level prior to occurring at the individual level (Burner & Svendsen, 2020). For example, Holmes et al. (2020) found that when EPPs emphasized dialogic and collaborative activities during coursework, PSTs were better able to make sense of their positionalities in the classroom and of their assumptions about teaching and learning, which may be critical for development. Wang and Simpson (2020) also found that co-created professional knowledge emerged in PSTs' practices when they engaged in coursework that was structured around dialogic interactions. In their case study of successful EPPs, Korthagen et al. (2006) also observed that effective programs encouraged PSTs' development through the building of discursive communities. Moreover, in Vogler et al.'s (2021) study of 43 PSTs, researchers compared the learning outcomes for PSTs enrolled in a course organized around collaborative learning principles and another delivered through a lecture-based format. Independent sample *t*-tests show statistically significant differences in course grades, with the collaborative learning group performing better than the comparison group. However, it should be noted that in Vogler et al.'s (2021) study, researchers did not control for other variables (e.g., course instructors, class scheduling) that may have also impacted PSTs' performances. Despite these limitations, findings from the above studies seem to suggest that it is important to give PSTs the opportunity to co-construct meaning and to act as reflective, collaborative practitioners (Holmes et al., 2020; Korthagen et al., 2006; Wang & Simpson, 2020), which is indicative of being a well-started teacher according to the InTASC standards (CCSSO, 2013).

The positive effects of collaboratively-organized programming in EPPs may extend beyond PSTs' development. For example, Wang and Simpson (2020) found that when PSTs are engaged in dialogic and collaborative learning within their EPP, they are more likely to transfer the use of dialogically-organized instruction to their own classrooms. This finding is significant when considered alongside Behlol et al.'s (2021) study, which indicated that most EPPs that they evaluated were lecture oriented. Given that PSTs may utilize the teaching strategies that are modeled for them (Wang & Simpson, 2020), monologically-driven EPPs that fail to promote collaboration may inadvertently encourage PSTs to rely heavily on lecture formats in their own classroom. This instructional approach is unlikely to fully support students' learning, thereby undermining EPPs' efforts to ensure that their PSTs are well started. Based on these research findings, it is clear that EPPs must include meaningful opportunities for collaborative work that encourage the co-construction of learning in order to prepare PSTs for classroom efficacy.

Opportunities for Reflection

According to Loughran (2006), PSTs develop their personal teaching pedagogies through ongoing performances of reflexivity. Through reflection, PSTs may be able to synthesize the knowledge that emerges through coursework (episteme) with the knowledge that they construct in specific contexts (phronesis) (van der Linden & McKenney, 2020). The positive outcomes associated with this type of reflection are more likely to occur when the reflection is continual, scaffolded, and embedded within the EPP (Krapivynk et al., 2021).

Given this, the literature seems to suggest that EPPs should adopt more formal approaches to reflection, ideally guided by a framework that supports ongoing and structured self-reflection (Brantley-Dias & Calandra, 2007; Plöger et al., 2018; Roberts et al., 2021). For example, in their study investigating the use of a structure reflective framework that followed a

report-relate-reconstruct progression, Roberts et al. (2021) found that both PSTs and their supervising coaches reported on the usefulness of the framework in supporting the development of professional knowledge and skills. Plöger et al. (2018) also examined the use of a structured reflection method in their study of 316 PSTs' pre- and post-test performances involving the use of video-based reflection. The treatment group in the study – which employed the structured video-reflection method – performed statistically significantly higher than the control group in their post-test abilities to notice and assess classroom situations and behaviors and to suggest alternate instructional approaches to what they viewed in their videotaped lessons (Plöger et al., 2018).

In addition to utilizing a structured approach to self-reflection, the literature suggests that EPPs should engage PSTs in examinations of their own beliefs (which can influence their interactions with students [Pajares, 1992]) and reflect on changes over time. According to Brantley-Dias and Calandra (2007), these reflections serve as a mechanism for cultivating more effective teaching practices. Loughran (2006) suggests that the relationship between effective teaching and reflection occurs when PSTs reflect on their emerging phronesis and explore its convergence with or divergence from the theories and methods promoted by the university (Loughran, 2006). Therefore, it may be critical for EPPs to design coursework that deliberately promotes reflection on the theory/practice divide as a way to develop professional knowledge. In this way, PSTs may come to view clinical experiences not as just an opportunity to apply theory, but rather, as an opportunity to develop situated knowledge that they can reflect upon during coursework, and in doing so, negotiate phronesis with episteme (Loughran, 2006).

In EPPs where effective reflection is utilized in this way, PSTs report that it can be a catalyst for shaping their teaching practices, particularly as they seek to develop effective and

engaging lesson plans (Yin, 2019). According to the InTASC standards (CCSSO, 2013) and literature on effective teaching (e.g., Korthagen et al., 2006; Mergler & Spooner-Lane, 2012), the ability to use reflection to elevate one's practice is critical for well-started beginning teachers. Although these findings generally indicate that reflection can support PSTs' development both within and beyond their EPPs, there does not appear to be consensus about the amount of reflection needed, nor about the amount of structure that is best for PSTs at the individual level. According to Burner and Svendsen (2020), reflection exercises should be developed with consideration for PSTs' zones of proximal development, which means that the amount of scaffolding and structured reflection time needed for each PST may vary (Krapivynk et al., 2021). Because of this, EPPs should find ways to build reflection into their programming that both adheres to best practices identified in the literature while simultaneously being responsive to their PSTs' needs.

Opportunities for Enactment

Although opportunities to enact lesson delivery are important to developing PSTs' teaching efficacy, PSTs may have few opportunities to practice those enactment skills in their EPPs (Klette & Hammerness, 2016). Microteaching experiences, however, can be used to increase PSTs' enactment practice (Joseph & Heading, 2010). When paired with structured reflection, microteaching provides PSTs with opportunities to explore the intersection of theory and practice, which helps them to more thoroughly understand the complexities of the teaching and learning process and to develop professional knowledge (Joseph & Heading, 2010). For example, in Pekdağ et al.'s (2021) study of the effects of microteaching on PSTs' practices, researchers found that PSTs' teaching competence scores on the Teachers' Development Scale (an instrument used to measure teachers' content knowledge, pedagogical knowledge, and

pedagogical content knowledge) showed statistically significant increases over the course of the semester following sustained enactment practice. During these enactment experiences, PSTs viewed and reflected upon videos of their own teaching and engaged in collaborative dialogue about the enactments with their instructors and peers. According to Kourieos (2016), microteaching of this nature helps PSTs develop a greater awareness of their own teaching by linking theory to practice. Therefore, the blend of enactment and reflective experiences can help PSTs build their professional knowledge through the integration of episteme and phronesis.

Güngör and Güngör (2019) also explored the utility of microteaching in developing PSTs' practices, finding in their study of 34 PSTs that collaboration with peers during microteaching opportunities helped with sense-making when unanticipated issues arose in their classrooms. This finding underscores the idea that the co-construction of professional knowledge has the potential to support PSTs' development. However, Güngör and Güngör (2019) also observed that collaboration during microteaching was less effective for shy PSTs and in instances when friends were asked to critique one another. EPPs must have an awareness of these enactment challenges, then design learning experiences for PSTs that help to mitigate any limiting factors. In this way, enactment opportunities can help PSTs develop instructional planning and delivery skills that are essential for well-started teachers (CCSSO, 2013).

Modeling of Practice

Both White's (2002) and Berry's (2004) self-studies of the challenges faced by teacher educators reveal the difficulties associated with modeling the pedagogies that EPPs advance as best practice. Yet, this explicit modeling may be necessary for the cultivation of PSTs' teaching capacities. According to Korthagen et al. (2006), effective EPPs have instructors who make the tacit processes of teaching explicit for their PSTs. Modeling through think-alouds can play a

critical role in making teacher educators' thinking accessible and understandable to PSTs, thereby supporting PSTs' development of professional knowledge (Loughran, 1995). However, as Berry (2004) suggests, utilizing think-alouds purposefully requires the development of expertise, as teaching about teaching is a skill set distinct from the act of teaching about other content. Despite challenges inherent to modeling effective teaching practices and thought processes, studies (e.g., Loughran, 1995) showing its advantages for PST development indicate that EPPs would benefit from helping instructors develop these skill sets. If explicit modeling can help PSTs hone their own competencies, it is likely that they will be more prepared for entering the profession.

Clinical Experiences

Clinical experiences provide opportunities for the development of phronesis and can help PSTs gain exposure to the realities of teaching (Loughran, 2006). Well-curated clinical work can help develop PSTs' capacities to create classroom environments and lesson plans that support students' development (Korthagen et al., 2006). Additionally, clinical experiences can help PSTs develop comfort levels for working with a variety of learners (Wyss et al., 2012), which is a skillset that all beginning teachers need to possess (CCSSO, 2013).

Although research largely suggests that clinical work is fundamental to PSTs' development, not all experiences are equally educative, and may depend on interactions with mentor teachers (MTs). According to Zanting et al. (2003), the most common ways in which PSTs attempt to acquire practical knowledge during clinical work is by observing their MTs, asking the MTs questions about observed lessons, and discussing the PSTs' own lessons. However, interviews with and observations of the 29 PSTs in Zanting et al.'s (2003) study suggested high variability in the degree to which these interactions actually produced

professional knowledge. The implication for EPPs is that they must recruit MTs who can effectively support PSTs in their development of professional knowledge. The challenge, however, is that measuring MT effectiveness and/or partnering with effective MTs may be logistically difficult.

PSTs' clinical work can also be supported by faculty involvement. For example, Wyss et al. (2012) compared the comfort levels of PSTs whose faculty instructors joined them in the field with the comfort levels of those whose instructors did not accompany them. The PSTs in the former group reported more gains in their lesson-planning and classroom-management abilities than the latter. Although this study suggests that increased faculty engagement with PSTs during their clinical work could be beneficial, it may not be pragmatic for faculty to consistently engage in this capacity. Although there are challenges associated with increased faculty engagement or finding effective MTs, the above studies suggest that clinical work in support of PSTs' development can be enhanced by expert guidance. EPPs should consider this when structuring PSTs' clinical work so that these experiences can be leveraged to maximize learning outcomes.

Conceptual Coherence

One marker of effective EPPs is coherence, both at the conceptual level (i.e., coherence among courses) and at the structural level (i.e., coherence between coursework and clinical work) (Hammerness, 2006). Several studies (e.g., Korthagen et al., 2006; Smith-Sherwood, 2018) indicate that coherence among program elements (both conceptual and structural) is integral to PSTs' efficacy, and may therefore influence the extent to which PSTs are well started following program completion. Conceptual coherence takes into account the sequencing of courses, with specific consideration given to the ways in which PSTs build competencies over time (Hammerness, 2006). It is defined as consistent cross-course messaging and content

determined by a faculty's shared conception of "good teaching" that guides and sustains the program (Hammerness, 2006). Having a clear, coherent, program-level shared vision of what "good teaching" looks like that is represented across courses can be an indicator of EPP coherence (Cavanna et al., 2021; Hammerness & Klette, 2015). According to Cavanna et al. (2021), a program's vision is clear if it is "explicit, specific, known and understood by faculty and teaching candidates, and includes strategies for enacting the vision" (p. 39). Hammerness and Klette (2015) similarly suggest that for a vision to serve as a mechanism for promoting coherence, it must be understood by PSTs so that PSTs know how they are expected to develop the competencies of "good teaching" over time.

However, cultivating and communicating coherence and shared visions can be a challenge for EPPs. In a 2013 study, Hammerness analyzed program vision and coherence in several EPPs and found that the communication of visions across EPPs' program documents (e.g., websites, syllabi) was inconsistent, suggesting that developing or maintaining a coherent vision may be difficult. Additionally, in a survey of 305 PSTs, Cavanna et al. (2021) found statistically significant variation in PSTs' perceptions of program visions across the four EPPs involved in the study. Differences in PSTs' perceptions spanned several categories associated with coherence, including programs' emphases on similar values/views across courses and the establishment of clear program learning goals. These findings again point to the fact that communicating consistent visions presents challenges. Further, in studies of PSTs' perceptions of their EPPs' coherence (e.g., Flores et al., 2014), PSTs often indicate needing clearer articulations of programs' visions of good teaching, fewer redundancies in course content, and more intentional sequencing in their coursework – all of which would increase conceptual coherence.

Despite the difficulties associated with promoting a coherent vision, EPPs may need to make doing so a priority if they want to effectively shape PSTs' professional identities. In a 2011 phenomenographic case study of 18 PSTs, Rogers explored PSTs' epistemological development and professional-identity creation. This examination of PSTs' experiences illustrated the degree to which PSTs' programming contexts and the visions communicated by those EPPs appeared to shape PSTs' professional identities. In other words, PSTs may look to programs to answer the question: "What kind of teacher am I supposed to be?" Because of this, Rogers (2011) argues, EPPs must advance a clear and consistent vision about teaching, as those visions can be fundamental to PSTs' professional-identity development, and potentially, to their development as well-started teachers. However, it should be noted that Rogers's (2011) findings may not be generalizable, given that the study's sample is drawn from a small number of PSTs at a single institution. Moreover, while it is possible that EPPs can shape professional identities, this particular study did not consider that evidence of PSTs' transformations could be attributed to variables other than those related to the EPP.

Structural Coherence

Structural coherence refers to the degree of alignment between courses and clinical work, focusing on the extent to which they mutually reinforce the particular conception of "good teaching" emphasized by a program. This coherence between courses and clinical experiences has the ability to significantly shape PSTs' development. For example, in a study of 13 PSTs, McQuillan et al. (2012) found that when the various components of EPPs (including coursework and clinical experiences) mutually reinforced consistent goals and beliefs, PSTs were more likely to actualize program objectives. In this same study, McQuillan et al. (2012) also found that PSTs' success on end-of-program assessments appeared to be linked to systemic coherence at the

EPP program level. Additional studies have also sought to link coherence to PSTs' learning outcomes. For example, König et al. (2017) found that when PSTs perceive that their coursework coheres with their clinical experiences, they are more likely to capitalize on opportunities to learn. Similarly, in their study investigating program coherence and learning outcomes, Smeby and Heggen (2014) found that there was a clear relationship between program coherence and completers' acquisition of theoretical skills and practical knowledge.

However, when structural coherence is not present in a program, there can be negative repercussions for PSTs' learning. Weston and Henderson (2015) found that when methods courses do not cohere with clinical work, it can limit the development of PSTs' discipline-specific pedagogical content knowledge. Moreover, Dack's study (2019) examined the relationship between program coherence and PSTs' abilities to employ the model of differentiated instruction. Dack (2019) found that PSTs developed misconceptions about differentiation as a result of conflicting messages about the model that were advanced in different courses. PSTs reported that their understanding of differentiation was "nebulous" and that they did not feel confident in being able to implement it in practice. Dack (2019) concluded that the discrepant portrayal of differentiation across classes, as well as the absence of differentiation modeling by mentor teachers in clinical work, resulted in a lack of coherence regarding the model. As a consequence, PSTs did not take up the practice of differentiation (Dack, 2019). Although this study focused on differentiated instruction specifically, its findings have broader implications for EPPs in general. Further studies are needed to determine if PSTs' uptake of other pedagogical models, tools, skill sets, etc. is similarly influenced by program coherence.

PSTs' self-report measures also suggest a perceived disconnect between coursework and clinical work, which indicates a lack of structural coherence (Flores et al., 2014; Grossman et al., 2008). This disconnect often occurs among EPPs that privilege university-level knowledge as the sole authoritative determinant of effective teaching (Korthagen et al., 2006; Zeichner, 2010). To counter this trend, Zeichner (2010) recommends building EPPs around the “nonhierarchical interplay” between academia and practitioners (p. 89). Doing this, Zeichner (2010) suggests, facilitates PSTs' abilities to navigate the complexities of professional settings while drawing upon their knowledge of best practices learned in coursework. In this way, the EPP can move toward a “theory alongside practice” model and away from a “theory before practice” model that has traditionally driven many programs (Korthagen, 2011). Making this change could bolster structural coherence, which may facilitate PSTs' uptake of the competencies required of beginning teachers.

Attributes of Effective Teachers of the Gifted

Before EPPs can help PSTs develop into well-started teachers of the gifted, there must be an understanding of what attributes and skills effective teachers of the gifted possess. This section provides an overview of the Teacher Preparation Standards in Gifted Education (originally developed by the National Association for Gifted Children and the Council for Exceptional Children in 2006) as a foundation for thinking about research-based attributes and competencies possessed by effective teachers of the gifted, and then examines additional empirical findings about how teachers can meet the exceptional needs of gifted learners.

The Teacher Preparation Standards in Gifted Education

In 2013, the NAGC and the CEC revised the 2006 Teacher Preparation Standards in Gifted Education (TPSGE) in order to align with the new InTASC standards (CCSSO, 2013).

According to the NAGC-CEC (2013), a set of research-based standards is needed to ensure that PSTs are aware of theoretical and pedagogical considerations necessary for working with gifted learners. Additionally, the standards provide a consistent set of expectations for EPPs in the absence of a federal mandate for training teachers in gifted education. They also attempt to establish a systematic approach for helping EPPs integrate PST training in gifted education into their existing program structures (Johnsen & VanTassel-Baska, 2016).

Like the InTASC standards (CCSSO, 2013), the NAGC-CEC (2013) standards indicate that PSTs should have well-developed competencies in both content and pedagogy. The latter, however, focus their expectations for PSTs' praxes on the development of knowledge and skills needed to teach gifted learners, specifically emphasizing the content knowledge, pedagogical content knowledge, and awareness of learner differences (including differences that may be influenced by varied contextual, cultural, or linguistic variability) that are critical to effective gifted education (NAGC-CEC, 2013).

Knowledge of Gifted Students' Development and Differences

Standard 1 (Learner Development and Learning Differences) of the TSPGE suggests that "beginning education professionals [must] understand the variation in learning and development in cognitive and affective areas between and among individuals with gifts and talents and apply this understanding to provide meaningful and challenging learning experiences for individuals with exceptionalities" (NAGC-CEC, 2013, pp. 14-15). This standard is consistent with Vidergor's (2015) observation that effective teachers of the gifted have extensive knowledge of what it means to be a high-ability learner, as well as Gentry et al.'s (2011) finding that effective teachers of the gifted recognize gifted students' advanced learning needs and set appropriately high expectations.

Additionally, when asked to rate the essential competencies that the most effective teachers of the gifted could possess, both gifted students (n=259) and in-service teachers (n=95) in Yuen and Westwood's (2004) study suggested that having a fundamental understanding of the nature of giftedness and the needs of gifted learners was imperative (although it should be noted that a major limitation of studies of this kind center on the absence of an agreed-upon definition for giftedness [Lo & Porath, 2017]). Similar findings were reported in Akar's (2020) study of 36 classroom teachers who were asked to describe the most critical competencies needed to support gifted learners in regular education classrooms. Beyond just having knowledge of gifted students, the teachers in Akar's (2020) study also reported that effective teachers of the gifted are able to recognize and develop the individual talents of the gifted, acknowledging that these learners are a heterogeneous group with varied needs (NAGC-CEC, 2013; Siegle et al., 2014). Gifted students also echoed these beliefs, noting that the teachers who serve them best are those who recognize their individuality and adapt instruction by considering students' strengths and interests (Khalil & Accariya, 2016). Teachers of the gifted indicated that this attention to individual needs is particularly critical among twice-exceptional populations (Mann, 2006). Pereira and de Oliveira (2015) also suggest that recognizing and supporting the unique needs of gifted English language learners (ELLs) is critical for serving gifted students equitably. Although there may be challenges associated with understanding the many types of learner diversity that can exist within gifted student populations, Kronborg and Plunkett (2013) found that trainings in which teachers are encouraged to see the classroom from gifted learners' perspectives are more likely to help teachers acquire knowledge of gifted students' development and differences.

Supportive Learning Environments

Standard 2 (Learning Environments) of the TSPGE emphasizes that beginning teachers must create safe and inclusive learning environments for gifted learners that attend to social-emotional development and well-being (which is a marker of good teaching for all students, not just for the gifted) (NAGC-CEC, 2013). Creating positive environments allows teachers to build positive relationships with gifted learners. These relationships are important to consider, as several studies (e.g., Eilam & Vidergor, 2011; Khalil & Accariya, 2016; Vialle & Quigley, 2002) found that gifted students place significant value on teachers' relationship-building skills and interpersonal attributes. The need for a positive learning environment is further emphasized by Kanevsky's (2011) finding that students report greater academic engagement when teachers appear to be supportive of their learning needs. Phillips and Lindsay (2006) and Siegle et al. (2014) similarly noted that gifted students' motivation increases when they are in classrooms that appear to support their learning.

What characterizes a supportive environment for gifted learners beyond teachers' attributes, however, is not fully explored in the literature, although Mann (2006) suggests that the environments should be strongly student centered. Additionally, Hertberg-Davis and Callahan (2008) suggest that high-ability students' comfort in the classroom is increased when their academic identities and needs are validated through appropriate learning experiences. Conversely, a hostile environment may be created for gifted learners in a general education setting when teachers do not recognize or make provisions for highly-able students' learning needs (Hertberg-Davis & Callahan, 2008).

Additionally, in Cornejo-Araya and Kronborg's (2021) investigation of what gifted students found to be "inspiring" in their teachers, the second most commonly reported response centered on providing an academically safe learning environment. Yuen and Westwood (2004)

also observed that gifted students and teachers of the gifted both reported that caring for gifted students affective and psychological needs is necessary for serving this population. Although there appears to be substantial alignment among these studies' findings, they are all limited by their reliance on either student- or teacher-reported data. Future studies that use additional data sources beyond self-reports could further illuminate the ways in which specific elements of learning environments can better support gifted students.

Content Knowledge

Effective beginning teachers of the gifted should also have deep content knowledge needed to advance the learning of high-ability students (NAGC-CEC; 2013; Vidergor, 2015). The NAGC-CEC (2013) explains that this subject matter knowledge (Standard 3 of the TPSGE) involves an awareness of the structures of the discipline and the role that central concepts can play in organizing the discipline. This claim is supported by research showing that concept-based learning supports the educational needs of gifted students, as it promotes higher-order thinking and encourages transfer across contexts (VanTassel-Baska et al., 2000). Gifted students also report that their more effective teachers are able to provide them with coherent explanations of concepts (Handa, 2020), are knowledgeable about the topics being covered (Hertberg-Davis & Callahan, 2008; Siegle et al., 2014), and are passionate about the learning process and the subjects that they teach (Cornejo-Araya & Kronborg, 2021; Gentry et al., 2011).

In contrast to these findings, however, Eilam and Vidergor (2011) and Vialle and Quigley (2002) note that gifted students purport to value teachers' personal and social attributes more than their intellectual attributes (which includes their knowledge of subject matter). However, findings from both studies also indicate that older gifted students value their teachers' content knowledge and intellectual orientations more than younger students do, so the degree to which

subject matter expertise is critical for teachers of the gifted may vary depending on the schooling context (Eilam & Vidergor, 2011; Vialle & Quigley, 2002).

Despite these findings about the importance of teachers' content knowledge, cultivating knowledge of a discipline is likely outside of the purview of most EPPs. Although it is possible that some subject-knowledge development could occur within content-area methods courses, EPPs generally do not provide PSTs with instruction in a specific content area. However, PSTs' content knowledge can be screened by the EPP prior to program entry (e.g., by requiring a bachelor's degree in a specific subject) or by the state during PSTs' licensure programs (e.g., through the use of Praxis exams). So, while EPPs may not be directly responsible for helping PSTs develop content knowledge that would support their work with the gifted, they can still attempt to evaluate the degree to which PSTs possess and utilize subject-matter knowledge in their work.

Use of Appropriate Instructional Strategies

Standard 5 (Instructional Planning and Strategies) of the TPSGE focuses on beginning teachers' abilities to employ evidence-based strategies in their instruction that support gifted students' achievement (NAGC-CEC, 2013). In a review of the literature on instructional strategies that support gifted learner, Rogers (2007) noted that effective instruction was dependent upon the use of differentiation to provide gifted learners with appropriate challenges. Gifted students also echo this belief, indicating that their learning is improved when differentiated, more challenging instruction that goes beyond the traditional curriculum is utilized (Cornejo-Araya & Kronborg, 2021; Hertberg-Davis & Callahan, 2008; Kanevsky, 2011). For example, in Chan's (2011) survey of 617 gifted students and 134 secondary teachers, both groups agreed that the most important competency effective teachers of the gifted possess is the

ability to provide differentiated instruction that matches students' needs. Park and Oliver (2009) similarly found that effective teachers of the gifted are more likely to provide opportunities for differentiated learning experiences, ask more challenging questions, and eliminate busy work with concepts that have already been mastered (Park & Oliver, 2009). As Gallagher (2001) and van Gerven (2021) point out, this is becoming increasingly critical at the secondary level as the de-tracking movement has necessitated that the needs of students with diverse ability levels be met within inclusive classroom spaces.

Based on the findings from these studies, it is clear that effective teachers of the gifted must provide gifted students with coursework that is aligned to their ability level, as appropriately challenging instruction is more likely to help these students experience greater academic achievement (Brulles et al., 2010; Callahan et al., 2015) or lead to the development of emergent talent (Siegle et al., 2016). The absence of appropriate instruction may prevent gifted learners from exploring deeper learning or developing their higher-order thinking skills (Maker et al., 2006), which is problematic given that gifted students consider the ability to promote higher-order thinking to be one of the fundamental attributes of effective teachers intending to serve high-ability learners (Yuen & Westwood, 2004). Additionally, effective teachers of the gifted employ flexible readiness-based grouping (Adams-Byers et al., 2004) in appropriate situations. Knowledge of these instructional strategies and the ability to implement them are essential for providing gifted learners with experiences that meet their needs.

However, Yin (2019) found that PSTs often struggle to design challenging learning experiences for students who finish work quickly, which PSTs attribute to not having learned adequate instructional strategies for doing so in their EPPs. If EPPs are not preparing future teachers to use instructional techniques that are appropriate for the gifted, it is not surprising that

high-ability students report not being given the opportunity to engage in rigorous, challenging coursework or to engage in faster rates of learning or independent study when appropriate (Schmitt & Goebel, 2015), despite expressing a preference for this type of learning (Khalil & Accariya, 2016). A well-started teacher, therefore, is one who can provide challenging coursework for gifted learners through the use of appropriate instructional strategies, which makes it critical that EPPs ensure that PSTs develop these abilities.

Commitment to Professional Learning

The NAGC-CEC's (2013) sixth TPSGE Standard focuses on professional development, emphasizing that beginning teachers should be committed to life-long learning and committed to the development of their competencies in gifted education. Vidergor (2015) also noted that the research on effective teachers of the gifted suggests that teachers who work with this population should demonstrate enthusiasm about their own learning and growth (Siegle et al., 2014) and should also set high expectations for themselves (Gentry et al., 2011). Therefore, in seeking to produce well-started teachers for work with the gifted, EPPs should emphasize the importance of developing and committing to professional development, particularly in attending to issues associated with academic diversity and the needs of gifted populations.

Teacher Dispositions

The InTASC standards outline specific sets of dispositions that delineate the "habits of professional action and moral commitments" that well-started teachers should possess (CCSSO, 2013, p. 6). Dispositions are known to influence teachers' practices and interactions with students (Thornton, 2006), which means that EPPs seeking CAEP accreditation and to produce well-started teachers must necessarily be concerned with the dispositions that their PSTs possess.

Although the field has not agreed upon a single definition of “disposition,” it is generally agreed that dispositions typically include things like personality traits, behaviors, and perspectives (Shields & Edens, 2009).

Dispositions that are commonly considered indicators of effective teachers include an openness to providing differentiated instruction for varied needs (Choi et al., 2016; Johnston et al., 2011; Rike & Sharp, 2008), enthusiasm for working with children (Kronborg & Plunkett, 2013; Rike & Sharp, 2008), treating all students equitably (Choi et al., 2016, Thomas et al., 2012), valuing academic diversity (Rike & Sharp, 2008; Thomas et al., 2012), and having high expectations for student achievement such that students reach their potential (Harrison et al., 2006; Kronborg & Plunkett, 2013; Rike & Sharp, 2008). Although these dispositions were evaluated in studies concerned with general teaching dispositions – and not dispositions possessed by educators of the gifted specifically – it is clear that the dispositions cited here have particular relevance for teachers working with high-achieving students. Most of these dispositions are associated with providing differentiated, high-quality instruction that focuses on appropriate levels of challenge and achievement, which is necessary if gifted learners are to receive equitable schooling experiences (Kronborg & Plunkett, 2013).

Although the studies noted above suggest some consensus in the field about what constitutes critical dispositions for general education practice, less research exists that addresses whether or not there are specific dispositions that effective teachers of the gifted should possess beyond what is required of a general classroom teacher. According to Stephens (2019), gifted students have unique traits and learning needs, and therefore, it is possible that specific sets of teacher dispositions may be particularly suited for educating this population.

Both Miedijensky (2018) and Vialle and Quigley (2002) attempted to study teachers' dispositions and their relation to working with gifted learners. According to Miedijensky (2018), teachers reported that having acceptance and respect for gifted students is one of the most critical dispositional elements for teaching these students, in addition to having enthusiasm for teaching the gifted, a sense of humor, and flexibility. The teachers in Vialle and Quigley's (2002) study similarly reported that humor and enthusiasm are important dispositions, as well as creativity and a commitment to life-long learning.

Despite some consensus in these findings about dispositions that teachers should possess, dispositions remain difficult to measure, and therefore, difficult for EPPs to assess or cultivate. For example, Truscott and Stenhouse (2018) suggest that observations of teachers' practices are adequate proxies for their dispositions, given that teaching behaviors and skills are not tantamount to their dispositional stances. Jensen et al. (2018) also suggest that PSTs' behaviors change when they know they are being observed, which is consistent with the Hawthorne effect. Given the unreliability of observations, EPPs have also attempted to use checklists and portfolios to examine dispositions (Stephens, 2019), despite the fact that obtaining a "true" measure of dispositions is an impossibility. However, despite any measurement-related limitations, the exigencies of assessing for PSTs' dispositions remains (both because of the relationship between dispositions and practice and because of requirements outlined in the InTASC standards [CCSSO, 2013] used by CAEP). Further research is needed to not only examine what teacher dispositions support the education of the gifted, but also to determine how EPPs can go about evaluating and cultivating those dispositions among PSTs.

Limitations of the Research on Attributes of Effective Teachers of the Gifted

The majority of studies examined in this review utilize teachers' self-reported information or survey and interview responses from students to evaluate what makes an effective teacher of the gifted. There appears to be little research conducting in-depth analyses of the actual planning and teaching processes of teachers identified as experts in working with gifted populations. To fill this gap, Coleman (2014) conducted a case study of one expert teacher as the teacher planned for and implemented two philosophy courses for gifted students. Using ethnographic and phenomenological techniques, Coleman (2014) interviewed the teacher to access his tacit knowledge and thought processes while planning, then compared the interview data with what he observed during the teacher's actual classroom practice. In analyzing this expert teacher's work, Coleman (2014) found that the teacher predominantly utilized many practices associated with effective teaching in general. Where the teacher's practice seemed to be enhanced for gifted students, however, was in its emphasis on having both his students and himself examine curricular concepts in new and creative ways. In this way, the teacher displayed his own openness to learning and his own creative engagement, which research suggests is critical for educating gifted learners (Coleman, 2014; Cornejo-Araya & Kronborg, 2021; Khalil & Accariya, 2016).

Although the findings from Coleman's (2014) work seem to align with those from other studies, a major limitation of this case study is the sample size. Future studies that mimic Coleman's (2014) methods with larger sample sizes could provide more nuanced or thorough insights into the thoughts and practices of expert teachers of the gifted.

Present Practices in Gifted Education in P-12 Contexts and EPPs

This section describes how evolving conceptions of giftedness have shaped gifted education over time, followed by an overview of present practices in gifted education within P-

12 contexts. The section concludes by presenting various sets of accreditation and licensure standards relating to gifted education that are currently used by MAU's EPP.

Conceptualizing Giftedness, Gifted Students, and Gifted Education

The concept of “giftedness” has shifted in response to evolving understandings of intelligence, human development, and cultural responsiveness (Lo & Porath, 2017; Olszewski-Kubilius et al., 2015). Although the field has not converged upon a singular or definitive conceptualization of giftedness, many who are involved in education – both as researchers and practitioners – recognize that some students seem to possess advanced abilities or aptitudes that render them qualitatively different from their peers. These students are often labeled “gifted” or “talented” and typically have specific academic and intellectual needs that may be unmet through traditional curricular or instructional approaches (Hertberg-Davis & Callahan, 2008; NAGC, 2014a, 2019; Tomlinson, 2005). In recognition of this, several states have established regulations for gifted programs that are designed to target these students’ needs, providing them with differentiated classroom experiences that challenge them to experience academic growth (NAGC, 2014a). However, to ensure that this transpires, the educators responsible for identifying gifted learners and providing them with appropriate services must not only have an understanding of their charge, but must also possess the knowledge and abilities to successfully work with this student population (Johnsen & VanTassel-Baska, 2016; NAGC-CEC, 2013). However, in Reis and Renzulli’s (2010) review of the literature on gifted education, they note a preponderance of studies suggesting that gifted students’ needs are often unmet in most classroom settings. Therefore, it is critical that EPPs prepare PSTs to utilize appropriate teaching practices upon entry into the profession that support the equitable development of gifted learners.

Present Practices in Gifted Education in P-12 Contexts

The realities of the P-12 system demand that EPPs prepare teachers entering the profession to work with an array of learners, including those with diverse ability levels. Currently, only about half of the states in the U.S. have standards and guidelines outlined for gifted education services, and only half allocate funding towards these services (Rinn et al., 2020). The lack of concern for gifted education – demonstrated by the absence of guidelines and resources – does not eliminate the need to provide high-ability students with appropriate schooling experiences. Most states indicate that these appropriate experiences are provided through differentiated instruction at the secondary level (33 out of 38 states' middle schools and 28 out of 38 states' high schools) (Rinn et al., 2020). Although these states also report high rates of other service delivery methods for their high-ability learners (e.g., honors/AP courses, dual enrollment), there is still an expectation for classroom teachers to provide differentiated instruction in all classrooms (Rinn et al., 2020). Whether the teacher has a class of students with a wide range of ability levels or a course where the range is presumed to be more narrow, the need to provide effective learning opportunities for gifted or high-ability students remains. Of concern, however, is the fact that many districts meet fewer than half of the gifted programming standards set forth by the NAGC, suggesting that these effective learning opportunities may not be present (VanTassel-Baska & Hubbard, 2019).

Furthermore, only 14 surveyed states indicated that they require their Local Education Agency (LEA) to staff a gifted coordinator (Rinn et al., 2020). Of those, only nine require that their coordinator have a gifted education credential. Given that teachers may not have access to support personnel who can coach them through effective differentiation strategies or other pedagogical approaches to working with the gifted, it is clear that PSTs must enter the classroom prepared to work with gifted populations. Therefore, the responsibility of preparing new teachers

falls partly to EPPs. However, only three of 48 surveyed states indicated that they require PSTs to undertake coursework in gifted education (Rinn et al., 2020). One of those three is the commonwealth of Virginia, which means that MAU's EPP is legally obligated to provide PSTs with curriculum and instruction relating to gifted education.

MAU's EPP's Accreditation and Licensure Requirements Relating to Gifted Education

The following section describes the standards related to gifted education set forth by CAEP and VDOE, which MAU's EPP must meet in order to satisfy accreditation and licensure requirements. This section also includes an overview of MAU's secondary PGMT programming standards that relate to gifted education.

CAEP Accreditation Standards (InTASC)

Prior to earning its status as an accredited institution, MAU's EPP must meet criteria set forth by CAEP. CAEP requires that teacher candidates demonstrate proficiency on the InTASC standards established by the CCSSO (2013) in order for an EPP to be accredited. According to the CCSSO (2013), the InTASC standards are a common set of baseline indicators for criteria that PSTs should be able to meet as they enter the profession. The standards are rooted in empirical evidence for best educational practices and are intended to be used by EPPs to establish desired outcomes for PSTs. Standard 1 (Learner Development) suggests that upon program completion, PSTs should "understand how learners grow and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and design and implement developmentally appropriate and challenging learning experiences" (CCSSO, 2013, p. 16). Further, the CCSSO (2013) clearly defines "diverse learners" in the InTASC standards as being students who have learning differences due to "differing ability levels...who require varied instructional strategies to

ensure their learning” (p. 49). Based on the language used in InTASC, it is evident that PSTs are expected to be able to effectively teach students of varied academic levels, including those performing above average in one or multiple subjects or domains.

Furthermore, the InTASC indicators associated with Standard 1 suggest that effective educators must assess for and examine individual and group differences in order to adjust curriculum and instruction to meet students’ developmental needs. Doing this involves having an understanding of appropriate instructional strategies that target strengths and areas of need such that students’ growth is maximized. Standard 2 (Learning Differences) similarly focuses on differentiated needs, indicating that PSTs must “use understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards” (CCSSO, 2013, p. 17). Standard 2 indicators recommend that PSTs provide differentiated learning experiences (including varied rates of instruction and varied degrees of content complexity in response to students’ diverse paces of learning and readiness levels) and draw upon appropriate resources to attend to a multiplicity of classroom learning needs. Standard 2(h) specifically notes that PSTs must use specialized strategies and resources for educating gifted learners, and Standards 2(a), 2(b), 2(f), 2(g), 2(l), and 4(f), taken together, similarly indicate that teachers must adapt and modify curriculum and instruction to address gifted children’s exceptional needs.

The implication for teachers in an era of increasing classroom diversity is that they must be prepared to differentiate learning for the range of learners present in a given classroom – including students “who perform above grade level and deserve opportunities to accelerate” (CCSSO, 2013, p. 4). However, research suggests that PSTs struggle to accurately appraise student achievement, and therefore, have difficulty providing responsive instruction that attends

to learner diversity (Ropohl & Rönnebeck, 2019). Given these findings, EPPs must design training or programs of study for PSTs that prepare them to work with diverse learners (including the gifted) if the EPPs are to meet CAEP's accreditation standards.

VDOE Requirements

The 2018 VDOE Professional Studies Requirements describe seven overarching outcome categories that EPPs must align to in order to facilitate PSTs' development of specific competencies. Outcome 1 is categorized as human development and learning, and sub-outcome 1(a) indicates that PSTs should understand variation in children's intellectual development and be able to draw upon that understanding in crafting meaningful learning experiences (VDOE, 2018). Sub-outcome 1(b) builds upon this by suggesting that PSTs should be adept at interacting with children with individual differences, specifically mentioning gifted students and PSTs' abilities to identify them using multiple criteria. Moreover, Outcome 2, which focuses on curriculum and instruction, recommends that PSTs be able to choose, develop, and utilize appropriate teaching methods that are responsive to students' individual learning needs. These VDOE requirements clearly establish the need to prepare PSTs to provide appropriate learning experiences for students who demonstrate academic diversity.

MAU Secondary PGMT Program Requirements

The EPP's secondary PGMT program created the Teacher Education Program Outcomes (TEPOs) as a resource to guide its efforts in developing well-started teachers. The TEPOs describe the expected foundational standards for PSTs' teaching performances upon program completion. The course of study for the secondary PGMT program is intended to align to the TEPOs, which should ultimately prepare the PSTs to achieve proficiency on their Intern Evaluations (a key assessment in the program). The TEPOs specifically address learner diversity

in sub-outcomes 1c (learn about students as individuals) and 2c (use data to plan differentiated instruction that responds to learners' diversity, including academic readiness). The Intern Evaluation also targets learner diversity in two of its outcomes, including 3b (facilitates higher-order thinking across all student demographics, cultural backgrounds, and readiness levels) and 3c (differentiates instruction based on prior knowledge and assessment data). Although the TEPOs and Intern Evaluation mention learning/academic variance generally, neither describes gifted students' needs specifically. It is possible that not mentioning gifted students may make room for this population to be overlooked.

PSTs' Beliefs about Gifted Students and Gifted Education

This portion of the literature review examines PSTs' beliefs about gifted students and gifted education, focusing specifically on their misconceptions that are documented in the literature. Understanding these misconceptions is a necessary precursor to designing curricula and instruction in EPPs that support PSTs' learning about giftedness and their enactment of appropriate pedagogical practices to support gifted students' achievement.

PSTs' Beliefs about Gifted Students

According to Ribich et al. (1998), it is important to understand educators' beliefs and attitudes, as "attitude is a major dimension of meaning and is a learned and implicit predisposition to respond, especially evaluatively" (p. 309). Teachers' attitudes towards and beliefs about their students often function in this evaluative capacity and can influence the ways in which they interact with children (Deemer, 2004; Pajares, 1992). Moreover, several theories of learning suggest that acknowledging past experiences and their effects on current beliefs is critical to the meaning-making and learning process (Burner & Svendsen, 2020). Given this,

Wilson (2012) recommends that EPPs adopt a theoretical model for shaping their programs that includes the intentional unearthing and exploration of PSTs' beliefs.

Several studies have examined PSTs' pre-existing beliefs and attitudes towards gifted students in an attempt to understand how PSTs' views and prior experiences might shape gifted students' schooling experiences as the PSTs seek to make sense of the academic diversity in their classrooms. The literature largely suggests that PSTs hold multifaceted views of gifted students (Frazier, 2018), but that several stereotypic misconceptions exist that may have negative implications for students' learning (Adams & Pierce, 2004).

To demonstrate the power that latent stereotypic biases and their correlating misconceptions might have in mediating the relationship between PSTs and gifted learners, Ribich et al. (1998) analyzed 85 PSTs' beliefs about and dispositions towards gifted students. In this study, Ribich et al. (1998) utilized an intervention that asked the PSTs to evaluate videos of achieving and underachieving gifted learners. A pre- and post-test comparison indicated that PSTs had significantly more negative views of gifted students after watching the videos of underachievers, while their views of achieving gifted students stayed the same over time. The researchers posit that this change in attitude – brought on by just a 10-minute video – is indicative of the degree to which even brief negative experiences can activate latent biases, hypothesizing that the PSTs likely had negative attitudes towards the gifted students from the onset, which is consistent with some other research findings (e.g., Matheis et al., 2017). This study is relevant for EPPs, as it emphasizes the importance of helping PSTs unpack biases and misconceptions relating to gifted learners so that potential negative experiences with high-ability students during clinical work do not have an outsized influence on PSTs' attitudes towards

giftedness. In other words, EPPs must correct PSTs' misconceptions about gifted learners before they have the opportunity to become crystallized during field experiences.

Misconceptions about Gifted Students

Several studies (e.g., de Wet & Gubbins, 2011; Jones et al., 2012; Patterson et al., 2016) demonstrate that common misconceptions about gifted learners exist among both PSTs and in-service teachers, suggesting that classroom experience does little to overturn beliefs that are not substantiated by empirical evidence (Baudson & Preckel, 2016; Speirs Neumeister et al., 2007). As noted previously, beliefs shape teachers' work with their students, thereby making these misconceptions a substantial cause for concern (Fives & Buehl, 2016).

One of the most common misconceptions is the application of the disharmony hypothesis to gifted learners (Preckel et al., 2015). The disharmony hypothesis ascribes positive traits to gifted students, such as high intelligence, as well as negative traits, such as poor social skills or emotional dysregulation. Preckel et al. (2015) investigated the degree to which PSTs might give credence to the disharmony hypothesis and found that PSTs do in fact associate higher levels of intelligence and social/emotional maladjustment with gifted children compared to average-ability children. Bain et al. (2006) and Matheis et al. (2017) observed a similar phenomenon in their studies of PSTs, where survey respondents were more likely to rate gifted students as being more maladjusted than their non-gifted peers. Taken together, these studies show that it is not uncommon for PSTs to harbor misconceptions about and stereotype the gifted in ways that are unwarranted based on the literature, as gifted learners are often found to display social development skills that are similar to behaviors of normative groups (Galloway & Porath, 1997). These inaccurate beliefs may also influence classroom interactions, as Matheis et al.'s (2017) study indicated that PSTs who subscribe to the disharmony hypothesis have lower self-efficacy

and lower enthusiasm for working with gifted students than with non-gifted students, which has implications for how EPPs might prepare PSTs for their work with advanced learners. EPPs should incorporate instruction into their programs of study that actively seeks to repudiate misconceptions stemming from the disharmony hypothesis.

Several other examples of PSTs' commonly-held misconceptions about the gifted are demonstrated in the literature. For example, Bain et al. (2006) found that 72% of surveyed PSTs (n=285) thought that gifted students represent a generally homogeneous group, a belief that is not corroborated by research (NAGC, 2014b). Another misconception that PSTs are likely to hold is that giftedness is an "obvious" trait that should "stand out" (Olthouse, 2014). The implications of this particular misconception may be problematic at the secondary level, where PSTs could struggle to identify instances of gifted underachievement and consequently, fail to provide students with appropriate instructional responses. Furthermore, some PSTs may endorse the idea that giftedness is a trait possessed by all children. Twenty-nine percent of PSTs in Berman et al.'s (2012) study vocalized the belief that all students are gifted and talented in some way, which suggests that these PSTs may not be separating the concept of academic giftedness from the general view that all students have unique and valuable attributes. This misconception can be detrimental for gifted learners, as teachers who have this belief may be less inclined to differentiate high-ability students' academic experiences.

Another common misconception among PSTs is that gifted students "can make it on their own" without teacher direction (Berman et al., 2012; Megay-Nespoli, 2000) and will therefore be successful regardless of teachers' actions. If this were true, it would obviate the need for teachers to differentiate instruction for the gifted, which has clear ramifications for their learning. Additionally, because PSTs may think that high-ability students are okay "on their own," they

may anticipate that all gifted children will function in teacher-pleasing ways. This means that PSTs may conflate giftedness with markers of “good behavior,” such as caring about work, completely work neatly, and exhibiting ideal conduct (Berman et al., 2012; Rinn & Nelson, 2009). This is consistent with Bain et al.’s (2006) and Jones et al.’s (2012) findings indicating that PSTs frequently believe that gifted students behave well in school and are therefore less likely to have academic difficulties. Similarly, teachers may confuse motivation and productivity with academic ability (Speirs Neumeister et al., 2007), which can also lead to the misconception that high grades can gauge giftedness (Berman et al., 2012; Megay-Nespoli, 2000).

PSTs also seem to have several different misconceptions about behaviors that relate to boredom in the classroom. Olthouse (2014) found that in 124 PSTs’ descriptions of giftedness, only two communicated that gifted students would be bored with a traditional curriculum. Rinn and Nelson (2009), however, found that PSTs were likely to recognize that gifted students could get bored easily in school, but believed that these students would complete the required work regardless of whether or not they found it boring. Boredom among gifted students is a substantial concern, as it often arises from being underchallenged and can often lead to undesirable classroom behaviors or attitudes (Hertberg-Davis & Callahan, 2008; Plucker & McIntyre, 1996). These behaviors might include things like inattention and incomplete work, which PSTs may mistake for attention deficit hyperactivity disorder (ADHD), as Rinn and Nelson (2009) demonstrated that PSTs struggle to discriminate between giftedness and ADHD.

The majority of studies on PSTs’ beliefs about gifted learners point to the prevalence of misconceptions that could prevent PSTs from effectively educating their students. However, most of these studies use surveys and interviews as the primary data sources. While these are effective methods for collecting larger amounts of data or for examining PSTs’ beliefs in greater

detail, it would be helpful for future studies to combine these data-collection methods with observations of PSTs' work with gifted students or to use other methods of analysis (e.g., Stephens's [2009] evaluation of PSTs' drawings of gifted students and Olthouse's [2014] evaluation of PSTs' metaphors for giftedness) to add to the literature base. It is possible that varied approaches to exploring PSTs' beliefs could help teacher educators understand the nuances in PSTs' thought patterns, which would help EPPs develop more effective methods for overturning misconceptions about gifted learners. Overall, however, the literature seems to offer substantial evidence that PSTs do believe several "myths" about the gifted. As a result, EPPs must develop curricular and instructional approaches for educating PSTs that disabuse them of these misconceptions and equip them with accurate understandings of their advanced learners' attributes (at the group and individual levels) and the behaviors that they may exhibit.

PSTs' Beliefs about Gifted Education

This section examines PSTs' beliefs about gifted education and specific practices that are effective for gifted learners (including differentiation), which must inform EPPs' work in effectively preparing PSTs to teach students with advanced readiness levels.

Mixed Support for Gifted Education

Both Cross et al. (2018) and Troxclair (2013) found that PSTs are likely to express a desire to support gifted learners. Although these findings are promising, they require further examination. For example, in the Troxclair (2013) study, PSTs (n=45) indicated high agreement with statements such as "Schools already meet gifted students' needs adequately," "Gifted students are already favored in schools," "It's more important to help children with difficulties than gifted students," "Tax payers should not have to pay for gifted education services," and "Parents should be responsible for developing gifts." Moreover, Bain et al. (2007) found that

76% of surveyed PSTs (n=285) agreed with the statement “Children will excel with or without special services.” When these statements are considered in conjunction with one another, it appears that while PSTs purportedly support gifted education in general, they may not actually advocate for policies or actions that would bolster gifted education practices. Teacher educators must be aware of these beliefs so that they can be addressed through coursework that prepares PSTs to teach advanced learners, which involves helping PSTs understand the importance of supporting equitable educational practices for the gifted.

PSTs’ Views of Gifted Education as an Elitist Practice

Although high-ability students require differentiated learning experiences (NAGC, 2014a; 2019), some teachers view this differentiation as elitist, falsely believing that gifted learners – when provided with specific services or varied instructional practices – are receiving superior educations, rather than appropriately equitable ones. In examining PSTs’ view of gifted education, several studies show that PSTs view things like special services for the gifted to be elements of an elitist enterprise, rather than an egalitarian attempt to provide appropriate opportunities (Bain et al., 2007; Berman et al., 2012; Chamberlin & Chamberlin, 2010). These charges of elitism extend beyond the provisions for gifted education services and onto gifted students themselves. For example, in Olthouse’s (2014) analysis of 124 PSTs’ metaphors for giftedness, many PSTs suggested that giftedness consisted of “showy” demonstrations of intelligence or achievement. Similarly, Troxclair (2013) found that the 45 PSTs in her survey were likely to show high agreement with the statement “Gifted students become vain or egotistical with special attention.” These claims of elitism may result in PSTs entering the profession with little desire to differentiate for the gifted or to support their growth (especially in mixed-ability classrooms), which has implications for the approaches that EPPs must take to

prepare PSTs to serve gifted populations equitably. If EPPs fail to correct the misconception that gifted education is elitist (rather than equitable), PSTs may carry the misconception forth into the field, which could influence their teaching practices.

Perceptions of Differentiation as a Service Delivery Model for Gifted Students

PSTs beliefs about what constitutes (or does not constitute) effective learning experiences for gifted students may be inaccurate, often standing in direct contrast to what is supported by empirical evidence. In fact, PSTs themselves have been shown to self-report feelings of uncertainty or discomfort with attempting to identify appropriate teaching strategies that account for individual students' differences (Megay-Nespoli, 2000; Tygret, 2018). This is problematic, as the most commonly-used model for gifted services is differentiated instruction (Rinn et al., 2020). If PSTs struggle to conceptualize how to differentiate for gifted learners or cannot undertake this process, gifted students' needs will go unmet.

This is a likely scenario, as PSTs often report feeling overwhelmed by the prospect of providing differentiated instruction in classrooms with wide ranges of readiness levels (Chamberlin & Chamberlin, 2010; Megay-Nespoli, 2000; Rowan & Townend, 2016). The issue is compounded by the fact that once PSTs are in the field as novice teachers, they commonly report struggling to differentiate for high-ability students (Gunpinar & Mackin, 2020), feeling pressed to "teach to the middle" or to focus on struggling students (Pedersen & Kronborg, 2012), not having access to specialists or support structures needed for effective differentiation for the gifted, and lacking time and training needed to actually support high-ability students' learning (Cross et al., 2018). However, it is critical that PSTs develop the capacities to appropriately differentiate for gifted learners, as differentiation is the most common service delivery model for gifted education in the United States (Rinn et al., 2020). Schools employ this model with the

expectation that teachers are going to use flexible grouping and tailored curriculum and instruction to provide gifted students with opportunities to maximize their learning (Rinn et al., 2020). Of concern, however, is the fact that PSTs may have incomplete understandings of how to differentiate for diverse learning abilities and may have few strategies for using differentiation effectively for advanced students (Tomlinson et al., 1994). When confronted with the realities of trying to differentiate in mixed-ability classrooms, PSTs may resort to practices that undermine gifted students' learning, such as paying more attention to struggling students (Pedersen & Kronborg, 2012), using cooperative groups as a managerial strategy whereby the advanced students serve as peer tutors (Tomlinson et al., 1994), or providing students with "busywork" covering previously-mastered content (Park & Oliver, 2009).

Perceptions of Gifted Students Serving as Peer Tutors

PSTs often express concerning ideas about "solutions" to gifted students' faster rates of work completion. For example, in a study of 64 PSTs, Megay-Nespoli (2000) found that most believed that gifted students should receive longer assignments in order to control for their faster work-completion rates. Several other studies (e.g., Bain et al., 2007; Berman et al., 2012) also indicate that PSTs are likely to believe that gifted students, upon completion of their own work, should serve as tutors for their struggling peers. Siegle et al. (2010) also found that many PSTs believe that the desire to be a peer tutor is a marker of giftedness, which is concerning, given that the literature generally does not support the use of peer tutoring as an effective mechanism to support gifted students' learning.

Research on PSTs' beliefs about gifted education illustrates the prevalence of misconceptions or negative attitudes that can be detrimental for students' learning. When teachers do not view gifted services as worthwhile or justified or conceive of them as elitist

practices that undermine equity, they are less likely to provide their students with appropriate learning experiences. If EPPs are responsible for preparing PSTs to work with diverse learners with varied academic needs, then EPPs must also endeavor to educate their PSTs about the need to use differentiated and defensible pedagogical strategies that support gifted students' learning. Achieving this objective involves looking to the literature as a foundation for the design of curriculum and instruction that is responsive to PSTs' beliefs and utilizing best practices for building PSTs' professional competencies.

Preparing PSTs to Teach Gifted Students

This portion of the paper focuses on studies that examine the methods that EPPs use to prepare PSTs for working with gifted students. I synthesize what is known about the methods and preparatory work utilized by various EPPs in an effort to develop more clarity regarding which practices are most likely to support PSTs' work with gifted populations.

The Effectiveness of Training

PSTs must be prepared to teach high-ability learners in their classrooms, as the education of these students typically falls to classroom teachers at the secondary level (Rinn et al., 2020). There is evidence that various approaches to training, coursework, and clinical practice can support this preparation. For example, Kronborg and Plunkett (2013) noted that effective training for teaching gifted students should include helping teachers experience a classroom from gifted learners' perspectives and should help them learn strategies for providing effective instruction to high-ability students. Additionally, in a study of two different high schools, Cross et al. (2013) found that in-service teachers who were trained in gifted education were more likely to support special services for the gifted in comparison to teachers who did not have similar training. Lassig (2009) also found that in schools where training in gifted education was provided and where a

positive climate towards gifted education was fostered, in-service teachers were more likely to have supportive attitudes towards gifted learners, suggested that training can have positive effects on teachers' work with gifted populations. Geake and Gross (2008) also found that following professional development (PD) centered on overturning the disharmony hypothesis, teachers were more likely to express fewer misconceptions about gifted students' social and emotional functioning than they did prior to the training.

However, other studies have shown that training may not reverse PSTs' misconceptions about or negative views towards the gifted. For example, in Weyns et al.'s (2021) study of 522 PSTs, researchers found that most PSTs believed gifted students to be socially or emotionally maladjusted and that PSTs also anticipated that their relationships with gifted students would be more negative than with average-ability students. To combat these negative views, Weyns et al. (2021) utilized counter-stereotypic training, but ultimately found that it had no buffering effect on the PSTs' perceptions, suggesting that PSTs' beliefs may remain stable despite training interventions. Baadte (2020) similarly noted that training designed to controvert stereotypes about students' academic abilities and performances produced little effect. However, these studies' counter-stereotypic interventions were very limited in scope and duration, which may have rendered them inadequate for overturning misconceptions. More time-intensive approaches to PD around gifted education have been shown to have a greater degree of efficacy (Kronborg & Plunkett, 2013), but findings regarding the optimum time span needed to effect change are inconclusive in the literature.

Given that some studies (e.g., Cross et al., 2013; Geake & Gross; Kronborg & Plunkett) show that training is beneficial, whereas others (e.g., Baadte, 2020; Weyns et al., 2021) draw disparate conclusions, EPPs must endeavor to learn which types of interventions and training are

most likely to develop PSTs' capacities to work with gifted learners. One thing that does seem clear, however, is clear that EPPs' approaches to preparing PSTs to teach gifted learners cannot be cursory. Developing teachers need time to process information about gifted students and should have greater degrees of cross-course exposure in order to maximize conceptual coherence through their courses. EPPs should also design learning experiences for PSTs that require training in specific concepts (e.g., gifted students' academic needs) and instructional strategies (e.g., differentiating, compacting), coupled with actual implementation during clinical work that allows PSTs to see the benefits of providing effective learning opportunities for the gifted. Doing this would help EPPs build structural coherence into coursework that supports PSTs' uptake and implementation of best practices for gifted students.

Coursework Focusing on Gifted Education

Conceptual coherence and consistent messaging across courses are vital to ensuring that PSTs can make meaning of their coursework and apply the competencies and pedagogies that an EPP prioritizes (Hammerness, 2006). In the absence of coherence, however, PSTs may fail to make sense of core teaching concepts and struggle to translate theory into practice. Traditionally, most learning about gifted education does not occur at the pre-service level, which means that EPPs are unlikely to dedicate much coursework (if any) to gifted-related topics. In one survey of PSTs, 90% reported that their primary learning about the gifted occurred in a "Special Needs and Abilities" course in which one week was devoted to gifted learners (Harris & Hemmings, 2008). In the same study, only 6% and 4% of English and math endorsement-seeking PSTs, respectively, reported learning about the gifted in their methods courses. Similarly, Chamberlin and Moore (2006) found that half of surveyed teacher educators reported that PSTs were likely to receive information about gifted learners in only one course in their programs (and that that

course was not even fully dedicated to learning about the gifted). In fact, only 6% of instructors said that their EPP offered coursework explicitly dedicated to gifted education, while 27% said that no coursework in gifted education was required at all (Chamberlin & Moore, 2006).

These studies suggest that coursework focusing on gifted students is likely too limited to be meaningful and that conceptual coherence may be lacking in EPPs if learning about giftedness is undertaken in only one course. What is most problematic, however, might be that as a result of the scant coursework, PSTs not only report feeling underprepared to work with the gifted, but also articulate that they would prefer not to have high-ability learners in their classes (Harris & Hemmings, 2008). In contrast, PSTs who have more intensive coursework and more formal, curated interactions with gifted learners may be more likely to express enthusiasm for teaching the gifted (Hudson et al., 2010).

Inadequate coursework on gifted education can be detrimental for the P-12 students with whom PSTs eventually work. To capture the difference that coursework can make in preparing PSTs to work with the gifted, Hansen and Feldhusen (1994) compared the teaching performances of 82 teachers in a Master of Teaching program. These teachers were all assigned to a practicum with gifted students, but some completed prior coursework in gifted education and some did not. Overall, those who completed coursework has statistically significantly higher scores on observation measures evaluating the effectiveness of their instruction for meeting gifted learners' needs. These teachers were more likely to incorporate concept-based approaches into their curriculum, use appropriate pacing, and focus on higher-order-thinking development (in contrast to the teachers who did not receive coursework and relied heavily on whole-group instruction, focused on fact memorization, and paid disproportionate attention to lower-ability students).

Although it appears as if coursework can facilitate PSTs' learning about the gifted, the literature offers no definitive conclusions about how much coursework might be necessary. Berman et al. (2012), however, demonstrated that perhaps just a single course could be enough to effectuate some shifts in PSTs' beliefs and practices. Prior to taking a course on giftedness, 53 of 55 surveyed PSTs believed that it was unnecessary for them to have training in gifted education. Twenty-three also indicated that it was more important to focus on struggling learners than on gifted learners, and most subscribed to common myths about gifted students' attributes (e.g., that they all get good grades). However, on a post-course survey, 43 PSTs indicated that they believed special training in gifted education is actually needed, but also expressed high degrees of concern that they would be able to meet gifted students' needs through differentiation in mixed-ability settings (Berman et al., 2012). Although PSTs showed some growth following the course, they retained many misconceptions (e.g., that gifted students should serve as peer tutors when they finish their work early), which may suggest that a single course, while beneficial, is inadequate for PSTs' preparation.

Plunkett and Kronborg (2011) and Goodnough (2000), however, had different results in their studies of PSTs who took single courses in gifted education. The PSTs in these studies seemed to abandon many misconceptions about gifted learners and agreed overall that the courses had helped them better understand pedagogies specific to gifted education. It is possible that the discrepant findings about the power of a single course in reshaping PSTs' conceptions of gifted education are the result of variations in the course structure or content. The discrepancies may also arise from other variables not examined in the studies, such as the degree to which the programs offering these courses have strong conceptual coherence where learning about the gifted is reinforced in other classes (which Robinson and Jolly [2016] recommend as best

practice for programs seeking to build coherence around standards for educating the gifted). In either case, attempts to fully measure the efficacy of these single courses is limited, given that the EPPs under review did not require the PSTs to transfer their learning into practice, which is ultimately the objective of teacher preparation.

An additional problem that seems to exist in EPPs' coursework relating to gifted education has to do with inconsistent messaging. For example, in Plunkett and Kronborg's (2011) study of PSTs, they found that PSTs were led to believe throughout their courses that they should use mixed-ability groups as frequently as possible (which may be problematic, given that gifted students often report preferring to work with intellectual peers [Schmitt & Goebel, 2015]). However, not until PSTs took a specialized course in gifted education did they express an awareness of how these groupings might not always support high-ability students' learning. This finding represents a lack of conceptual coherence that could undermine PSTs' abilities to serve gifted students, as conflicting messages may limit PSTs' learning. Remedying this absent coherence might involve weaving information about gifted education throughout a program of study so that research-based, uniform curriculum and instruction about gifted education can be employed. PSTs in Harris and Hemmings' study (2008) indicated that an integration of gifted-related concepts across courses would better support their learning about gifted populations, which suggests that PSTs are aware of the degree to which cross-course coherence can maximize their professional development.

No identified studies examine the effects of PSTs taking multiple courses in gifted education (when not pursuing a gifted-specific endorsement) or on the building of conceptual coherence whereby curriculum and instruction around gifted education are infused throughout an EPP. It is likely that few EPPs utilize a program design with these requirements, so the degree to

which those approaches might yield better results for PSTs is unknown. As noted previously, most EPPs embed instruction about gifted learners into existing courses on inclusion or exceptional learners. Despite the research suggesting that PSTs who have increased amounts of training in inclusive practices are more likely than their less-trained peers to be able to identify features of giftedness (perhaps as a result of their stronger awareness of learner differences in general), having marginally higher knowledge levels about a population is unlikely to substantively increase teaching efficacy (Palak et al., 2009). Although Palak et al. (2009) and Bannister-Tyrell et al. (2018) found that PSTs who completed a course on exceptional learners experienced an increase in their perceived competency for working with diverse abilities, PSTs rated their confidence for working with gifted students the lowest. Bangel et al. (2006) also observed that PSTs report deriving very little about the needs of highly-able students during the special education courses under which the topic of gifted education is often subsumed. Based on these findings, the reliance on inclusion or exceptional learners courses to adequately prepare PSTs to work with the gifted is questionable.

Clinical Experiences with Gifted Students

PSTs often cite experiential learning in real-life classroom contexts as the most beneficial element of their teacher training (Tygret, 2018). In fact, upon entering the profession, most PSTs indicate a preference for drawing on what they learned in clinical practices over what they learned in their coursework (Allen, 2009). Additionally, PSTs with longer clinical experiences report having higher confidence in their abilities to provide quality instruction than do PSTs with shorter clinical experiences (Clark et al., 2015). Unsurprisingly, then, several studies have examined how specific clinical experiences with gifted learners influence PSTs' capacities to serve this population. Tirri et al. (2002) found that the biggest predictor of teachers' attitudes

towards gifted education was whether or not gifted students were identified and represented in the school, suggesting that just having an awareness of gifted learners (i.e., making them “real”) can significantly influence teachers’ perceptions of them. In Bégin and Gagné’s (1994) evaluation of predictors of teachers’ attitudes towards the gifted, they also found that simply having contact with gifted learners could explain 10% of the variance in teachers’ attitude scores. These findings are important to consider, as PSTs are likely to come into contact with high-ability students during clinical experiences, including those who have been formally identified as gifted. However, few PSTs report having field opportunities to work meaningfully with this population (Bangel et al., 2006), which means that EPPs may need to design clinical experiences that require PSTs to participate in purposeful interactions with gifted students.

Findings from Chamberlin and Chamberlin’s (2010) study support the view that EPPs should provide structured opportunities for PSTs to interact with gifted children in classroom settings. One way of doing this is by having PSTs utilize journals that encourage sense-making relating to experiences with the gifted during clinical placements. In Chamberlin and Chamberlin’s (2010) study, use of meaning-making journals prompted PSTs to reflect on their preconceptions about the gifted and on how their beliefs about the gifted changed over time with increased exposure to advanced learners during clinical placements. Chamberlin and Chamberlin’s analysis of PSTs’ journal writings suggests that clinical experiences alone (without any accompanying coursework) were able to help PSTs broaden their views of giftedness, as 21 of the 23 participants demonstrated more robust, nuanced, or varied conceptions of gifted learners in their post-clinical-experience responses. However, interactions in clinical practices, in the absence of corresponding coursework, did not seem to attenuate PSTs’ beliefs that gifted education was elitist or that ability-grouping was “unfair.” The clinical practices also did not

seem to help PSTs learn strategies for differentiating instruction for their advanced students. It may be the case, as Baudson and Preckel (2016) suggest, that clinical experiences alone may not controvert teachers' misconceptions about gifted learners, which means that placements divorced from coursework (although helpful to a degree) may be an inadequate mechanism for preparing PSTs to teach gifted students. To more adequately help PSTs develop into effective teachers of the gifted, EPPs may need to ensure that clinical interactions are highly structured and meaningful, and may also need to connect those interactions to coursework that facilitates sense-making. Doing this would build the type of structural coherence that PSTs indicate would support their learning about gifted education practices (Harris & Hemmings, 2008).

Structural Coherence through Aligned Coursework and Clinical Experiences

As noted in the previous sections, coursework and clinical practices may exist as disconnected events in EPPs (Zeichner, 2010), which reduces structural coherence and may limit the efficacy of efforts to prepare PSTs for working with gifted learners. As a whole, the literature seems to suggest that EPPs' use of an instructional model that integrates what students learn in coursework with what students do in clinical settings is most likely to yield desired learning outcomes for PSTs (Vidergor & Eilam, 2011), including the ability to enact teaching practices that meet gifted students' needs. The effectiveness of this approach may be rooted in PSTs' abilities to make real-time connections between course content and classroom realities and the impact that these connections have on sense-making, retention, and application (Baker & Murray, 2011; Bartolome, 2013). Without these connections, it is possible for PSTs to acquire some knowledge during their coursework but lack the skills needed for actual implementation (Bain et al., 2003).

Feldhusen and Huffman (1988) documented the positive effects of this structural alignment in their survey of 209 teachers pursuing an endorsement in gifted education that required a mix of courses and clinical experiences. Seventy-three percent of respondents indicated that coupling clinical work with coursework was “excellent” in terms of its value for enhancing their practice (Feldhusen & Huffman, 1988). In this same study, observers’ ratings of teachers’ performances in their clinical practices showed that teachers were fairly successful in their work with gifted learners, suggesting the efficacy of this approach. Stephens (2009) also showed that a combination of extended coursework (12 credit hours) and extensive clinical experience with gifted learners can support teachers’ development of knowledge of the gifted, as well as increase their empathy towards these learners. In developing this empathy, gifted students were more “humanized” in teachers’ eyes, and teachers’ descriptions of gifted learners following training completion contained far fewer stereotypic depictions (Stephens, 2009). Although the participants in the above studies were in-service teachers, research (e.g., de Wet & Gubbins, 2011; Jones et al., 2012; Patterson et al., 2016) has demonstrated that in-service and pre-service teachers have similar view of gifted learners, which suggests that training may yield similar results for both groups.

However, not all studies of extended coursework in gifted education have documented positive effects. For example, Morris Miller (2009) compared 60 teachers’ abilities to recognize and articulate characteristics of gifted learners. Thirty-five percent of the teacher in the study were considered highly trained in gifted education as a result of having 12 or more credit hours of gifted coursework. However, these teachers were no more likely than their untrained peers to recognize traits of gifted students or to imagine gifted students who might possess a breadth of attributes beyond what is “typical” for an advanced learner (Morris Miller, 2009). These findings

contrast with what Feldhusen and Huffman (1988) and Stephens (2009) observed about extended amounts of coursework, which suggests that perhaps the quantity of coursework may be less influential than the content of the coursework. However, none of these studies examined the nature of the coursework specifically, so this variable cannot be compared. Additionally, it should be noted that the teachers in both Feldhusen and Huffman's (1988) and Stephens's (2009) studies self-selected into the gifted training, which may have influenced the training's effectiveness. It is not clear if the teachers in Morris Miller's (2009) study self-selected into the training, which may have had an impact on the study's results. In any case, it should be noted that the combination of coursework and clinical practice that might be useful for teachers who self-select into gifted training may not be similarly useful across PST groups that are not selecting into these experiences.

However, several studies do examine the effectiveness of structurally coherent preparation approaches for PSTs who did not self-select into gifted training, and these studies also report fairly high degrees of success. For example, Frazier (2018) found that when a clinical experience working specifically with the gifted was paired with a literacy methods course, PSTs' knowledge of gifted students' characteristics and exceptional needs became more nuanced and accurate. Following a clinical experience, the PSTs were also able to more clearly articulate why gifted students need challenging work, not extra work (Frazier, 2018). Similar findings were noted by Bangel et al. (2006; 2010) in their studies of EPPs that designed a course on gifted education and an accompanying practicum experience in a Saturday enrichment program. Results from both studies indicated that the PSTs (1) increased their awareness of gifted learners' needs, (2) believed that the experience helped them conceptualize what it means to provide equitable opportunities for diverse abilities, (3) found that the clinical practice helped them move

from theoretical coursework to the application of their learning, and (4) recognized that gifted students need challenging instruction, not just additional work or “fun” activities (Bangel et al., 2006; 2010). Although these findings are promising – as they represent movement away from oft-held misconceptions about the gifted – it should be noted that the PSTs in the Bangel et al. (2006) study still struggled with some differentiation strategies (including pacing instruction differently for advanced learners) despite the highly-structured training. Retention of misconceptions seemed to be less common in the Bangel et al. (2010) study, perhaps as a consequence of divergences in the training content or structure.

Watters et al. (2013) similarly investigated the effects of a coursework-clinical experience pairing on PSTs’ preparation for teaching gifted students. In the two EPPs that Watters et al. (2013) evaluated (the Bushland School and the Cluster Network), both achieved success by integrating coursework and clinical experiences that specifically focused on gifted education. However, the EPP that seemed to be more successful (the Bushland School) had more intensive requirements. For example, the PSTs in the Bushland School enrolled in a full semester-long course and were required to interact with gifted students’ parents, interview students, review their work with gifted coordinators and course instructors, and participate in additional workshops. As a result, these PSTs reported that their awareness of the purpose of gifted education grew through the integration of these varied experiences, and many expressed views (post-course and post-clinical practice) that indicated reduced misconceptions about gifted learners.

The comparison EPP (the Cluster Network) had somewhat less-intensive requirements, which may account for its reduced success relative to the more intensive approach adopted by the Bushland School. The Cluster Network approach required PSTs to engage in a series of

workshops and lectures, then work with gifted students one time per week for a six-week span during clinical work. PSTs also had to work with their mentor teacher and university faculty to shape their lesson plans for their gifted students. Although participation in the coursework and clinical practices did lead to PSTs' growth, Watters et al. (2013) note that the PSTs in the Cluster Network retained more misconceptions than did the PSTs in the Bushland School (including mixed views about acceleration and the false belief that peer tutoring is an effective differentiation method for the gifted). Therefore, it is possible that the intensiveness of the coursework and the duration of the clinical practice influenced the overall efficacy of both EPPs' instructional approaches, which is consistent with other research findings about the importance of sense-making over time (Reis & Westberg, 1994).

Hudson et al. (2010) also evaluated a well-developed coursework/clinical experience in which an EPP deliberately set out to promote structural coherence. In this EPP, PSTs engaged in six 90-minute teaching sessions with gifted students, designing learning experiences that challenged these learners through appropriate instructional decision-making. To support this work, faculty instructors from the university observed the PSTs' work with the gifted students and provided feedback on the lessons. Additionally, the PSTs participated in two-hour workshops after their work sessions with the students in order to focus on building content knowledge around gifted learners/education and to partake in guided reflections/discussions of their work that supported sense-making. Surveys of the PSTs following the coursework/clinical experience showed positive results: 96% agreed that they could develop lessons more effectively for the gifted, 73% said that they had more content knowledge about gifted students' needs, and 91% expressed enthusiasm for working with this population. However, despite PSTs' reported increases in competencies and enthusiasm, many also indicated feeling as though they would

have benefitted from increasing the duration of both their coursework and clinical experiences. This again speaks to the need for EPPs to build conceptual and structural coherence, which will maximize PSTs' exposure to gifted-related concepts over time and within varied contexts.

What the previously-discussed literature reveals is that aligned coursework and clinical experiences have the power to substantially increase PSTs' capacities for teaching gifted students. However, it also reveals that not all attempts at this alignment are created equal. Wasserman's (2009) study of two coursework/clinical experience models underscores the fact that disparate results may be created by the nature/structure of the curriculum and instruction that the EPPs design. For example, in one literacy course with highly-structured in-placement experiences where PSTs were required to apply coursework learning in their real-life interactions with students, PSTs were more likely to develop self-efficacy and to implement what they learned in class during future placements. However, in the less-structured coursework/clinical experience where PSTs only had to practice applying their coursework by teaching their peers during class, PSTs were much less likely to implement what was learned once they were in a future placement. PSTs in the group with more coursework/clinical work structure and specific implementation requirements during clinical practices were also more highly rated by their university supervisors (Wasserman, 2009). Therefore, when designing PSTs' clinical experiences, EPPs should ensure that PSTs are participating in structured interactions with gifted learners. Clinical work should not be limited to observations of the gifted, as Peebles and Mendaglio (2014) suggest that observation-oriented field experiences do little to prepare PSTs to work with students with diverse abilities.

Based on the research described here, it is clear that coursework/clinical experiences need to be curated for maximum effect. The deliberate integration of course content alongside

interaction-based clinical experiences seems most likely to produce PSTs who are prepared to work with gifted students. However, what has proven effective in several of the EPPs in these studies may not be transferable across program contexts. Most studies of the various training models and approaches to coursework and clinical work are qualitative in nature and have small sample sizes, rendering them limited in their generalizability. It is likely that the ideal design for preparatory experiences is based on the specific attributes and needs of the EPPs and their PSTs. Essentially, the curriculum and instruction that the EPPs utilize to prepare PSTs to work with the gifted must be responsive to the PSTs' learning needs and academic and professional contexts.

Additionally, the degree to which EPPs provide PSTs with conceptually and structurally coherent learning experiences around gifted students and gifted education has not been adequately explored in the literature. However, given that most coursework in gifted education is generally offered for licensed teachers and not at the initial licensure stage, it is unlikely that coherent messaging about gifted education exists across most courses or that PSTs have clinical experiences in which working with gifted learners is emphasized (Cotabish & Dailey, 2016). However, Canrinus et al. (2017; 2019) demonstrated that programs can successfully bolster their coherence, which is promising for EPPs seeking to prepare PSTs to work with gifted populations. For these EPPs, paying attention to both conceptual and structural coherence is essential for achieving this goal.

Work with Mentor Teachers, Clinical Coaches, and Instructors

PSTs' work with their mentor teachers, supervisors, and faculty instructors can influence their development. In this section, I explore the literature that considers how this work can be leveraged to better support PSTs' learning.

Work with Mentor Teachers

Research suggests that aligned coursework and clinical experiences focused on gifted education can help prepare PSTs for their work with high-ability learners. However, little research exists that investigates the role that mentor teachers (MTs) play in facilitating PSTs' work with the gifted. Of the few studies that investigate how MTs function as mediating factors in PSTs' interactions with gifted students, results generally indicate that MT support is lacking or unhelpful. For example, interviews with PSTs in Megay-Nespoli's (2000) study suggested that PSTs looked to MTs to model strategies for differentiating instruction for gifted students, but that this was largely absent from their MTs' practice. In the same study, several of the PSTs were directly told by their MTs "not to worry" about gifted students because they will read silently once their work is completed and because keeping the class learning at the same pace is of greater importance. Perhaps even more concerning, the MTs in this study sometimes discouraged their PSTs from trying to differentiate either because the MTs themselves did not understand the process of differentiation or because they thought that it was unnecessary extra work. Only three PSTs of the 64 involved in this study reported that their mentors actually modeled differentiated instruction for gifted learners.

These findings are problematic, given that PSTs are more likely to emulate their mentor teachers upon entering the profession than to draw upon what they learned in their EPP coursework (Allen, 2009). It may be necessary for EPPs to address this messaging from MTs directly and/or to provide opportunities for PSTs to make sense of the disconnect between what they learn in their courses (e.g., to differentiate in response to academic diversity) and what they see in their clinical experiences.

Although the above studies paint a negative picture of PST/MT interactions, studies outside of gifted education (e.g., Krapivynk et al., 2021) have shown that when PSTs perceive

MTs as knowledgeable and supportive, MTs can help facilitate PSTs' professional development. Moreover, in Smith-Sherwood (2018)'s multi-case study of exemplary EPPs, strong school/university partnerships and the deliberate selection of expert MTs were found to relate to PSTs' preparedness for teaching upon program completion. Given this, EPPs may need to be intentional in choosing the MTs with whom their PSTs work and in structuring the nature of their interactions.

Work with Clinical Coaches

Just as there are few studies that examine the role of MTs in supporting PSTs' work with gifted learners, there are similarly few pieces of research that look at the role that clinical coaches might play. Coaches (also called university supervisors) act as intermediaries between PSTs, faculty, and MTs, and can therefore play a vital role in supporting EPPs' curricular and instructional goals for preparing PSTs to work with gifted learners. Findings about coaches acting in this supportive capacity are very limited, although Megay-Nespoli (2000) did find evidence of instances in which coaches directly discouraged PSTs from attempting to use differentiated methods, believing that this was too complex an endeavor for novice teachers. Similarly, the PSTs in Tomlinson et al.'s (1994) study reported receiving little support from coaches in their efforts to use differentiated instruction for advanced students.

The scarcity of research in this area does not allow for any firm conclusions to be made about the role that coaches play in preparing PSTs to meet gifted learners' needs. However, studies about coaching for general education (e.g., Oh et al. [2005]) suggest that the amount of direct supervision that PSTs have during their placements may be positively associated with PSTs' long-term decisions to remain in the teaching profession. Similarly, Tas et al. (2018) found that the use of a highly structured coaching model can improve PSTs' development. Tas et

al. (2018) also compared the classroom management and instructional-strategy use of PSTs who engaged with a highly structured coaching model with those who did not, finding statistically significant differences between the treatment and control groups. Given this, EPPs should explore options for and devise means by which to support coaches in helping PSTs to work effectively with gifted learners.

Work with Instructors

The responsibilities that teacher educators or faculty instructors assume in preparing PSTs to work with the gifted are also largely unexplored in the literature, despite the fact that the NAGC (n.d.) outlines specific criteria relating to gifted education that teacher educators should be able to meet. One study that does address teacher educators' roles, however, illuminates why gifted education is often ignored in EPPs. According to Chamberlin and Moore (2006), surveyed faculty instructors' knowledge of gifted education could be classified only as moderate (based on an evaluative survey and on instructors' self-reports). Additionally, only 8% of those surveyed reported taking a course dedicated to gifted education specifically, while just 6% reported taking one course that addressed it partially. Further, Chamberlin and Moore (2006) found that the amount of time that instructors spent teaching PSTs about gifted learners in their courses was correlated with instructors' own observed and self-reported knowledge about the gifted. Given that instructors reported only moderate levels of knowledge about gifted populations, it is not surprising that 69% of methods course instructors said that they spent only 1-2 hours per semester on gifted-related topics. Nineteen percent of these instructors said that they spend three to four hours per semester, while only 11% said that they spend five or more hours (Chamberlin & Moore, 2006). Although these numbers reflect findings from only a single study, it is possible that similarly sparse amounts of time are devoted to gifted education across other programs.

Therefore, EPPs must investigate the present statuses of their courses to determine whether or not gifted education is being covered – and if not, why not. With this knowledge, EPPs can then move forward to reconfigure coursework to build stronger conceptual coherence if faculty support for such changes can be cultivated. However, as VanTassel-Baska et al. (2016) caution, EPPs cannot assume that all faculty will share views on the value of preparing PSTs to work with the gifted. Instructors' attitudes and beliefs must be accounted for prior to attempting curricular revisions.

Conclusion

During clinical experiences and upon entry to the profession, PSTs will be responsible for providing equitable and effective learning opportunities for the array of readiness levels in their classrooms. PSTs will need to draw upon what they learned in their EPPs in order to serve diverse student groups, including those who are gifted and talented. Doing this involves utilizing both pedagogical practices that support all learners, as well as instructional strategies that target high-ability students' needs specifically. Given the uncertainty around the degree to which PSTs will receive in-service training in gifted education, the responsibility of developing PSTs into effective teachers may fall in part to EPPs. This responsibility is also reinforced by sets of standards governing EPP accreditation and requirements (e.g., InTASC [CCSSO, 2013], VDOE regulations [2018]). Therefore, EPPs must determine how they can help PSTs (1) understand gifted students' needs, (2) acquire pedagogically-appropriate teaching strategies for meeting those needs, and (3) translate their learning into curricular and instructional events within a real-world classroom context.

Achieving these objectives is contingent upon the development of conceptual and structural coherence within programs, such that PSTs receive consistent messaging about gifted

education, are exposed to gifted-related concepts in multiple settings, and experience purposeful interactions with gifted learners. Moreover, achieving these goals also involves addressing PSTs' beliefs about gifted learners that are not substantiated by research. Overturning misconceptions and ensuring that PSTs acquire the professional knowledge and competencies needed to serve gifted students effectively is likely a time-intensive process that is best enacted through the deliberate curation of PSTs' learning experiences. Therefore, to ensure that effectively prepared teachers are classroom-ready upon program completion, EPPs must evaluate and refine their curriculum and instruction in order to best develop PSTs' abilities to work with the gifted.

Chapter 3

In Chapter 1, I provided an overview of the problem of practice in its localized context, and in Chapter 2, I examined relevant literature that situated the problem of practice within the broader field. Given that the purpose of this research was to study the secondary PGM program's ELA endorsement area within a bounded setting, I utilized a descriptive case study design in order to better understand how PSTs were prepared within this context to teach gifted learners (Creswell, 2009). Through document analyses, individual interviews, and video observations of PSTs' interactions with gifted students, I generated findings that will help relevant stakeholders better understand what the program did to prepare PSTs to work with the gifted, what PSTs' perceptions were of their preparation, and what PSTs' experiences were with teaching gifted children in their clinical placements. These findings answered the following research questions and formed the basis for the recommendations that I provide in Chapter 5 to the secondary PGM program stakeholders:

- Research Question 1: In what ways does the secondary PGM program prepare ELA PSTs to address the needs of gifted students?
- Research Question 2: What are ELA PSTs' perceptions of their preparation to address the needs of gifted students?
- Research Question 3: What is the nature of ELA PSTs' teaching experiences with gifted learners during clinical experiences?

Study Design

The design of this study was based on the ontological and epistemological principles of the interpretivist paradigm, which involves understanding situations by exploring and reflecting on people's lived realities within given contexts (Ormston et al., 2014). To understand the

realities of the secondary PGMT program and its ELA PSTs' preparation, I utilized a descriptive case study set within the bounds of the ELA endorsement area of the secondary PGMT program (Creswell, 2009). According to Yin (2014), a qualitative case study of this nature is appropriate when trying to understand the contextual conditions of the participants or phenomena being studied, which was the purpose of this Capstone project.

In this study, the bounded "case" was defined as the ELA endorsement area within the secondary PGMT program. I analyzed documents (e.g., course syllabi and materials), conducted interviews with instructors and PSTs, and observed pre-recorded videos of PSTs' classroom practices in order to explore the ways in which this program prepared PSTs for teaching gifted learners. In using this design, I collected and analyzed multiple forms of data in order to generate an in-depth understanding of the case (Creswell & Guetterman, 2019). I then critically reflected upon and evaluated data in order to generate findings that formed the basis of the recommendations that I provide to the secondary PGMT program stakeholders in Chapter 5 (Hays & Singh, 2012).

Study Context

This study was conducted within the ELA endorsement area of a secondary PGMT program that was part of an accredited R1 university. This program led to a Master of Teaching degree and initial teaching licensure in a mid-Atlantic state. This site was chosen because in 2018, the program changed from a two-year to a one-year program. Given that large-scale programmatic alterations have been associated with a lack of coherence (Hammerness & Klette, 2015), the program's faculty and staff were interested in understanding how the redesign influenced their curricula and the ways in which PSTs were being prepared. Moreover, this site was chosen because the program was preparing for its upcoming accreditation review, during

which it had to demonstrate that it was preparing PSTs to teach diverse groups of learners, including the gifted.

The secondary PGMT program was an 11-month course of study consisting of general education classes, and for those seeking an ELA endorsement, classes in ELA-specific content. PSTs in the ELA cohort began the program during the summer, taking classes centered on adolescent learning and development (EDLF 5011), educational contexts (EDIS 5800), languages and literacies (EDIS 5830), exceptional learners (EDIS 5000), and foundations of learning and teaching (EDIS 5020). In the fall semester, the PSTs took courses in assessment (EDIS 5820) and instructional technology (EDIS 5070), as well as a general methods course in learning environments and experiences (EDIS 5030). Additionally, in the fall, PSTs enrolled in two ELA-specific courses: EDIS 5400: Teaching English in Secondary Schools I and EDIS 5852: Content Area Seminar. EDIS 5852 was intended to support the PSTs during EDIS 5862: Clinical Experiences in Education (hereafter referred to as the Fall Clinical Experience) by providing them with the opportunity to reflect on and make sense of their secondary school placements.

During the spring semester, PSTs enrolled in additional ELA methods and seminar courses, which included EDIS 5401: Teaching English in Secondary Schools II and EDIS 5872: Seminar: Teaching Internship: English Education. As in the fall, the seminar functioned to support the work that PSTs did during EDIS 5882: Internship: English Education (hereafter referred to as the Spring Clinical Experience). Internships in the spring, however, were more intensive, requiring PSTs to attend schools full time and to eventually assume a full teaching load. Both the Fall and Spring Clinical Experiences were carried out through partnerships with local schools, during which the PSTs were supported by their ELA-endorsement area faculty

member and by their assigned mentor teachers and clinical coaches. In the spring semester, the PSTs also enrolled in EDIS 6991: Professional Field Project, a course designed to support the PSTs as they completed the Teacher Education Portfolio (TEP), a culminating piece intended to demonstrate PSTs' learning throughout the program. See Table 3.1 for an overview of the ELA PSTs' course schedule.

Table 3.1

Secondary PGMT ELA Cohort Course Schedule

Semester	Course #	Course Title
Summer 2021	EDIS 5800	Understanding Educational Contexts
	EDLF 5011	Adolescent Learning and Development
	EDIS 5000	The Exceptional Learner*
	EDIS 5830	Languages and Literacies across the Disciplines*
	EDIS 5020	Foundations of Learning and Teaching*
Fall 2021	EDIS 5070	Designing Technology-Enhanced Solutions for Teaching
	EDIS 5030	Designing Effective Learning Experiences and Environments*
	EDIS 5400	Teaching English in Secondary Schools I*
	EDIS 5820	Assessment of and for Learning
	EDIS 5852	Content Area Seminar in English*
	EDIS 5862	Clinical Experience in English Education
Spring 2022	EDIS 5401	Teaching English in Secondary Schools II*
	EDIS 5872	Seminar: Teaching Internship: English Education*
	EDIS 5882	Internship: English Education
	EDIS 6991	Professional Field Project

Note. The Summer 2021 courses were offered sequentially in the order presented here. EDIS 5800 and EDLF 5011 were taken simultaneously in weeks 1-3 of the summer semester; EDIS 5000 and EDIS 5830 were taken simultaneously in weeks 4-6 of the summer semester; and EDIS 5020 was taken in weeks 7-9 of the summer semester. The Fall 2021 and Spring 2022 courses ran concurrently in their respective semesters.

Note. Courses included in this study are marked by an asterisk following the course title.

Participants

After receiving IRB approval, I obtained consent from EHD stakeholders (e.g., secondary PGMT faculty, the director of teacher education, the associate dean) to carry out the study. In my request, I obtained approval to conduct interviews with course instructors and PSTs enrolled in the ELA cohort. I also received permission to view videos of PSTs' teaching that were recorded as part of their clinical coaching observation cycles.

Instructors

The teacher education instructors who worked with the ELA cohort were both faculty members employed by EHD as well as doctoral students in curriculum and instruction. For this study, I used criterion-i purposeful sampling in order to determine which instructors I would interview (Palinkas et al., 2015). Purposeful sampling is appropriate in a qualitative case study when the objective is to obtain rich information from people who can best provide insights into given situations or phenomena (Patton, 2015). Therefore, inclusion criteria for choosing the instructors for this study were directly related to the criteria for including specific courses in the study. I did not include all of the courses that the ELA PSTs take in this study. Rather, I included those that met at least one of the following criteria: (1) the course was intended to cover the nature and needs of children with academic exceptionalities, (2) the course was intended to cover general pedagogical and instructional principles for meeting secondary students' academic needs, and (3) the course was intended to cover ELA-specific pedagogical and instructional principles for meeting secondary students' academic needs. Employing these selection criteria led to the inclusion of eight courses, which were taught by three different instructors: Nancy, Lori, and Mary¹ (see Table 3.2).

¹ All instructor names are pseudonyms.

Nancy

The PSTs in this study were first introduced to concepts relating to the needs of exceptional learners in their EDIS 5000 (The Exceptional Learner) course. Therefore, I included the instructor from this course (Nancy) in the study in order to better understand what content is covered relating to gifted learners. Nancy was a doctoral candidate at MAU in the department of Curriculum, Instruction, and Special Education, focusing largely on schooling experiences for students with autism. She had taught the EDIS 5000 course three times (twice in the secondary PGMT program and once to undergraduate students). Prior to her work at MAU, Nancy was a public-school teacher for five years, working primarily in kindergarten through eighth-grade classrooms.

Lori

The general methods courses that all PSTs took (EDIS 5020: Foundations of Teaching and Learning and EDIS 5030: Designing Effective Learning Experiences and Environments) were both taught by the same instructor, Lori, whom I also interviewed for this study. Lori held a Ph.D. in Education with a concentration in curriculum and instruction and was employed as an associate professor at MAU. She also served as the coordinator for the secondary/ESL PGMT program since the fall of 2015 and had 10 years of teaching experience in P-12 settings.

Mary

I also interviewed the instructor (Mary) who taught a general course on pedagogy related to the development of students' languages and literacies (EDIS 5830: Languages and Literacies across the Disciplines) as well as the ELA-specific courses in the fall and spring semesters (EDIS 5400: Teaching English in Secondary Schools I, EDIS 5852: Content Area Seminar, EDIS 5401: Teaching English in Secondary Schools II, and EDIS 5872: Seminar: Teaching

Internship: English Education). Mary held a Ph.D. in English Education and was an associate professor at MAU. She had 12 years of public-school teaching experience, and was responsible for supervising and advising the ELA cohort of PSTs within the secondary PGMT program.

To ensure that all three of the instructors were comfortable participating in the study, I sent each one a recruitment email (see Appendix A) explaining the purpose of the study and what would be asked of them if they choose to participate. Nancy, Lori, and Mary all expressed interest in participating, so I then sent each instructor an informed consent form, which they all returned prior to being interviewed.

Table 3.2

Courses Taught by Instructors Included in the Study

Instructor	Course #	Course Title
Nancy	EDIS 5000	The Exceptional Learner
Lori	EDIS 5020	Foundations of Learning and Teaching
	EDIS 5030	Designing Effective Learning Experiences and Environments
Mary	EDIS 5830	Languages and Literacies across the Disciplines
	EDIS 5400	Teaching English in Secondary Schools I
	EDIS 5852	Content Area Seminar in English
	EDIS 5401	Teaching English in Secondary Schools II
	EDIS 5872	Seminar: Teaching Internship: English Education

Pre-Service Teachers

There were 19 ELA PSTs enrolled in the 2021-2022 secondary PGMT cohort. At the time of this study, all of the PSTs were enrolled in their spring coursework and in their Spring Clinical Experience. In previous semesters, all 19 PSTs were enrolled in the fall and summer coursework and clinical experiences described in Table 3.1. Having enrolled in these courses, this sample therefore included PSTs who had taken foundational coursework on learner diversity, general instructional methods, and instructional methods specific to ELA settings.

Although there were 19 ELA PSTs in the cohort, I chose to use only three in the sample, which is consistent with Creswell's (2009) suggestions for sample sizes within a case study. Interviewing and observing three PSTs helped to develop in-depth pictures of each individual PST's experiences such that I could answer the research questions based on rich, detailed data (Patton, 2015). To determine which three of the 19 PSTs would participate in the study, I utilized criterion-i purposeful sampling (Palinkas et al., 2015). The criteria for inclusion in the study were the following: (1) the PSTs must have been conducting their Spring Clinical Experience in Mountain County Public Schools (MCPS)² in order to ensure that school policies and course levels were consistent for all PSTs, and (2) the PSTs must have been placed in classrooms during their Spring Clinical Experience in which identified gifted children were present. Utilizing these criteria, I generated a list of seven PSTs who were eligible for inclusion. To narrow the sample, I met with Lori (who is the secondary PGM program coordinator) and the director of the Teacher Education Program to discuss the list of seven candidates and seek their input as to which PSTs would likely be able to provide the most useful information for the study based on the context of PSTs' Spring Clinical Experiences and the courses that they were teaching (see Table 3.3). With their input, I was able to decide which three PSTs I would invite to participate.

Janelle

One of the PSTs (Janelle)³ was selected not only because she met the above inclusion criteria, but also because she was the PST with whom I worked as a clinical coach during the fall and spring semesters. This decision was made because at the time of the study, Janelle and I had established a positive relationship from our clinical coaching experiences and from my time as

² Mountain County Public Schools is a pseudonym.

³ All PSTs' names are pseudonyms.

her instructor in EDIS 5820 (Assessment of and for Learning) and as her teaching assistant in EDIS 5030 (Designing Effective Learning Experiences and Environments). I anticipated that this existing relationship would be helpful in obtaining more detailed information from Janelle during interviews and would make it easier to analyze her teaching during the video observations.

Ruth and Marcie

Additionally, the two other PSTs who were selected (Ruth and Marcie) met the inclusion criteria, but were also considered to be reflective, engaged students who would be able to manage being enrolled in the study while simultaneously completing their coursework and Spring Clinical Experience. Once Ruth and Marcie were identified as strong candidates for inclusion in the study, I reached out to them and to Janelle in order to explain the purpose of my study as well as what would be required of them should they consent to participate (see the recruitment email template in Appendix B). All three PSTs expressed interest in participating, at which point I provided them with informed consent forms. Once the forms were returned, I moved forward in scheduling initial interviews with the PSTs.

Table 3.3

Courses Taught by PSTs Included in the Study

PST	Number of Sections	Grade	Level
Janelle	3	12	AP English Literature
	2	9	Honors
	1	9	Collab
Ruth	2	11	AP Language
	4	11	Academic Advanced
Marcie	3	12	AP English Literature
	3	10	Honors
	1	10-12	Credit Recovery

Data Sources

The data sources for this study included several documents (course syllabi, course texts, curriculum maps, and accreditation and regulation documents), interviews from instructors and PSTs, and video observations of PSTs' teaching during their Spring Clinical Experiences. Using multiple sources helped generate detailed data that facilitated answering the research questions and ensured greater data reliability through triangulation (Rossman & Rallis, 2012). See Table 3.4 for an overview of which data sources were used to answer each research question.

Table 3.4

Data Sources Used to Answer Research Questions

Research Questions	Documents				Interviews		Observations
	Syllabi	Course Materials	Curriculum Maps	Accreditation and Regulation Documents	Instructor Interviews	PST Interviews	Observation of PSTs' Placements
1. In what ways does the secondary PGMT program prepare ELA PSTs to address the needs of gifted students?	X	X	X	X	X	X	
2. What are ELA PSTs' perceptions of their preparation to teach gifted students?						X	
3. What is the nature of ELA PSTs' experiences with gifted learners during clinical experiences?					X	X	X

Documents

The documents for this study were chosen according to the criteria established in the document selection protocol (see Appendix C).

Course Syllabi

I acquired and reviewed syllabi for the following courses: EDIS 5000 (The Exceptional Learner), EDIS 5830 (Languages and Literacies across the Disciplines), EDIS 5020

(Foundations of Learning and Teaching), EDIS 5030 (Designing Effective Learning Experiences and Environments), EDIS 5400 (Teaching English in Secondary Schools I), EDIS 5852 (Content Area Seminar), EDIS 5401 (Teaching English in Secondary Schools II), and EDIS 5872 (Seminar: Teaching Internship: English Education). The syllabi contained overviews of objectives for PSTs' learning for each course, and also provided information about which textbooks and other materials the PSTs were required to review. Additionally, syllabi described major course assignments/tasks that the PSTs needed to complete. Therefore, the syllabi served as starting points for gathering information about each course's required materials that might specifically have addressed giftedness or issues related to learner diversity, which helped to answer research question 1.

Course Materials

I obtained materials (e.g., textbooks, articles, videos, PowerPoints, assignments, etc.) from the eight courses listed above in order to better understand what PSTs learned about gifted students and about methods for providing appropriate instruction for these learners. To acquire course materials, I reviewed course syllabi and obtained copies of assigned course texts. I also reviewed the Canvas⁴ pages for each course and downloaded materials or accessed them electronically through a website.

Curriculum Maps

I used the curriculum maps for the ELA endorsement area of the secondary PGMT program in order to help answer the first research question for this study. These curriculum maps contained a list of the Teacher Education Program Outcomes (TEPOs) that the secondary PGMT used to define its goals for PSTs' development as well-started teachers. The ELA curriculum

⁴ Canvas was the Learning Management System used by MAU at the time of this study.

map contained information from all courses in the ELA sequence that described the ways in which each course helped PSTs develop the competencies needed to achieve the specified TEPOs.

I produced this ELA map prior to the beginning of this study as part of another project. The maps were developed by reviewing course materials and meeting with individual instructors in order to solicit input about the ways in which their courses helped prepare PSTs to meet the TEPOs. For the purposes of this study, the curriculum maps were used to gather information about the intended curriculum for the ELA endorsement area and its relationship to preparing PSTs for working with gifted learners.

Accreditation and Regulation Documents

I used accreditation documents from the InTASC standards (CCSSO, 2013) for describing the competencies and dispositions of well-started teachers (as these are the standards utilized by CAEP, the program's accreditor) and regulations from VDOE (2018) in order to understand what PSTs need to do in terms of being prepared to teach gifted students upon program completion. I also included the Teacher Education Program Outcomes (TEPOs) in this study. The TEPOs were guiding standards that were created and utilized by the secondary PGMT program and were intended to describe the behaviors and dispositions of well-started teachers. The TEPOs were sub-divided into six categories that described a well-started teacher, including (1) learning community and environment, (2) instructional design, (3) instructional delivery, (4) assessment, (5) technology, and (6) professionalism.

Interviews with Instructors and PSTs

I used semi-structured interview protocols to guide the interviews so that I could be responsive to participants' ideas and open to new questions and ideas that emerged during my

dialogue with the instructors and PSTs (Creswell & Guetterman, 2019). I conducted one interview with each instructor (n=3) (for a total of three instructor interviews) and three interviews with each PST (n=3) (for a total of 12 PST interviews).

Each interview was conducted one-on-one, which allowed participants to articulate key insights and share their ideas comfortably (Creswell & Guetterman, 2019). Additionally, these interviews used open-ended questions that gave the participants the opportunity to respond in a way that was unconstrained by other perspectives (Creswell & Guetterman, 2019). I conducted one of the interviews with Janelle in person; however, all other interviews with instructors and PSTs were conducted via Zoom following a protocol that was appropriate for online interviewing (Mirick & Wladkowski, 2019). During these interviews, I took brief notes in order to capture significant ideas and to record some of my own thinking. The interviews were audio recorded and transcribed for future analysis. Once the interviews were transcribed, I engaged in member checking to determine if each interviewee's responses were accurately captured by the transcript (Hatch, 2002).

Instructor Interviews

The interview questions for the instructors followed a semi-structured protocol (see Appendix D) and were designed to elicit responses that helped answer the first research question for this study, which focused on understanding what the secondary PGMT program did to prepare PSTs in the ELA cohort to teach gifted learners. The questions were deliberately structured to probe for descriptions of (1) what occurred in terms of preparing PSTs to work with the gifted, and (2) what instructors' beliefs and opinions were about what transpired in the program and in their courses (Hays & Singh, 2012).

PST Interviews

Interviews with PSTs followed a semi-structured protocol (see Appendix E) intended to gather information about PSTs' preparation for working with gifted students and their experiences in placements with these students. Additionally, the interviews utilized open-ended questions to gather data about PSTs' planning for their work with gifted learners. I asked PSTs these open-ended questions in order to obtain information about how they went about planning to instruct gifted students. I interviewed each PST three times in order to note possible changes in their thinking or teaching approaches over time (Creswell & Guetterman, 2019). In doing this, I developed insights that answered all three research questions for this study.

Observations of PSTs' Teaching

The nature of the observations for this study was contingent upon COVID-19-related policies instituted by MCPS and the prevalence of the COVID-19 virus at the time of the study. Given the high positivity rates of COVID-19 during the spring semester, I opted to conduct observations of each PSTs' teaching using pre-recorded observation videos that were part of their required clinical coaching cycles. All videos were approximately 20 minutes in length, and were due by the following dates: February 11, 2022; March 4, 2022; and March 25, 2022. Ruth completed her coaching cycles in advance of these due dates, which enabled me to conduct three observations of Ruth prior to the conclusion of the data-collection phase. However, Janelle and Marcie did not complete their third coaching cycles prior to the conclusion of data collection, which meant that I only had observation data for two of their coaching cycles. Although I was only able to conduct three rounds of observations for Ruth and two rounds of observations for Janelle and Marcie, I was still able to note changes in teaching behaviors over time as the PSTs gained familiarity with their placements and their students' needs (Creswell & Guetterman, 2019), which helped to enhance the credibility of my findings (Merriam & Tisdell, 2011).

During each observation, I followed an observation protocol (see Appendix F) that focused on relevant information regarding PSTs' teaching practices for gifted learners that would help answer the research questions. I also used the protocol to guide the process of descriptive and reflective note-taking as I reviewed the videos (Creswell & Guetterman, 2019). See Table 3.5 for an overview of the content covered in each of the observed lessons.

Table 3.5

PSTs' Observation Video Course Context and Content

ST	Course	Content
Janelle	9th-Grade Honors	<i>Romeo and Juliet</i> prologue
	9th-Grade Honors	Theme in <i>Romeo and Juliet</i>
Ruth	11th-Grade Academic Advanced	<i>Hamilton</i> and the American Revolution
	AP Language	<i>Frederick Douglass</i> chapters 1-5
	AP Language	<i>Frederick Douglass</i> Socratic seminar
Marcie	10th-Grade Honors	Social justice topics in songs
	10th-Grade Honors	<i>To Kill a Mockingbird</i> chapters 16-19

Data Analysis

This section describes the systematic processes that were used to analyze data gathered from documents, interviews, and observations. I began analyzing data at the time of their collection so that I could use what I learned through earlier rounds of analysis to iteratively shape subsequent document reviews, interview questions, and observations (Creswell & Guetterman, 2019).

Interview Transcriptions

All interviews were conducted in person or via Zoom were recorded using a computer-assisted recording device. As a backup, I also used a phone-assisted recording device for Zoom interviews. I used computer software to obtain transcriptions of the audio files for each recording, then transferred these transcriptions into MAXQDA for use during the coding process.

Qualitative Coding

I engaged in the systematic collection, organization, and interpretation of data throughout this study. Analysis focused on identifying and describing patterns or relationships among the data in order to then describe the larger themes that formed the basis for the research findings (Creswell & Guetterman, 2019). In order to systematize the evaluation of the data sources, I created codebooks that guided the analytic process.

I used these codebooks to deductively evaluate information and identify themes in the data (Bazeley, 2013). In order to ensure the clarity of the code definitions, and therefore, the degree to which the codebooks were useful in evaluating the data, I asked a critical peer to review the codes. After initial rounds of coding in which I applied *a priori* codes to documents, interviews, and observations, I inductively evaluated the data in order to determine if revisions to the codebook were necessary. I then added emergent codes to the codebooks as appropriate and continued to seek input on the clarity of the codes from a critical peer (Bazeley, 2013). For example, after reviewing data from instructor interviews, it became clear that numerous barriers existed to incorporating information about gifted learners in the program's coursework. Therefore, I added the code "Challenges/Barriers" to my codebook in order to capture any themes that emerged regarding programmatic challenges to preparing PSTs to meet gifted learners' needs. After each round of coding, I reflected on developing insights and themes and recorded my thoughts in reflective memos (Creswell & Guetterman, 2019).

Codes for Documents

The document categories (syllabi, course materials, and accreditation and licensure documents) required two separate codebooks (see Appendix G and Appendix H). To create each codebook, I first generated a list of *a priori* codes based on existing literature relating to my

problem of practice. These *a priori* codes were organized around topics that I expected to occur across documents based on what is described in the literature regarding PSTs' preparation for teaching gifted learners. Additionally, the conceptual framework for this study considered the role that beliefs, coursework, and clinical experiences play in PSTs' preparation. Therefore, the overarching organizational codes that I utilized in my codebook reflected these broad categories. The sub-codes that fell within these categories were also derived from information presented in the literature (Bazeley, 2013).

Codes for Interviews

To develop the codebook for interviews (see Appendix I), I began by generating a list of *a priori* codes based on what the literature suggested about PSTs' preparation to teach gifted learners. The broader organizing code categories again reflected topics relating to my conceptual framework (e.g., beliefs, coursework, and clinical experiences), and the sub-codes were organized under these broader classifications (Bazeley, 2013). Because I collected and analyzed data simultaneously, I also added emergent codes to my codebook (Bazeley, 2013). I therefore revised my interview codebook on an ongoing basis and continued to seek input on my codebook from a critical peer.

Codes for Observations

I followed the same pattern for developing the observation codebook (see Appendix J) as I did for the interview codebook, utilizing both *a priori* and emergent codes as appropriate. However, because the goal in analyzing observations was to better understand the nature of PSTs' interactions with gifted students, I utilized codes that were more descriptive in nature. For example, I used the code "Groupings" to describe instances in which I observed PSTs using strategic flexible grouping practices to meet gifted students' needs. In utilizing descriptive

coding, I focused my observations on the actions, events, or experiences that appeared to be present in PSTs' classrooms (Bazeley, 2013).

Coding Procedures

I used a qualitative data analysis program, MAXQDA, to assist in data evaluation. Using MAXQDA, I was able to continually update the codebook, adding emergent codes and refining existing ones as needed. This software allowed notes to be added during the coding process, which helped facilitate the effective use of reflective memos. Additionally, I chose to use MAXQDA because it enabled the flexible tagging and sorting of coded data, which provided opportunities to explore and compare the data in varied ways and to see different themes emerge (Bazeley, 2013).

Analyzing for Patterns and Themes

After coding the data and reviewing the reflective memos, I considered how the relationships among the data could best be captured thematically (Creswell & Guetterman, 2019). To do this in a systematic way, I created theme charts (see Appendix K for an example) that highlighted and described the relationships that I observed between data sources of the same type (e.g., interviews) as well as among the varied data sources (Bazeley, 2013).

Document Analysis

Because the documents used in this study came from multiple sources and were intended for a variety of audiences, it was critical that I accurately categorized and interpreted the data. According to Gross (2018), documents often use different vocabulary to discuss similar concepts, and some documents may reference constructs and ideas without explicitly naming them. Additionally, sometimes what the documents omit (rather than include) can be a source of valuable information. In order to ensure that my review of documents was systematic and that I

did not overlook critical information for the reasons noted above, I reviewed each document systematically, first coding information deductively based on *a priori* codes and then inductively based on emergent codes. I also wrote reflective memos throughout the coding process, noting relationships in information across documents. Following this phase of analysis, I began looking for themes that helped answer research question 1 (In what ways does the secondary PGMT program prepare ELA PSTs to address the needs of gifted students?).

Interview Analysis

Interview data from instructors were used in combination with document analysis data in order to answer research question 1. I used the coding methods previously described to help identify trends, similarities, and differences in instructors' responses to the interview questions. Based on these trends, I made note of themes that I observed and used these as the basis for findings relating to research question 1.

Interview data from PSTs were used to answer all three research questions. I used both *a priori* and emergent codes as sources for identifying and evaluating patterns in PSTs' interviews. I also grouped and evaluated responses to interview questions according to the coaching cycles that occurred at biweekly intervals. In examining these data in clusters according to the coaching cycles, I was able to note what changes did (or did not) occur over time regarding PSTs' preparation to work with gifted learners (research question 1), what PSTs' perceptions were of their preparedness to work with gifted learners (research question 2), and the nature of PSTs' teaching experiences with gifted learners (research question 3).

Observation Analysis

I reviewed observation data and made note of patterns that helped generate findings for research question 3 (What is the nature of ELA PSTs' teaching experiences with gifted learners

during clinical experiences?). As with the interview data, I used both *a priori* and emergent coding to facilitate the analyses in a way that helped to identify themes. Additionally, I looked at the data in clusters according to the coaching cycles in an attempt to uncover any possible changes over time in PSTs' experiences with the gifted students in their classrooms.

Ethical Considerations

Before beginning my study, I obtained approval from MAU's Institutional Review Board for the Social and Behavioral Sciences (IRB-SBS) in order to ensure that all aspects of my study followed federally-mandated guidelines for conducting ethical research with human subjects. Once I obtained IRB-SBS permission to move forward with my study, I adhered to the proposed protocol so that risk to all participants was minimized and privacy and confidentiality were protected. I also obtained permission for the study from the Senior Associate Dean for Academics and Student Affairs, the Director of Teacher Education, and the Teacher Education Data Committee before sending recruitment emails to participants.

Conducting ethical research also requires being respectful of all participants and sites involved in a study (Creswell, 2009). To ensure that I was respectful of the people and spaces involved in this research, I endeavored to conduct interviews at times that were most convenient for participants and gave them the option to choose whether they would prefer to be interviewed in person or via Zoom. In doing this, I hoped to ensure that the interviews did not interfere with instructors' teaching and work schedules or with PSTs' coursework and Spring Clinical Experiences.

Additionally, Creswell (2009) indicates that ethical issues can arise in the absence of reciprocity between participants and the researcher, suggesting that all parties should mutually benefit from the study. Given this, I was attentive to the effects that my research had on others

involved in the study. My aim was for the secondary PGMT instructors to derive value from the interviews we conducted and from the recommendations that I provide in Chapter 5, as continual improvement is a goal of the program. Moreover, I believe that the interviews and observations helped PSTs refine their own practices by thinking critically about meeting the needs of gifted and advanced learners in their classrooms. During interviews the PSTs, all three indicated that engaging in our interviews increased their interest in gifted learners and helped them to think more critically about what they could do to provide effective classroom experiences for their students.

During the data collection and analysis phase, I was attentive to ethical issues associated with maintaining participants' confidentiality (Creswell, 2009). All instructors, PSTs, and schools were assigned pseudonyms to help with confidentiality. One drawback of the study, however, was that the confidentiality of the instructors could not be fully guaranteed, as they were the only instructors in the program who taught the courses that were part of the study. I was transparent about the lack of full confidentiality for instructors and included this information in their informed consent forms. All instructors agreed to participate despite not having full confidentiality, as they viewed their participation in this study as being in service of program improvement.

Additionally, all data for the study were stored in MAU Box, a secure cloud-based site (see Appendix L for my data management plan). Moreover, during the data-analysis phase, I utilized member checking in order to ensure that I was not misrepresenting any information supplied by participants (Merriam & Tisdell, 2011).

Researcher as Instrument

My preexisting relationships with the PSTs in this study had the potential to influence the data that I gathered during interviews and observations. In the semester prior to data collection, I was a graduate instructor in one of their courses (EDIS 5820) and a teaching assistant in another (EDIS 5030), which may have influenced the ways in which the PSTs interacted with me. In some ways, my preexisting relationships with the PSTs may have benefited the study, as the PSTs were likely to trust me, and therefore, perhaps be more willing to share their views during the interview process (Bazeley, 2013). However, the PSTs may have perceived a power differential given that I was once their instructor (and in the case of one PST, her current clinical coach), which could have influenced the ways in which they responded to interview questions. In recognition of the fact that my relationships with PSTs might have influenced the information that I gathered, and therefore, the outcomes of the study, I continually emphasized to the PSTs that in this study, I was acting in a non-evaluative capacity. I also used member checking to ensure that I was capturing PSTs' ideas accurately, and debriefed my work with a critical peer in order to continually reflect on my positionality.

Additionally, my personal beliefs about the importance of gifted education and meeting the needs of advanced learners were the impetus for this study. My prior experiences as a PST and the work that I had done teaching gifted learners in ELA classes both directly influenced the importance that I attached to this study and to the recommendations that I present in Chapter 5. During my personal PST experience, I recall learning very little in my EPP about meeting diverse academic needs, which I found to be problematic in terms of my own preparation for the classroom. These past experiences substantially influenced my interest in exploring what MAU's secondary PGMT program did in terms of this type of preparation.

Moreover, as a high-school ELA teacher, I worked with a wide array of students whose general readiness levels varied substantially, necessitating different approaches to instruction on the basis of academic diversity. I consistently endeavored to provide the gifted learners in my GHP (gifted/high potential) courses with rigorous coursework, opportunities for independent study, and acceleration as needed, believing that these efforts were necessary for meeting students' needs. However, I worked with colleagues whose views were very dissimilar from mine, and which often echoed the sentiments of administration. A common refrain heard about the GHP courses was that the gifted children were "fine on their own," and that our departmental efforts should go towards "kids on the bubble" of passing high-stakes tests. The prevalence of this mentality (which is also apparent in the literature centered on teachers' attitudes towards gifted programming) convinced me that it was worthwhile to address concerns for gifted education at the pre-service level. This assumption, combined with my focus area in gifted education during my M.Ed. and Ed.D. coursework, largely informed my desire to investigate this specific problem of practice.

I recognized that my potential biases and assumptions could have impacted my selection and interpretation of data. However, I attempted to refrain from allowing my preexisting beliefs to influence my interactions with or observations of participants. I did this by continually reflecting on my biases and assumptions through the use of self-reflection (Berger, 2015), analytic memos, and discussions with critical peers (Merriam & Tisdell, 2011).

Trustworthiness

In the following sub-sections, I provide information about the ways in which I endeavored to ensure the trustworthiness of the study.

Credibility

According to Guba (1981), credibility can be established by developing prior familiarity with programs involved in a study. I spent two and a half years prior to this study involved in the secondary PGMT program as a graduate instructor and teaching assistant, and therefore had a degree of familiarity with the program that increased the credibility of my work as I sought to understand and interpret data.

Additionally, data triangulation was used as a primary method for supporting the trustworthiness of this study (Patton, 2015). To build credibility, I utilized several data sources, including documents, interviews with instructors and PSTs, and multiple video observations of PSTs' teaching. Gathering information from these varied sources allowed for the use of more than one data source to answer each of the research questions. In this way, data from document analyses, interviews, and observations were examined alongside one another, leading to the generation of more detailed and accurate findings in support of the recommendations that I make to the secondary PGMT program stakeholders in Chapter 5.

I also established credibility during the data-analysis phase by having a critical peer review the codebooks following the initial round of coding (Patton, 2015). I revised the codebooks based on feedback from a critical peer, which helped ensure that the codes were aligned with the study design. I debriefed my work with my advisor at regular intervals in order to ensure that I was adhering properly to the study design and was on track with the study (Guba, 1981). Finally, I also built credibility by continually reflecting on and analyzing my own positionality and beliefs throughout all stages of the research process. Through this reflection, I generated awareness of and navigated any potential biases that could have altered the research (Patton, 2015).

Transferability

Throughout this Capstone project, I provided substantial background information about the study's context and the problem of practice under investigation. Although the findings from the study may not be generalizable to other programs, it is possible that some findings could be transferable to sites with similar contexts (Guba, 1981). Determining whether or not transferability is possible is dependent upon the degree of detail that I provided in my writing; therefore, I have given ample detail in my descriptions of the program features and context.

Dependability

To ensure dependability, I provided in-depth descriptions of all of the methodological approaches so that the study could easily be repeated by other researchers (Guba, 1981).

Confirmability

To build the confirmability of the study, I utilized multiple data sources in order to reduce potential effects of my own biases when gathering or interpreting data. Further, I was transparent about my existing beliefs regarding gifted education and teacher education in order to help counteract any biases or skewed perspectives that might have emerged as a result of those beliefs (Guba, 1981). I also worked to strengthen confirmability by providing detailed information about the limitations of my study and about any possible effects on the study outcomes that those limitations might have produced (Guba, 1981).

Delimitations

The purpose of this study was to better understand how the secondary PGMT program prepares its ELA PSTs to teach gifted learners. To achieve this purpose, delimitations were imposed on the study design in order to gather detailed qualitative data about this specific program area within the EPP. Rather than focus on all endorsement areas (e.g., math, science, social studies), I chose to focus only on ELA, given that this is the area in which I had a teaching

background. My familiarity with ELA content and instructional methods allowed me to engage in more effective data collection and analysis regarding the ways in which the program prepares its PSTs to work with gifted learners. Therefore, all other endorsement areas were excluded from this study for two reasons: (1) they would make the scope of the study too large so as to prevent the examination of a single case in greater detail, and (2) they fell outside of the realm of my personal teaching expertise. Future examinations of the secondary PGMt program could expand to examine how PSTs in these other endorsement areas are prepared to teach the gifted, as it is possible that variations exist across different content areas of the EPP.

Further, I limited the study to include analyses of only eight of the required PGMt courses for ELA PSTs. I selected EDIS 5000 because it was the course in which the PSTs were introduced to the idea of exceptional learners, and I selected EDIS 5830 because it was where PSTs first learned about languages and literacies (which are foundational for ELA instruction). I also chose EDIS 5020 and 5030, as they were both general methods courses in which the PSTs learned about instructional strategies for addressing learners' needs. And finally, I included all four ELA-specific courses offered in the program (EDIS 5400, EDIS 5852, EDIS 5401, and EDIS 5872) because they addressed pedagogies and practices relevant for providing effective instruction in ELA contexts. These delimitations helped keep the study focused and detailed; however, in imposing them, I may have overlooked instances in which the PSTs learned about teaching gifted children in their other coursework. Further studies of the secondary PGMt program could consider the other courses that ELA PSTs take in order to develop a more complete picture of PSTs' preparation for teaching the gifted.

Additionally, although the ELA cohort consisted of 19 PSTs, only three were involved in this study. Limiting the sample size enabled the collection of in-depth data that could be used to

answer the research questions. Although having rich data provided greater insights into several PSTs' experiences, it did limit the ability to generalize to other PSTs in the ELA cohort or within the secondary PGM program.

Limitations

One limitation of the study had to do with my positionality and relationships with the PSTs. As their former graduate instructor and teaching assistant (and for one PST, current clinical coach), I recognized that our pre-existing teacher/student dynamic may have influenced data collection during interviews and observations. Additionally, because I had relationships with these PSTs, I may have had difficulty maintaining objectivity during the data analysis phase. To mitigate these limitations, I kept a reflective journal and continually evaluated my positionality and relationships with participants throughout all phases of the study (Merriam & Tisdell, 2011)

Another limitation of this study was the result of COVID-19's influence on the ability to conduct in-person observations of PSTs' teaching. COVID-19 safety concerns prohibited me from going to schools. Instead, I used video recordings to capture PSTs' interactions with students in their classes. Recordings had some inherent benefits, including the ability to rewatch video segments as needed. However, they were also limiting, in that recordings may not have adequately illustrated what transpired in the classroom, as there may have been constraints as to what the videos captured visually or aurally. To offset this possible limitation, I reviewed recordings multiple times in order to ensure that I was accurately observing everything that the video was able to depict so that I could answer research question 3 as effectively as possible.

A third limitation of this study occurred as a result of not being able to interview the PSTs' mentor teachers as I had originally intended to do when proposing this study. Despite

submitting the research study request form to MCPS (which was needed in order to interview mentor teachers) I did not receive a response from the district either granting or denying approval prior to the completion of my data-collection phase. Therefore, the perspectives of the mentor teachers were omitted from the study. I intended to use mentor teachers' interviews to triangulate my data and to gain additional insights about PSTs' work with gifted learners in their classrooms. However, I was not able to procure interview data from mentors, which introduced this unanticipated limitation into the study.

Finally, the literature suggests that beliefs and prior experiences can influence teachers' practices (Fives & Buehl, 2016; Pajares, 1992). Examining PSTs' beliefs and their previous experiences with gifted students or gifted education was beyond the scope of this study. However, it was possible that these other variables influenced PSTs' preparation to teach gifted students, as it was likely that PSTs' attitudes or approaches towards working with gifted learners were informed by beliefs that existed prior to program entry. Given the difficulty of altering beliefs (Fives & Buehl, 2016; Pajares, 1992), the work of the secondary PGMT program may have had a limited effect on PSTs' abilities to teach the gifted. Future studies would benefit from considering PSTs' beliefs and experiences when they enter an EPP and examining in what ways (if any) the work of the EPP interacts with those beliefs and experiences to influence PSTs' learning outcomes and preparation.

Chapter 4

Given that EPPs are expected to prepare well-started teachers who are capable of meeting the needs of diverse learners (CCSSO, 2013; Richmond et al., 2019), it is critical that programs evaluate the ways in which their coursework and clinical experiences support PSTs in developing the competencies needed to do so. Moreover, given that numerous studies (e.g., Holmes et al., 2020; Loughran, 2006) have identified specific features of EPPs that support PSTs' learning – including the development of professional knowledge, opportunities for reflection and enactment, the modeling of practice, effective clinical experiences, conceptual coherence across courses, and structural coherence between coursework and clinical settings – an examination of an EPP's efficacy in preparing its PSTs should take these features into consideration. Therefore, this study aimed to explore the ways in which these features are leveraged to support PSTs as they learn about and enact teaching methods for supporting gifted students.

Additionally, the literature (e.g., Gentry et al., 2020) points to several specific traits or skills that effective teachers of the gifted possess. Although many of the traits and skills overlap with those possessed by effective teachers in general, there are some that are specific to working with the gifted (Akar, 2020). For example, effective teachers of the gifted are known to have knowledge of gifted students' development and differences, which allows them to create supportive learning environments that facilitate academic growth through appropriate curricular and instructional approaches (Yuen & Westwood, 2004). However, enacting these approaches requires the development of PSTs' skills for working with gifted children (Cornejo-Araya & Kronborg, 2021), and therefore, EPPs need to make concerted efforts to help PSTs develop the ability to teach a range of academic readiness levels.

To explore the degree to which MAU's EPP prepared its secondary ELA PSTs to meet gifted learners' needs, I gathered in-depth qualitative data from course documents, interviews with instructors and PSTs, and observation videos of PSTs' teaching. This case study design was used to examine the features of effective EPPs described above within the context of MAU's program, and provided insights about the PSTs' competencies for teaching gifted students. As a result, I was able to generate findings to answer the research questions for this study. In the remainder of this chapter, I present the following findings:

- Finding 1: The secondary PGMT program developed a foundation for teaching PSTs about all students' learning needs.
 - Sub-Finding 1.1: The secondary PGMT program infused equity-related considerations throughout its coursework.
 - Sub-Finding 1.2: The secondary PGMT program was committed to continual improvement, which is a precursor to effecting positive changes.
 - Sub-Finding 1.3: The secondary PGMT program strove to prepare its PSTs to analyze student data from their clinical experiences in order to build PSTs' understandings of varied readiness levels.
- Finding 2: Course materials and course instruction provided information about students' varied readiness levels, but few discussed gifted students specifically.
- Finding 3: There were numerous barriers to teaching PSTs to address gifted students' needs within the context of the secondary PGMT program.
 - Sub-Finding 3.1: The secondary PGMT program redesign resulted in coursework alterations that led to the exclusion of gifted-related content.

- Sub-Finding 3.2: Helping PSTs learn about meeting the needs of struggling learners rather than meeting the needs of advanced learners was prioritized across courses.
- Sub-Finding 3.3: Contextual factors (such as COVID-19 and broader social concerns about equity) led to the exclusion of gifted-related content.
- Sub-Finding 3.4: Clinical experiences offered limited support in preparing PSTs to meet gifted students' academic needs.
- Sub-Finding 3.5: PSTs had misconceptions about gifted students and their needs.
- Finding 4: PSTs struggled to plan for or enact instruction that was responsive to gifted students' learning needs.
- Finding 5: In their clinical experiences, PSTs employed one-size-fits-all teaching methods despite being able to recognize variance in students' readiness levels.

Finding 1: The Secondary PGMT Program Developed a Foundation for Teaching PSTs about All Students' Learning Needs.

Information gathered from instructor and PST interviews, a review of the course materials, and video observations of PSTs' teaching suggested that the secondary PGMT program had many strengths, particularly its establishment of a strong foundation upon which to build PSTs' learning about meeting students' needs. The following sub-sections for Finding 1 describe these strengths, which included the infusing of equity-related considerations across courses, the commitment to continual improvement, and the building of PSTs' capacities for evaluating students' work.

Sub-Finding 1.1: The Secondary PGMT Program Infused Equity-Related Considerations throughout Its Coursework.

One of the first courses that the PSTs took in the secondary PGMT program was EDIS 5000 (The Exceptional Learner). Beginning the program with a course focused on learner diversity and exceptional needs signaled to PSTs that an understanding of learner variance was integral to their development as effective teachers. By positioning this course at the start of the program, instructors in subsequent courses could use what PSTs learned in EDIS 5000 as a foundation for building PSTs' capacities to enact responsive practices. This was important not only for helping PSTs in reaching the programmatic goals outlined by the TEPOs, but also for ensuring compliance with CAEP through InTASC standards 1 and 2 (Learner Development and Learner Difference, respectively).

The materials for EDIS 5000 provided substantive information about learners' exceptionalities, often through a variety of modalities (e.g., videos, podcasts, readings, etc.) that appeared accessible to PSTs in the early stages of learning about students' needs. According to Nancy (the instructor for EDIS 5000), the objective of this course was to "convince general education teachers to want to have these kids [with exceptionalities] in their class," which she tried to achieve by "focusing on the attitudes and perceptions of the teachers" through the use of materials that were "based on person-first lived experiences" (interview 1, January 28, 2022, p. 1). By emphasizing the personal experiences of students with exceptional needs and promoting a message of inclusivity (both through her instruction and the materials she chose for the course), Nancy endeavored to show PSTs that when learner variance was ignored, "that's a problem, because then you have these kids who need support, and their needs are not being met" (interview 1, January 28, 2022, p. 2). By communicating this message to students throughout her course, Nancy laid the groundwork for PSTs to consider how equity should undergird the work that PSTs do in the classroom.

This message about equity was reinforced in the EDIS 5830 course (Language and Literacies across the Disciplines) that PSTs also took in the summer semester. According to the course syllabus, the purpose of EDIS 5830 was to “help students access the power and possibilities of language and literacy...by capitaliz[ing] on the complexity and individuality of adolescents and their languages, literacies, and cultures” (p. 1). Based on this description, the course focus seemed to be on ensuring that PSTs could understand the various literacies and assets that students bring to the classroom, which can then be used as the basis for enacting responsive and equitable instruction. Mary (the instructor for EDIS 5820) affirmed this in her interview when she explained that “the purpose of the course is to show the [PSTs] that there is literacy in their classes and what it looks like,” so that the PSTs approached students with an asset-oriented mindset (interview 1, February 4, 2022). Helping PSTs to focus on students’ assets and their individual development were focal points of the EDIS 5830 course, and therefore, helped PSTs to continually focus on equity.

Considerations for equity were similarly emphasized in EDIS 5020 (Foundations of Learning and Teaching), which was the final course that the PSTs took during the summer semester. In the course syllabus for EDIS 5020, PSTs were told in the course description that:

Teaching is a complex, exciting, frustrating, and rewarding experience. Learning to teach, and to teach WELL and EQUITABLY, is always difficult, time-consuming, and humbling. But it is a challenge worth taking on, and we respect and honor your commitment to embarking on this journey. (p. 1)

This statement framed the work that PSTs did in EDIS 5020, which was centered on “getting to know students and thinking about them as complex individuals” (Lori interview 1, January 1,

2022, p. 1). Within that framework, Lori's instruction in EDIS 5020 focused on helping PSTs understand the important of getting to know more about students' differences, assets, and needs:

[This involves knowing] what academic backgrounds [students] bring to the classroom, and in what ways can we learn about those backgrounds, and what the implications might be for our teaching and for the kinds of support that students need in the classroom.

(interview 1, January 25, 2022, p. 1)

The purpose of focusing on understanding students' backgrounds in EDIS 5020 was to help PSTs learn how to teach equitably through responsive instruction.

Messaging about the need for equity was further established by Lori's use of *Equity by Design: Delivering on the Power and Promise of UDL* (Chardin & Novak, 2021) as a guiding course text in EDIS 5020. The authors explained that the purpose of the text was to:

Introduce the Universal Design for Learning (UDL) framework, a powerful framework that was created to eliminate inequalities, and discuss how the implementation of the framework helps to build equity in our schools and classrooms. . . and to define the concept of social justice education and make the connection between UDL and social justice explicit. . . and to help educators see the connection between UDL and social justice and to take the first steps in deconstructing systems that don't work for all students. (Chardin & Novak, 2021, p. 1)

By using this text to anchor students' work in EDIS 5020, Lori chose to provide PSTs with information about the role that they could play as educators in dismantling inequitable practices that exist in schools.

Lori again used *Equity by Design: Delivering on the Power and Promise of UDL* (Chardin & Novak, 2021) in EDIS 5030 (Designing Effective Learning Experiences and

Environments) during the fall semester, thereby communicating to PSTs that their focus on equity should continue throughout all of their work in the program. Additionally, Lori provided the PSTs with an essential question on the EDIS 5030 syllabus that was intended to guide their work in the course, and which again focused the PSTs' attention on the importance of equity: "How should we design learning experiences and environments that prioritize equity and foster learning and growth for all students?" (p. 2). To help PSTs answer this essential question, Lori also added an additional core text to EDIS 5030 called *"These Kids Are out of Control": Why We Must Reimagine "Classroom Management" for Equity* (Milner et al., 2019). The purpose of this text was to help PSTs re-envision their conceptions of classroom management and to approach the design of learning environments from an equity- and justice-oriented mindset.

Considerations for equity were also infused throughout all of the ELA-specific courses that the PSTs took. In EDIS 5400, for example, the course description on the syllabus indicated that the purpose of the course was to ensure that PSTs "are able to negotiate the complexity of teaching and learning in the English Language Arts to become [an] influential and effective teacher when [they] enter [their] own classroom after graduation" (p. 1). Further, the syllabus told PSTs that "This semester, you will learn what makes up this complexity, how to work with adolescents with respect and compassion, responsive to their cultural, social, economic, racial, linguistic backgrounds, as well as how to empower them with critical literacy skills" (p. 1). In the review of the course materials, it was clear that these goals were aligned with the texts and assignments that PSTs encountered. For example, one of the main course texts in EDIS 5400 was *English Language Arts: A Critical Introduction* (Gorlewski, 2018), which introduced PSTs to the idea that critical pedagogies can help bring about greater equity and social justice. Specifically, Chapter 2 of this text introduced PSTs to the equity literacy framework, which "focuses on

teachers' development of skills, as well as cultural competence, to support all students" (p. 29).

The intent to develop PSTs' equity literacy appeared throughout the ELA courses offered in the spring semester, as well, where Mary "has an equity lens for all the units" (interview 1, February 4, 2022, p. 4). As an example, PSTs were required in EDIS 5401 (Teaching English in Secondary Schools II) to read *Linguistic Justice: Black Language, Literacy, Identity, and Pedagogy* (Baker-Bell, 2020). The purpose of this text was to inform PSTs about the ways in which anti-Black linguistic racism can be a pervasive force in the ELA classroom, where the inability to understand Black children's linguistic assets can prevent teachers from supporting their students' learning. According to Mary, she assigned texts like this (and others in the ELA course sequence) to help PSTs become "teachers who are really aware of those students who need something different" (interview 1, February 4, 2022, p. 9). With this awareness, PSTs could then be more prepared to respond to learner variance and address inequities in their classrooms.

Sub-Finding 1.2: The Secondary PGMT Program Was Committed to Continual Improvement, Which Is a Precursor to Effecting Positive Changes.

Based on the interviews with all three instructors, it seemed as though program improvement – with the aim of better supporting PSTs' learning so that they can go on to better support their own students' learning – was something that they strove for. In their commitment to program improvement, Lori explained, the instructors had made deliberate attempts to integrate "Black Lives Matter issues around equity for people of color and abolitionist teaching and things that we really value as a program" into their course designs (interview 1, January 25, 2022 p. 5). Based on the information presented in Sub-Finding 1.1 above, it appeared as though the program was successful in achieving this goal, which demonstrated instructors' commitment to

integrating their values into coursework in a way that would better develop PSTs' teaching competencies (particularly regarding responsive instruction and equity).

Moreover, the instructors also explained ways in which they hoped to work towards program improvement by making modifications for their specific courses. For example, in Lori's interview (January 25, 2022), she reflected on some changes to her courses that arose from the secondary PGMT program redesign and in response to COVID-19, and observed that there were some areas in her courses where she did not make concepts "as transparent and explicit as I maybe had in past year" (p. 2). She also indicated that she was aware that many of the changes that occurred in response to the contextual factors (e.g., redesign, COVID-19) influenced her ability to cover readiness-based differentiation in as great of detail as she would have liked. For example, when asked about whether her EDIS 5020 and EDIS 5030 courses covered readiness-based differentiation, Lori indicated that "I don't think we got there this year. I don't think we really got far enough for them to think about that. And that is a problem, that we didn't get there" (interview 1, January 25, 2022, p. 4).

However, Lori then said that she plans "to get back to that point" where PSTs are required to focus on readiness-based differentiation in greater detail, which suggested not only that Lori was willing to critically reflect on her courses, but that she was also committed to making improvements if she identified an area for growth (interview 1, January 25, 2022, p. 4). Additionally, Lori noted during her interview that course sequencing considerations were a "perpetual problem" for the program, but that in response to those problems, the program "will have more structural changes coming next year for development, so we'll continue to think about [sequencing]" (interview 1, January 25, 2022, p. 7). Again, as the secondary PGMT program coordinator, Lori demonstrated that she consistently thought about where improvements could be

made and then developed plans to actualize them. Further, Lori's desire for improvement went beyond program structures and sequences to think about what transpired in her own courses, specifically in considering "what should go in 5020 and what should go in 5030" as she made revisions for subsequent iterations of those courses.

Nancy also described ways in which she envisioned improvement for EDIS 5000. One of her main concerns was that PSTs did not have enough time in the three-week version of EDIS 5000 to make sense of everything that they needed to know about learner exceptionalities in order to serve their students equitably, but thought that there was room for "better integration" of her course into the rest of the program (interview 1, January 25, 2022, p. 5). She explained that she "would love to have more collaboration among the teaching faculty about disability and giftedness," and indicated that she would want to "have a person whose expertise in in either gifted or disability or both come in and help it be integrated [across courses]" (interview 1, January 25, 2022, p. 5). Here, Nancy indicated that she would be willing to collaborate with colleagues in order to help make improvements to both her course and to the program as a whole.

Similarly, Mary indicated that she wanted to focus more on cross-course integration and the development of greater coherence through the use of curriculum maps, indicating that "[program instructors] have plans to work with [the maps] this year" (interview 1, February 4, 2022, p. 3). In addition to using the maps, Mary also noted that program improvement involved recognizing that "pre-service teachers change [with every cohort], and they have different priorities," and therefore, that instructors have to "keep working and keep trying" to provide curriculum and instruction that is responsive to those varied cohorts (interview 1, February 4, 2022, p. 3).

Mary also indicated that she was continuing to build more instruction into her courses to help PSTs grade students' work in equitable ways. Using the text *Grading for Equity: What It Is, Why It Matters, and How It Can Transform Schools and Classrooms* (Feldman, 2009), Mary planned to focus on helping PSTs separate grades from behavior, and was "very excited" about the prospect of integrating this information into her courses, knowing that it would support the PSTs in their efforts to be more equitable educators (interview 1, February 4, 2022, p. 9).

Throughout this part of the interview, it was evident that Mary enjoyed looking for opportunities to bring new content into her courses that would lead to improved outcomes for PSTs. At the conclusion of the interview, Mary emphasized that she was willing to integrate gifted-related topics into her courses as well, which suggested that she was invested in continual improvement: "I would love to have some resources [on gifted students], and I would love to talk to somebody about how we could integrate that more in our secondary PGMT program (interview 1, February 4, 2022, p. 10).

Sub-Finding 1.3: The Secondary PGM Program Strove to Prepare Its PSTs to Analyze Student Data from Their Clinical Experiences in Order to Build PSTs' Understandings of Varied Readiness Levels.

One of the course objectives for EDIS 5820 (Assessment for and of Learning) was for PSTs to "interpret assessment data" as the basis for making grouping and instructional decisions (EDIS 5820 syllabus, p. 3). Additionally, both EDIS 5400 and EDIS 5401 had objectives that built off of EDIS 5820's, which involved ensuring that PSTs could "plan for teaching students a range of strategies to comprehend, interpret, evaluate, and appreciate texts through whole group, small group, and individualized reading/writing workshops" (EDIS 5400 syllabus, p. 2). These

objectives aligned with and built from one another, as PSTs could not plan for making grouping decisions without first interpreting assessment data.

This cross-course coherence in objectives may have been partly responsible for PSTs' confidence in their abilities to look at student data from their clinical experiences, make determinations about students' readiness levels based on the data, and then group students accordingly. In EDIS 5820, for example, PSTs learned about the data-driven decision-making process, then reviewed small data sets in order to identify students' readiness levels, then sorted them into corresponding groups. During Janelle's second interview, she mentioned this activity when asked about her ability to group students, saying that "that had been very helpful" in supporting her learning (February 22, 2022, p. 1). Then, in EDIS 5401, Mary challenged PSTs to take this process a step further by engaging them in activities where PSTs "worked with assessment data where [they] brought in students' papers and had to group students on their writing levels" (Janelle interview 3, March 7, 2022, p. 1). When asked whether or not they felt confident in their ability to analyze and group students during this activity in EDIS 5401, Janelle said "yes" (interview 3, March 7, 2022, p. 2) and Ruth indicated that it had "helped with Lori's portfolio" for EDIS 6991⁵ (interview 3, March 4, 2022, p. 1). Additionally, after observing that the activity helped with portfolio preparation, Ruth also expressed that "I am very confident in being able to determine [students'] readiness levels based on an assessment," which suggested that the course activities in EDIS 5401 had helped PSTs develop confidence in their ability to transfer this practice into their own classrooms with real student data.

Finding 1 Implications

⁵ Marcie referred to the Teacher Education Portfolio that all PSTs complete as part of EDIS 6991, which requires them to sort students into readiness-based groups.

Based on the information presented on Finding 1, it appeared as though instructors had succeeded in building equity-related considerations into their courses, which was critical for preparing PSTs who were able to meet the needs of the diverse learners in their classrooms. Additionally, it appeared as though instructors were concerned about continually improving not just their own courses, but the program as well, with the aim of ensuring that PSTs are adequately prepared to enter the profession and to serve students more equitably. Further, based on Sub-Finding 1.3, the program was successful in its efforts to prepare PSTs to analyze data and group students based on their readiness levels. This was an important takeaway, as being able to identify readiness levels was a precursor to providing responsive instructional decisions that serve all learners equitably.

Finding 2: Course Materials and Course Instruction Provided Information about Varied Student Readiness Levels, but Few Discussed Gifted Students Specifically.

Finding 2 was generated primarily through a review of all course materials (e.g., textbooks, articles, videos, assignments, etc.) provided to PSTs in the eight courses included in this study. I also examined data from the review of course materials in conjunction with instructor and PST interviews in order to determine if the analysis of course data was accurate. In the sub-sections for this finding, I provide an overview of the rationale guiding the material review, then present an analysis of specific themes that emerged during that review. Overall, across courses, numerous materials addressed the topic of student readiness-level variance and the implications for classroom practice. However, giftedness was rarely discussed specifically, and PSTs had few opportunities to learn about how to address the academic needs of advanced learners.

Overview of Course Materials

For MAU's EPP to reach its goal of preparing PSTs to work with a spectrum of student readiness levels effectively, it needed to help PSTs cultivate professional knowledge – through the synthesis of theoretical and practical learning – about how to teach gifted children. Although practical learning, which takes place in clinical settings, may be beyond an EPP's control in most situations, EPPs do have ownership of what transpires in their coursework. Many courses rely heavily on the use of textbooks, articles, and other media to lay the foundation for student learning. Given this, I conducted a review of all course materials utilized in eight courses taken by the ELA PST cohort in an attempt to discern what the materials communicated about readiness-based diversity and the needs of gifted children.

Through coding and thematic analysis of course materials, I observed that attending to learner diversity was a focal point across courses, although discussions of diversity tended to center on racial, cultural, and linguistic diversity. Moreover, the narrative that emerged from a review of the materials suggested that teachers' attention, when being responsive to students' diverse academic needs, should be placed on using scaffolds and other instructional methods to provide supports to struggling learners. In addition, although advanced learners were discussed in course materials, the term "gifted" was used very infrequently, which may have been problematic, as the language in both the VDOE professional requirements (2018) and InTASC standards (CCSSO, 2013) both explicitly used "gifted" when describing expectations that PSTs would meet the academic needs of this population.

Opportunities to Learn about Gifted Students and Their Academic Needs

Throughout the review of the course materials, I was not able to identify any instances in which PSTs were provided with information describing any of the following: (1) myths about gifted children, (2) indicators of gifted or advanced academic abilities, (3) academic needs of

gifted children, or (4) specific instructional strategies that are responsive to those academic needs. Any instances in which giftedness was mentioned specifically (or when other general terms were used, such as “high-achieving,” “high ability,” “advanced,” “talented,” etc.) were cursory in nature, providing PSTs with limited information about gifted children that could translate into their teaching practices. Further, with the exception of the NAGC (2009) position statement used in EDIS 5030 (Designing Effective Learning Experiences and Environments), in none of these instances was the topic of gifted or advanced learners ever the focal point of the larger article, chapter, video, etc. As a result, treatment of these topics was largely superficial, and therefore, likely to be overlooked by PSTs unless their attention was explicitly called to those text excerpts. Interviews with PSTs were used to triangulate these findings, and all three indicated that they had not learned about gifted students in their coursework. For example, when asked in her final interview if she had learned anything about gifted children in her courses since the start of the program, Marcie indicated that “No, we have not talked about anything for gifted” (interview 3, March 4, 2022, p. 1).

This study examined two courses (EDIS 5000 and EDIS 5020) that PSTs took during their first semester in the program. In EDIS 5000 (The Exceptional Learner), no course materials addressed the needs of gifted or twice exceptional children. A very brief mention of giftedness was made in one PowerPoint slide, but it was only to make an observation about racial and cultural disproportionality in gifted programming and to suggest that gifted education is a tracking system. Although the focus of EDIS 5000 was on learner variance, the attributes and needs of gifted children were omitted from course materials. This omission was problematic, given that one of the objectives listed on the course syllabus was for PSTs to be able to “identify the issues in definition and identification procedures for individuals with exceptional learning

needs including individuals from culturally and/or linguistically diverse backgrounds” (EDIS 5000 syllabus, p. 1). Gifted children are considered to have exceptional learning needs, and therefore, excluding them from the course content did not allow PSTs to fully actualize the course objective.

Opportunities to Learn about Providing Responsive Instruction for Gifted Students

Not only must PSTs learn about common myths and misconceptions about gifted learners, they must also learn how to provide educational experiences that are responsive to gifted students’ needs. According to the Virginia Board of Education (2020), these educational experiences include “curriculum and instruction adapted or modified to accommodate the accelerated learning aptitudes of identified students in their areas of strength” (p. 4). To achieve this goal, PSTs must differentiate for gifted learners by enabling them to work within their zones of proximal development.

Providing Gifted Students with Opportunities for Academic Growth

One tenet of the differentiation framework suggests that providing responsive instruction involves assigning respectful tasks responsive to student needs (Hall et al., 2004). Those tasks should be challenging and engaging, such that all students have the opportunity to experience academic growth. Therefore, in the review of course materials, I identified and coded instances in which documents and assignments emphasized that effective instruction involves providing gifted learners with challenging, respectful tasks. While many of the course texts emphasized the importance of providing instruction that fell within students’ zones of proximal development, few focused specifically on learning experiences for gifted children. Below are a few quotations from texts assigned in EDIS 5830, EDIS 5400, and EDIS 5852 that mentioned growth opportunities for gifted learners specifically:

- With the wide range of ability and overwhelming class sizes, it is unrealistic to think I am going to make every one of my 165 students a strong writer. It is realistic, however, to begin each year with the goal that every student of mine, regardless of ability, is going to get better. (Gallagher, 2006, p. 142)
- Our students come to us with a wide range of abilities – from students...who are writing below grade level to students who are writing at the honors level – but our goal remains the same for each and every one of the them: everyone gets better. (Gallagher & Kittle, 2018, p. 20)
- Effective leaders engage the entire school in a cohesive literacy plan for helping struggling readers catch up to their peers while at the same time challenging good readers to flexibly use and adapt literacy skills and strategies. (International Reading Association, 2012, p. 6)

Despite the fact that these materials conveyed the message that advanced students should experience growth, the texts did not provide demonstrations of how readiness-based differentiation could actually be enacted at the classroom level.

An additional example of this comes from *Less Is More* (Campbell, 2007), a textbook used in EDIS 5400 and EDIS 5852. In the text's assigned chapters, Campbell (2007) recommends using differentiation in order to present students of all readiness levels with "moderate challenge" when reading short stories (p. 13). However, after making this recommendation, the author failed to provide specific instructional strategies and examples that could facilitate this type of readiness-based differentiation, instead referring PSTs to read a copy of *The Differentiated Classroom* (Tomlinson, 1999). The absence of specific examples may be one of the reasons why in the PSTs' interviews, they frequently described understanding that

readiness-based differentiation facilitates gifted children’s growth, but could not yet articulate how to actually design and implement lessons in which this type of differentiation is effectively utilized. For example, in Marcie’s third interview, she explained:

I feel like I’ve learned a lot of how to accommodate for students with specific things going on or to be more culturally responsive and be more aware of equity. . . . So, like, we’ve seen students through so many lenses so far. And I’ve never seen students through a gifted lens or learned about how to see them through that lens. And it’s like, how do you even tell if a student is gifted? How do you tell where the breaking point is of wanting to challenge them [instructionally]. . . but I don’t want to go overboard. And it’s like, I don’t know where the ceiling is – like how do you know and how can you recognize that? (March 4, 2022, p. 15)

Here, Marcie demonstrated that she had difficulties in seeing students “through a gifted lens,” and therefore also struggled to determine what was instructionally appropriate for advanced learners.

Opportunities to Learn about Instructional Strategies for Gifted Students

One of the codes that I used for reviewing course materials focused on instances in which PSTs had the opportunity to learn about instructional strategies for gifted students. I included this code, as one of the program objectives that ELA PSTs were expected to meet during their Spring Clinical Experience involved planning for and implementing appropriately differentiated learning experiences for all students. According to the Clinical Experience rubric⁶, a well-started PST in the PGMAT program should be able to “differentiate instruction based on students’ prior

⁶ This rubric is used to evaluate PSTs’ teaching during their Fall and Spring Clinical Experiences.

knowledge, assessment data, and the candidates' knowledge of students' lived experiences" (p. 17). Additionally, PSTs were expected to be able to "adjust instruction with materials for extension" (p. 17). Therefore, I specifically examined the course materials to identify ways in which PSTs were being prepared to meet this objective for gifted learners during their clinical experiences.

The main observation that I made about this set of codes was that there was no mention of practices like within-course curriculum compacting, independent study, or learning contracts (which are strategies known to support gifted students' learning [Colangelo et al., 2004; Schmitt & Goebel, 2015]) other than in the NAGC (2009) position statement on grouping practices that the PSTs reviewed in EDIS 5030. Additionally, if things like "enrichment" were suggested as a strategy, there was no explanation given to PSTs that would help them conceptualize what enrichment entails or how they could plan for and enact it. Information about differentiating for advanced learners was also consistently brief. The materials provided no detailed examples of what instructional strategies could be used in both planning for and implementing differentiation (which includes the managerial aspects associated with readiness-based differentiation). Below are a few representative text segments that I coded that referred to gifted or advanced learners specifically and how their needs might be met by utilizing differentiated texts or instructional plans:

- (From a text in EDIS 5830): These texts are differentiated by Lexile and students will be organized into homogeneous "expert" groups based on reading level. Weaker readers will be reading a short article on the rise and fall of the former Soviet Union. Average readers will be reading either a three-page article on the rise of Nazi Germany or an internet text on the repressive Ugandan government of Idi Amin. Stronger readers will be reading a

four-page article on the early years of the Socialist Republic of Romania. (Lewis et al., 2014, p. 197)

- (From a text in EDIS 5830): We need to support our struggling learners, our gifted learners, and students along that continuum to advance all adolescents' literacy development. All are candidates for differentiated literacy supports to meet their unique needs. . . . Targeted interventions and enrichment may be appropriate for small groups while intensive one-on-one training may need to occur for individual students.
(International Reading Association, 2012, p. 9)
- (From a text in EDIS 5030): I wanted students to do their work at about the same pace, and I knew next to nothing about differentiation. Now I'm thinking about Matt, another one of my unmotivated seventh graders, who was incredibly smart. He sat way low in his chair in the back of the Gifted and Talented language arts class he'd been assigned to, way cooler than all the others, and gave minimal effort. . . . Now that I know more about differentiation and choice, I realize I could have had a conversation with Matt about letting him work ahead on some things. (Gonzalez, 2016, para. 13)
- (From a text in EDIS 5030): Tiering can be based on challenge level where student groups will tackle different assignments...Group 1: Students who need content reinforcement or practice will complete one activity that helps build understanding. Group 2: Students who have a firm understanding will complete another activity that extends what they already know. (Cox, 2014, para. 4)
- (From a text in EDIS 5030): The primary purpose of formative assessment is to understand where students' skills exist so that we can diagnose gaps (and extensions for

gifted), and develop and implement a differentiated lesson that meets each student's needs. (McCarthy, 2014, para. 10)

Taken together, these coded segments were representative of the information that PSTs received in their course materials when readiness-based differentiation for advanced learners was addressed. Depth was distinctly absent from each, as were illustrations of how this type of differentiation could be utilized in a classroom. The excerpts mentioned things like “extensions,” but did not provide any information about what extensions were or how PSTs could go about deciding upon when and how to develop them. The dearth of comprehensive descriptions of how differentiation could be used to meet gifted children's needs – coupled with the omission of specific illustrations of the practices – may have contributed to PSTs' inability to articulate what it meant to provide gifted learners with enrichment. For example, when asked to describe what she believed enrichment looked like in a classroom, Ruth explained:

I don't know what enrichment looks like, because in my placement in sixth grade, if students finished early or if the task was too easy, they would just be given a, like, “extension activity.” But it was more work. So, it was like another thing for [advanced students] to complete. And I know that's not what you're supposed to do, but I haven't heard many alternatives. (interview 2, February 21, 2022, p. 4)

Based on Ruth's explanation, it seemed as though she had familiarity with the term “enrichment” and at least recognized that it did not involve simply adding additional tasks to students' workloads. However, she was unable to articulate what she believed the use of enrichment practices should entail.

Opportunities to Learn about Grouping Practices for Gifted Learners

In the secondary PGM program, PSTs learn that “flexible groups are at the heart of differentiated instruction” (Osewalt, 2014, para. 4). Therefore, to better understand how PSTs are prepared to differentiate for gifted learners, I coded all course documents to identify instances in which flexible grouping was described as a differentiation mechanism for matching instructional practices to students’ varied readiness levels. An analysis of the coded segments indicated that PSTs were presented with a lot of information about flexible grouping, and that several texts specifically addressed the advantages and disadvantages associated with using readiness-based groups for advanced learners. However, many of the materials also discussed “ability grouping” and “tracking,” which are practices that are intended to sort students on the basis of readiness. Although flexible readiness-based grouping is an instructional strategy used within a classroom, and ability grouping and tracking are programming models, the materials that PSTs reviewed did not make these distinctions explicit. Therefore, it was unclear whether or not PSTs (given their status as novice educators) would have an awareness of those differences. In several of the course documents (as I show below), PSTs received the message that ability grouping and tracking should be avoided for equity-related reasons. However, if PSTs were unable to distinguish between within-class flexible grouping based on readiness (an instructional strategy) and ability grouping and tracking (program models), their coursework may inadvertently have led them to believe that any practices that group students according to readiness are inequitable. As a result, PSTs may not have engaged in readiness-based differentiation through flexible groupings, which is an instructional practice that benefits gifted children’s learning (NAGC, 2009).

Most segments that I coded about grouping practices for advanced learners came from course materials that were provided during a structured academic controversy (S.A.C.) activity in

EDIS 5030 (Designing Effective Learning Experiences and Environments) in which PSTs analyzed arguments for and against homogeneous and heterogeneous groupings based on readiness levels. Based on the review of the data collected for this study, this was the only activity across PSTs' coursework that provided them with an opportunity to engage in collaborative sense-making around topics related to gifted or advanced students' learning needs. For this activity, PSTs were given resources arguing for and against grouping students based on ability levels.

One of the documents that the PSTs reviewed for this activity was the Grouping Position Statement from the NAGC (2009). This document described the ways in which readiness-based groupings can benefit gifted learners by giving them the opportunity to engage with challenging content in their zones of proximal development:

Grouping gifted learners tends to be the “least restrictive environment” in which their learning can take place, and the cost effective and efficient means for schools to provide more challenging coursework, thereby giving these children access to advanced content and providing them with a peer group. (NAGC, 2009, para. 2)

The position statement also explained that there are a variety of programming models that schools can employ (e.g., pull-out programming, cluster grouping, etc.) and provided a brief overview of each. In this document, the NAGC (2009) also specifically recommended the use of “like ability cooperative groups” within classrooms, and suggested that this type of flexible grouping practice would allow teachers to provide gifted learners with additional challenge or rigor as appropriate. The position statement from the NAGC (2009) described research-based evidence indicating that “like ability cooperative groups” can have substantial positive effects on gifted children's growth, and that readiness-based differentiation “is a vehicle educators can use

to allow gifted children access to learning at the level and complexity they need” (NAGC, 2009, para. 9). In addition to the NAGC’s (2009) position statement, PSTs reviewed other materials during the S.A.C. that advanced similar arguments, suggesting that “high-achieving kids seem to be the most sensitive” when it comes to grouping practices, noting that “they do particularly well by having high-achieving peers” in their groups (Petrilli, 2011, para. 10).

Although the NAGC (2009) and Petrilli (2011) texts argued that readiness-based grouping strategies can benefit gifted learners, they did not advocate for “sharply sequester[ing] by ability” (Petrilli, 2014, para. 5), as children benefit from interactions with an array of peers. In other words, the materials did not suggest that gifted or advanced children should always be separated from their peers; instead, they suggested that grouping should be used flexibly to ensure students of all readiness levels have their academic needs met in a way that is feasible and pragmatic.

However, the other materials that PSTs reviewed as part of the S.A.C. tended to make the argument that heterogeneous groupings based on readiness levels were more desirable than like-readiness groupings. In these materials, the rationale for using heterogeneous groups tended to focus on meeting struggling students’ needs (not advanced learners’ needs). For example, in an Edutopia article that the PSTs read, Johnson (2014) suggested that “if the purpose of the group learning activity is to help struggling students, then the research shows that heterogeneous groups may help most” (para. 4). A similar message was conveyed in a report from the National Education Association (NEA, 2005) that the PSTs reviewed for the S.A.C. After presenting several different views on grouping, the NEA (2005) concluded by taking the following position:

Proponents of ability grouping say that the practice allows teachers to tailor the pace and content of instruction much better to students’ needs and, thus, improve student

achievement. For example, teachers can provide needed repetition and reinforcement for low-achieving students and an advanced level of instruction to high achievers.

Opponents, however, contend that ability grouping not only fails to benefit any students, but it also channels poor and minority students to low tracks where they receive a lower quality of instruction than other groups. This, they claim, contributes to a widening of the achievement gaps. the National Education Association supports the elimination of such groupings. NEA believes that the use of discriminatory academic tracking based on economic status, ethnicity, race, or gender must be eliminated in all public school settings. (para. 5)

Given that the PSTs reviewed this statement (which took a stance against tracking) alongside documents that explored readiness-based differentiation as a flexible grouping strategy for gifted learners, PSTs may erroneously have formed the belief that tracking and grouping are synonymous. This statement from the NEA (2005) may have then been interpreted by PSTs to suggest that the practice of within-class readiness-based grouping is inherently inequitable and partly responsible for the reification of educational marginalization.

Moreover, the structure of the NEA's (2005) statement could also be misleading for PSTs who may not yet have understood the differences between various terms used for grouping practices. For example, the first part of the NEA's (2005) statement (which addressed the research coming from proponents of ability grouping) did, in fact, focus on the use of groups to provide appropriate, readiness-based differentiation. However, the second part of the statement addressed not within-class readiness-based grouping (which can be done flexibly), but rather, rigid tracking practices. Flexible within-class grouping is not tantamount to tracking; however, it was not likely that PSTs would be versed enough in educational parlance to make that

distinction. As a result, it might have been easy for PSTs to make a reductive interpretation of the NEA's (2005) statement by internalizing the message that ability grouping "should be eliminated in all public school settings" if they are to work towards educational equity.

This interpretation may also overlook the piece of the NEA (2005) statement that suggested that differential outcomes for students in lower-readiness groups may be the result of receiving less effective instruction (which is a separate issue from the grouping practices themselves). This point was also emphasized for PSTs in the Gamoran (1992) article that they read for the S.A.C., where the author asserted that research on ability grouping often fails to account for the differential (and often, less effective) instruction that lower-readiness learners receive in their classes, thereby influencing studies' findings. Again, a nuanced reading of the NEA (2005) statement and the Gamoran (1992) article might lead a reader to different conclusions about readiness grouping than might reasonably be expected for PSTs who are encountering this content for the first time.

It was also possible that misconceptions about flexible readiness-based groups and tracking were reinforced for PSTs in EDIS 5000 (The Exceptional Learner), where the only mention made of giftedness throughout all of the course materials was to note in a PowerPoint slide that "When we talk about gifted education – gifted education does fall under special education⁷ – it's about tracking. It's about who is tracked in what ways in high schools" (slide 2). In considering this statement from EDIS 5000 along with the articles from the S.A.C. in EDIS 5030, it seemed possible that PSTs may have conflated within-class readiness-based grouping with tracking, and therefore, came to view both as inequitable practices.

⁷ In the state where this study was situated, gifted education was not considered part of special education, so this statement was not correct.

It was also possible that PSTs' beliefs about readiness-based flexible grouping were shaped by texts that they encountered in EDIS 5400 (Teaching English in Secondary Schools I) and EDIS 5852 (Content Area Seminar). In the *Less Is More* (Campbell, 2007) text that the PSTs read, Campbell seemed to advocate for the use of mixed-readiness-level groups without ever fully articulating the reasons for this choice. Below are some representative examples from the text:

- We then gather in investigative groups, and students review their flagged sections, looking for common patterns among group members. Typically I assign the investigative group members so that I can be sure I have a mix of reading abilities represented in each group. (p. 59)
- I divide the poem into sections and assign each group a section. Each group shares its examples, and these are added to the definitions of imagery, simile, and metaphor, which we hang on the classroom wall. To support students in this activity, I select the groups so that I can ensure I have a mix of student abilities in each group. (p. 158)

What was unclear in this second quotation was whom the author was referring to when she said that her aim was “to support students in this activity” (p. 158). The implication seemed to be that the mixed-readiness groupings would support struggling students, which is an important consideration. However, there did not seem to be equal consideration given to what would support gifted students' learning and growth.

Additional coded segments on the topic of grouping had a similar tendency to advance the message that mixed-readiness grouping practices were preferred to like-readiness groupings in order to accommodate struggling learners, particularly when using cooperative learning. For example, in EDIS 5030, the PSTs reviewed parts of *Instruction: A Models Approach* (Estes &

Mintz, 2016) and *Classroom Instruction That Works* (Dean et al., 2012), which both appeared to encourage mixed-readiness groupings. According to Dean et al. (2012), it was preferable for cooperative learning groups to be heterogeneous based on readiness levels:

Teachers should limit the number of times they form cooperative groups based on ability (Lou et al., 1996). Grouping by ability can limit the knowledge and experience available to the group and lead to “group think.” It can have negative effects on students’ self-efficacy if they perceive that they have been placed in a group for which the teacher has low expectations (Johnson & Johnson, 2009). On a practical level, ability grouping does not reflect the world of work – students need experience working with people of varying interests, experiences, and abilities (Frey, Fisher, & Everlove, 2009). (Dean et al., 2012, p. 43)

In this example, Dean et al.’s (2012) criticisms of like-readiness groupings were grounded in the ways in which the groupings may affect struggling learners. Consideration was not given to the experiences that advanced learners might have in mixed-readiness cooperative groups. Further, PSTs read in the Estes and Mintz (2016) chapter that:

Whenever the lesson objectives and materials warrant, students should be grouped heterogeneously for cooperative lessons. By controlling team assignments, the teacher may ensure that teams are balanced in terms of achievement, motivation, gender, ethnicity, and other factors deemed important. (p. 190)

Like the Dean et al. (2012) chapter, the Estes and Mintz (2016) piece seemed to suggest to PSTs that mixed-ability groups are preferable to like-ability groups, with little attention given to advanced learners’ needs. While it is necessary to use flexible groups – and to mix readiness levels when appropriate – it is also critical that teachers base their grouping decisions not only on

the subset of their student population that is struggling. Making decisions in this way is inequitable to learners who are not struggling, and therefore, the secondary PGMGT program courses must endeavor to provide PSTs with a balanced view of flexible grouping.

However, based on the coded data, the view that was presented may not have been balanced, and may in fact have suggested that like-readiness groupings are inequitable or elitist. For example, in a ChalkTalk article that the PSTs read in EDIS 5030, Arbaji (2019) indicated that “homogeneous groupings have been shown to benefit only the top 10 percent or so of students – often those who need a boost the least” (para. 4). Intentional or not, this course document posited that the needs of children exhibiting the highest readiness levels were of less consequence than the needs of other children. For PSTs who may have internalized this message, it may have led to the assumption that students’ needs are hierarchical, where the needs of struggling learners take precedence over those of advanced learners. However, it is not true that gifted learners have fewer needs than their peers; they simply have different needs, which when unmet, can lead to underachievement and other negative outcomes (NAGC, 2014a).

To better understand how PSTs interpreted the content in these course materials about flexible groupings, I analyzed instructors’ and PSTs’ interview data in conjunction with the texts. Based on these interview data, this cohort of PSTs appeared to be highly focused on equity-related concerns, which may have influenced the ways in which they received and internalized these grouping messages. Their interpretations of these messages may have led PSTs to make grouping decisions based on narrow conceptions of equity (i.e., conceptions focused solely on the needs of struggling students) rather than on broader conceptions of equity that also took into consideration the fact that equitable educational experiences should provide all children with opportunities to maximize their learning (which may be more likely to be achieved at times

through homogeneous within-class groupings based on readiness [NAGC, 2009]). Although the NAGC (2009) position statement that the PSTs reviewed did address the fact that grouping has garnered a reputation for being inequitable, it was possible that this information was not substantive enough to shape PSTs' beliefs:

The research on the many grouping strategies available to educators of [gifted] children is long, consistent, and overwhelmingly positive (Rogers, 2006; Tieso, 2003). Nonetheless, the “press” from general educators, both teachers and administrators, has been consistently less supportive. Myths abound that grouping these children damages the self-esteem of struggling learners, creates an “elite” group who may think too highly of themselves, and is actually undemocratic and, at times, racist. None of these statements have any founding in actual research, but the arguments continue decade after decade (Fiedler, Lange, & Winebrenner, 2002). (para. 1)

The NAGC (2019) explained that the “press” – or popular opinion in the educational community – often propagated the message that like-readiness grouping is harmful to some students. Despite the NAGC's (2009) refutation of this claim, it was possible that the PSTs more frequently encountered contradictory “popular opinions,” which could therefore have been more resounding (and therefore, more likely to have influenced their beliefs).

Based on interview data from Lori and the PSTs, it did appear as though PSTs' concerns about equity for struggling learners may have outweighed their considerations for advanced learners' academic needs. According to Lori, when the topic of readiness-based groupings was explored during the S.A.C. in EDIS 5030, she observed that:

Some of [the PSTs] talked about disliking when the teacher relied on them to teach other students, or when they knew that they were being put in a group as “the smart one” or the

one who was going to carry the group. They did not like that. (Lori interview 1, January 25, 2022, p.3)

In Marcie's first interview (February 8, 2022), she confirmed that she particularly did not enjoy mixed-readiness groupings when she was in high school. During the interview, she shared her experience being paired with a struggling learner whom she was expected to support:

I remember there was one time in middle school that I was asked to help a boy, but I was a little quiet middle schooler, and so I was not a fan of what I did. It could be good because it teaches you how to work with other people for those kinds of social skills. But personally, when I was in that situation, I was not a fan. From the flip side, in that scenario, I bet that kid felt uncomfortable having the quiet girl that people probably could guess was getting in the higher-ranged grades compared to him – who was kind of failing out – like, I would imagine he felt kind of embarrassed by that, as did I. (p. 3)

Despite Marcie's observation that this mixed-readiness grouping did not seem to support either her or her peer's learning, she expressed in a later interview that she would be reluctant to use like-readiness groups, as she perceived them as being inequitable for struggling students (interview 3, March 4, 2022).

Ultimately, the PSTs did read articles (e.g., Johnson, 2014; NAGC, 2009) that explored perspectives on grouping practices that may have helped PSTs evaluate instructional decisions with gifted learners' needs in mind, and they were exposed to the idea that "students in our classrooms know when they are being grouped mainly to tutor and remediate less capable students, and most of the time, they resent it" (Johnson, 2014, para. 8). However, the bulk of the coded segments focusing on readiness-based grouping tended to undercut messages about considering grouping practice from gifted learners' perspectives. The ChalkTalk article, for

example, encouraged PSTs to group students heterogeneously so that “higher-attaining students can help coach lower-attaining students” (Arbaji, 2019, para. 5). Similarly, in EDIS 5000, PSTs learned that “mixed-ability groups have advantages over homogeneously grouped students because the higher achieving students can mentor the students who are struggling” (Emerson, 2013, para. 7). In these materials (in contrast to the NAGC [2009] and Johnson [2014] pieces cited previously), the focus in determining who benefits from these heterogeneous groupings seemed to be on struggling learners, rather than on the perspectives of students who are advanced.

It is also important to take these findings about grouping practices into account alongside findings generated during the observations of PSTs’ teaching for this study. All three PSTs observed varied readiness levels among the students in their classrooms and noted that many advanced students seemed underchallenged. Janelle, for example, suggested that “from what I’ve seen in the class, [gifted students] can be very bored. And like, they’re not super engaged (interview 1, February 2, 2022, p. 1). However, despite this acknowledgement of gifted students’ boredom, Janelle did not attempt to use like-readiness flexible groupings as a means by which to address advanced learners’ needs. Therefore, it was possible that the messages communicated in course materials about groupings could have directly influenced the PSTs’ practices, as the primary theme that emerged from the coded segments of texts was that although like-readiness flexible groupings may be advantageous for advanced learners, they are inequitable for others.

Emphasis on Struggling Students

EDIS 5020 (Foundations of Learning and Teaching) was the first course that PSTs took that addressed instructional practices. In addition, the course focused on helping PSTs develop a

better sense of who the learners in their classrooms would be. Lori (the instructor for this course), explained that in EDIS 5020, PSTs' attention was primarily directed towards:

Getting to know students and thinking about them as individuals – complex individuals. And so, part of that would be what academic backgrounds do they bring and what cognitive backgrounds do they bring to the classroom, and trying to figure out ways that we can learn about those backgrounds and what the implications might be for our teaching and for the kinds of support that students need in the classroom. (interview 1, January 25, 2022, p. 1)

This information from Lori confirmed one of the main takeaways from the review of the EDIS 5020 material: PSTs were given a lot of information about learner variation, which often focused on their diverse academic needs. However, Lori then described how the coursework in EDIS 5020 veered away from focusing on students who may bring academic strengths into the classroom:

A lot of times, when we're thinking about [academic backgrounds], our students automatically go to struggling students. And part of this is because of the sequencing of our courses. They automatically go to students who have IEPs or 504 plans or behavioral issues, and rarely do they think about academic assets in terms of gifted students and the kind of skills that students might have. (interview 1, January 25, 2022, p. 1)

In general, the course materials in EDIS 5020 seemed to divert PSTs' attention towards struggling learners, but what Lori explained here was that PSTs' tendency to focus on students who need additional supports may have been a consequence of the structure of the summer schedule. In the three weeks prior to taking EDIS 5020, PSTs enrolled in EDIS 5000, which, as noted previously, did not include gifted students in its content on learner exceptionalities.

Moreover, the course materials for EDIS 5020 themselves did not address giftedness. For example, one of the primary texts for the course, *Equity by Design* (Chardin & Novak, 2021), did not discuss gifted learners in any capacity. The text occasionally referred to students with advanced readiness levels, but its focus was almost entirely on using Universal Design for Learning to create equitable learning experiences. The text did not explore the idea that equitable instruction for gifted children involves providing them with appropriately challenging curriculum, and did not discuss instructional practices specifically that could be used to meet gifted learners' needs.

EDIS 5030 (Designing Effective Learning Experiences and Environments) functioned as an extension of EDIS 5020 insofar as it explored similar topics related to instruction and classroom management and utilized *Equity by Design* (Chardin & Novak, 2021) to guide students' learning about equity. A review of the materials for EDIS 5030 again confirmed the finding that learner diversity and variations in readiness levels were explored both in course texts and during course instruction. However, giftedness was not the specific focus of any documents or coursework beyond one reading from the NAGC (2009) during the S.A.C. activity exploring ability grouping. Lori's interview corroborated the findings from the document review:

There are some readings that we do that briefly touch on gifted learners. We don't have any explicit readings related to meeting the needs of gifted learners. Sometimes questions come up in class around it, and so we do our best to address those. (Lori interview 1, January 25, 2022, p. 1)

In EDIS 5030, meeting varied learners' needs was certainly a focal point, but as Lori suggested, the needs of gifted learners were not emphasized.

This deemphasis may have been due, in part, to the course focus on UDL rather than on differentiation. Although there is overlap between the two frameworks, one is not fully substitutable for the other. While UDL's overarching aim is to remove barriers to students' learning, differentiation goes beyond this objective to encourage teachers to provide students with curricular and instructional experiences that are within their zones of proximal development (Hall et al., 2004). One of the main principles associated with the differentiation framework is the practice of "teaching up," whereby students work above their individual comfort levels with respect to academic readiness (Hall et al., 2004). In this way, differentiation promotes responsiveness to all students' needs. UDL also encourages responsiveness, but according to Hall et al. (2004), "flexibility that is at the core of a UDL curriculum is the result of crafting goal statements that avoid prescribing a particular way to achieve them," rather than on teaching up specifically. Therefore, although using UDL-centered texts in EDIS 5020 and EDIS 5030 likely helped PSTs learn how to provide flexible and responsive instruction that removes barriers to students' learning, UDL cannot replace differentiation, which is a framework that PSTs need to employ in order to meet the needs of advanced learners.

The coursework in EDIS 5830 (Languages and Literacies across the Disciplines) continued to direct PSTs' attention to learners' academic diversity and needs, focusing mainly on how readiness levels should be considered when trying to assign appropriately challenging texts to students. One of the materials that the PSTs reviewed in EDIS 5830 was an appendix from *Cracking the Common Core: Choosing and Using Texts in Grades 6-12* (Lewis et al., 2014). In this appendix, the PSTs learned that they can separate students into "homogeneous groups based on reading ability," where "above-grade-level readers" can be assigned lengthier, more complex texts (p. 193). Although Lewis et al. (2014) indicated that these text sets could be used to meet

the needs of students with varied readiness levels, the term “gifted” was not used specifically, and no further information was provided as to how or why these differentiated sets were necessary to teach up for advanced learners. During Mary’s interview, she confirmed that text differentiation was discussed in the course, but that giftedness was not specifically addressed and that attention was primarily devoted to supporting struggling learners:

In Languages and Literacies, we definitely don’t talk about the gifted nature, because the purpose of the course is to show the students that there is literacy in their classes and what it looks like. So, I would say that the focus is a lot on students who might need literacy support in class that we aren’t aware of. (interview 1, February 4, 2022, p. 1)

Although it is critical to help PSTs understand students’ literacies from an asset-oriented perspective so that they do not make assumptions about students who need literacy support, it is also critical to help PSTs recognize and address the needs of students who have advanced literacy skills.

Additionally, in one of the course textbooks for EDIS 5400 and EDIS 5852, *ELA: A Critical Introduction*, Gorlewski (2018) posited that in ELA classrooms, “an aspirational standard might be that schools will provide equal opportunities for all learners to reach their potential. Progress has been made, as demonstrated by policies addressing special education and English language learners, but much remains to be done” (p. 26). What was interesting about this quotation was that Gorlewski’s (2018) initial focus was on all learners making progress; however, the subsequent sentence seemed to assert that the primary concern should be on helping students who may struggle academically or be part of systemically marginalized groups. While it is clearly critical that those learners’ needs are addressed, it is also critical that gifted children are pushed to reach their potential (NAGC, 2014a).

Finding 2 Implications

In this sub-section, I examine the implications that Finding 2 had for the secondary PGMT program as it sought to prepare PSTs to teach gifted children.

Compliance with VDOE Professional Requirements and InTASC Standards

According to the professional requirements for licensure set forth by VDOE (2018) and the InTASC standards (CCSSO, 2013) used by CAEP for accreditation, a well-started teacher should be able to provide responsive instruction for diverse learners, including those with exceptional academic needs. Both the professional requirements (VDOE, 2018) and InTASC standards (CCSSO, 2013) used specific language referring to gifted learners, thereby compelling EPPs to ensure that PSTs were prepared to work with this population of students. A precursor to meeting this requirement is developing baseline knowledge of readiness-level diversity. With an understanding of students' academic- and readiness-related differences, PSTs can then learn specific instructional models and strategies for creating classrooms in which all learners can flourish. Numerous studies (e.g., Yuen & Westwood, 2004) suggest that for PSTs to effectively teach students with advanced readiness levels, PSTs must learn common myths about gifted children as well as instructional strategies for meeting their academic needs. This can be achieved through the development of PSTs' theoretical learning, which, in combination with their practical learning, contributes to the development of professional knowledge necessary for any well-started teacher (Loughran, 2006; Smith-Sherwood, 2018).

Based on the data analyzed for Finding 2, it appeared as though course materials and assignments did not provide PSTs with adequate opportunities to develop their theoretical knowledge of gifted learners. As a result, PSTs were unlikely to achieve the objectives established by the VDOE professional requirements (2018) and InTASC standards (CCSSO,

2013), which led to a larger issue of non-compliance with parameters governing the work of MAU's EPP. To rectify this non-compliance, revisions to course materials and assignments may be needed in order to further develop PSTs' capacities to serve the gifted and advanced learners in their classrooms.

Equity for Gifted Students

Considerations for making schooling practices more equitable appeared across many of the materials provided in the eight courses included in this study. However, equitable practices are those that foreground the needs of all learners, not just those who are struggling or who have been historically marginalized. The data generated for Finding 2 seemed to suggest that the needs of advanced learners were not equally prioritized alongside the needs of their peers. Consequently, the curriculum utilized in the secondary PGM program for ELA PSTs may itself have been considered inequitable. Further, the curriculum may have led the PSTs to enact inequitable practices with their own students if they viewed the needs of their advanced learners as warranting less attention than the needs of their struggling learners.

Finding 3: There Were Numerous Barriers to Teaching PSTs to Address Gifted Students'

Needs within the Context of the Secondary PGM Program.

Finding 3 emerged from an evaluation of course documents and interviews with instructors and PSTs. In synthesizing information from these data sources, I observed that there were numerous contextual and systemic barriers to teaching PSTs about gifted learners. I categorized these barriers into the following five categories, which comprise the five sub-findings in this section: (1) barriers associated with the secondary PGM program redesign, (2) barriers associated with broader contextual variables (including COVID-19 and social concerns around equity), (3) barriers associated with clinical experiences, (4) barriers associated with

prioritizing teaching PSTs to meet the needs of struggling learners over the needs of advanced learners, and (5) barriers associated with PSTs' misconceptions about gifted learners. An examination of these barriers helped provide better context for answering research question 1 (In what ways does the secondary PGMT program prepare ELA PSTs to address the needs of gifted students?), as an understanding of barriers to preparation can provide program stakeholders with a clearer picture of what transpired in their program. Further, the recommendations that I make to stakeholders in Chapter 5 are informed by an awareness of these barriers.

Sub-Finding 3.1: The Secondary PGMT Program Redesign Resulted in Coursework Alterations That Led to the Exclusion of Gifted-Related Content.

In 2018, the secondary PGMT program was condensed from a two-year program to an 11-month program. As part of this redesign, instructors reconsidered program and course logistics, such as the sequencing of courses and the content covered in each. Although I did not have access to course syllabi and documents from the two-year version of the program, I was able to review all course materials for the 11-month version. As I reviewed materials for each course that was part of this study, I coded instances in which gifted education or the needs of gifted and advanced learners were specifically addressed. In the following sections, I present an analysis of the coded data from course materials in combination with data gathered from instructor interviews. These findings are organized by course instructors in order to more coherently demonstrate the ways in which the program redesign influenced each instructor and her course(s).

Program Redesign Influences on Nancy's Course (EDIS 5000)

In the PGMT course sequence for the 2021-2022 academic year, PSTs took EDIS 5000 (The Exceptional Learner) during a three-week period in the summer semester. However, prior

to the program redesign, EDIS 5000 was offered over the course of a full semester, spanning approximately 15 weeks. During Nancy's interview, she explained that there were significant differences between the 15-week version (which was still offered to EHD students at MAU but not as part of the secondary PGMT program) and the three-week version of the course.

According to Nancy, in the 15-week version of EDIS 5000, she did cover gifted education, although her focus was primarily on twice exceptionality. However, given the "limited nature of the course," Nancy reported being unable to spend more than a few days on giftedness and twice exceptionality, but in that time, did emphasize "how often kids with disabilities and a second exceptionality are ignored or not looked at and how that is a problem, because then you have these kids whose support needs are not being met, but they are also not being pushed" (Nancy interview 1, January 28, 2022, p. 2). To help her students conceptualize twice exceptionality – and how twice exceptional students may need supports in one area but greater rigor in another – Nancy had her students conduct case-study analyses on twice exceptional students in P-12 contexts during the 15-week version of the course.

However, when I asked Nancy about whether or not she included this case-study analysis in the three-week version of the course, she acknowledged that the content on giftedness and twice exceptionality described above was something that she "only really tackled head on in the extended version" (i.e., the 15-week version) (Nancy interview 1, January 28, 2022, p.2). To confirm this information, I reviewed the course materials for EDIS 5000 and found that giftedness was mentioned on only one PowerPoint slide for the entire semester, and that the information on this slide only provided a brief overview of information about disproportionality in racial representation in gifted programs. None of the other course materials for EDIS 5000 contained information about gifted children or twice exceptionality.

When asked why she omitted gifted education and twice exceptionality from the three-week course, Nancy indicated that time constraints and competing priorities acted as barriers to more full and inclusive explorations of the range of student exceptionalities that can exist in a classroom. According to Nancy, it was “much, much easier” to integrate this content into a semester-long course than into the three-week summer session (Nancy interview 1, January 28, 2022, p. 3). However, Nancy also observed that based on her experience as a special educator, she did not think that learning about gifted education briefly during a three-week course would help PSTs understand the experiences of exceptional learners in classroom contexts or how to best meet those children’s needs. According to Nancy:

I really think that besides time, the lack of integration is a huge barrier. And I think it perpetuates this idea that giftedness, that disability, this natural expression of the human genome, that it furthers this sense of otherness and that it’s not something [PSTs] are going to have to deal with. . . . I would love to see more collaboration among the teaching faculty across disability and giftedness. It makes a lot more sense to have a person whose expertise is in either gifted or disability or both come in and help where it’s integrated all along and it feels more like a natural fit. (Nancy interview 1, January 28, 2022, p. 5)

Therefore, it seemed as though there may have been several reasons why Nancy omitted gifted children from the three-week version of EDIS 5000, including time, competing priorities, expertise concerns, and a general feeling that superficial coverage may not have had a lasting impact.

To confirm that PSTs did not learn anything about gifted children in the summer version of EDIS 5000, I also asked Janelle about her experiences in the course.⁸ Janelle indicated that she did not learn about gifted children in EDIS 5000, as the course’s focus was on “students who are not ready” (interview 1, February 2, 2022).

Program Redesign Influences on Lori’s Courses (EDIS 5020 and EDIS 5030)

As the secondary program coordinator, Lori had many insights into the ways in which the program redesign influenced course content, particularly as it related to gifted learners and providing differentiated instruction that meets their needs. According to Lori, “as we have transitioned to the new program structure, differentiation in particular is one of those things that I feel has gotten lost. And so that’s across all levels, but particularly in thinking about the needs of gifted learners” (Lori, interview 1, January 25, 2022, p.1). Further, Lori expressed some uncertainty regarding where the best “fit” for teaching about readiness-based differentiation (and gifted learners’ needs specifically) would be in the 11-month program. One of the biggest challenges that the program faces, Lori said, was the “perpetual problem” of “thinking about what sequencing makes the most sense” (Lori interview 1, February 4, 2022, p. 7). During the interview with Lori, she posed several questions about fit and sequencing for differentiation and gifted-related content:

Are those things that she be taught in general methods? . . . Should it be about general markers [of giftedness], or should it be about identification? Should it be about understanding who those students are? Should it be about the instructional

⁸ Janelle was the only PST in this study who took the three-week summer version of EDIS 5000. Ruth and Marcie were both undergraduates at MAU and had taken the extended 15-week version of EDIS 5000 prior to enrolling in the secondary PGM program. The majority of PSTs in the ELA cohort, however, would have taken the three-week EDIS 5000 course during the summer semester with Janelle.

accommodations that they need, or all of those things? Should it happen in content area methods courses? Because there are content-specific things, approaches that would be beneficial for gifted learners that maybe I don't have expertise with, but maybe other content-area experts would be able to give better advice. (interview 1, January 25, 2022, p. 5)

Based on the questions that Lori posed here, it was clear that figuring out when, where, and how to teach about differentiation and giftedness presented a challenge for a recently-redesigned program, and would require collaboration among various stakeholders to fully integrate this content at the program level.

During Lori's interview, she provided additional insights into how the program redesign had influenced what she was able to cover relating to gifted students in her courses. When asked about the ways in which the redesign influenced coverage of readiness-based differentiation and gifted learners for EDIS 5020 (Foundations of Learning and Teaching), Lori explained:

In the old version [of EDIS 5020], when we had an entire semester dedicated to instructional design and an entire semester dedicated to classroom management...it felt much more logical and appropriate to spend time on differentiation. We would spend the equivalent of probably two class weeks – so that would be four class meetings because our class would be twice a week – that would be focused on differentiation. And we would focus on the ideas around readiness and then thinking about the different readiness levels in particular and then thinking about differentiation approaches and strategies that could help support learners at different levels of readiness. (interview 1, January 25, 2022, p. 3)

In addition to focusing more on readiness-based differentiation in the previous version of EDIS 5020, Lori also indicated that she provided instruction for PSTs with “videos about tiering, and would talk [with them] about rafts and look at examples,” which would be beneficial for gifted children (Lori interview 1, January 25, 2022, p. 3). However, because EDIS 5020 was no longer a full-semester course, Lori was not able to explore readiness-based differentiation or these instructional strategies as in depth as she had previously.

Lori also had to make changes to EDIS 5030 (Designing Effective Learning Experiences and Environments) as a result of the program redesign. In previous iterations of the course, she was able to spend an entire semester focused solely on instructional design. However, as courses were collapsed in order to fit the new 11-month program model, EDIS 5030 also had to subsume content on learning environments. To make room for this new content, Lori explained, she had to alter her approach to teaching about instructional design. For example, prior to the program redesign, Lori indicated that she used *Smart in the Middle Grades* (Tomlinson & Doubet, 2006) as a text to help prepare PSTs to differentiate for students who demonstrate high readiness levels. However, since the redesign, Lori removed the text from course syllabi because of time concerns. She noted that “[differentiation] is one of those things that is always on my mind, but I’m never quite sure where to fit it” when planning PSTs’ coursework for EDIS 5030 (Lori interview 1, February 4, 2022, p. 1). Lori did, however, provide the PSTs with a brief module on differentiation as part of their coursework in 5030, as she articulated that she believed it was important content for PSTs to learn. Despite that inclusion, Lori acknowledged that this was less coverage than was given in iterations of EDIS 5030 that existed before the redesign, which suggested that the shift in the PGMT program structure had introduced logistical challenges into teaching this specific content.

Lori also explained that in prior versions of EDIS 5030, she required PSTs to design lesson plans with modifications for a range of diverse learners. She provided the PSTs with a hypothetical set of learners who had varied strengths, needs, and identities, then had the PSTs develop differentiated lessons that were responsive to these students. Lori indicated that she would have liked to have the PSTs complete these differentiated lesson plans in the redesigned courses, but was unable to do so because of time constraints and competing priorities, given that EDIS 5030 must cover not only instructional practices, but also how to build positive classroom environments and manage students' behavior. Lori further explained that in 5030, the PSTs "are facing pressing questions around classrooms management, and then those usually take precedence a lot of times over differentiation, unfortunately. It seems like [classroom management's] what our concern usually is" (Lori interview 1, January 25, 2022, p. 1). Because Lori wanted to be responsive to the needs of the PSTs (whom Lori noted were particularly vocal about needing support from their instructors regarding "concerns with behavior management"), she explained that the learning environments strand of EDIS 5030 sometimes took precedence over the instructional strand, which may have limited the time spent addressing readiness-based differentiation in response to learner variance (Lori interview 1, January 25, 2022, p. 2).

Program Redesign Influences on Mary's Courses (EDIS 5400, EDIS 5401, EDIS 5852, and EDIS 5872)

Like Lori, Mary also articulated that the program redesign influenced some of the curricular and instructional changes that she had to make to the ELA-specific courses that she taught. Although Mary did not recall having more readings or resources addressing gifted learners' needs in previous iterations of the ELA courses, she did note that in the two-year program, she had more time to build readiness-based differentiation into PSTs' coursework. For

example, in the two-year-program version of EDIS 5400 (Teaching English in Secondary Schools I) and EDIS 5401 (Teaching English in Secondary Schools II), PSTs were required to develop a unit plan with four fully-scripted lessons. In each of these lessons, the PSTs described readiness-based differentiation approaches that they would use to attend to the full spectrum of students' academic needs (including students who were gifted or showed advanced readiness levels). However, since the compacting of the program, Mary reported removing this lesson-plan requirement because of time demands (both for the students to complete the lessons and for her to evaluate them, particularly as enrollment had grown).

Sub-Finding 3.2: Helping PSTs Learn about Meeting the Needs of Struggling Learners rather than Meeting the Needs of Advanced Learners Was Prioritized across Courses.

Both Mary and Lori provided insights about the PSTs in this study that illuminated barriers to learning about gifted children that may have been specific to the MAU context. According to Mary, the ELA cohort was composed of traditionally “strong students” who had studied English in college, been successful in those programs, and had taken AP, IB, and honors English courses in high school. Because the PGMST students tended to be high achieving, Mary explained, they often found it difficult to conceptualize and relate to students who struggled in ELA or who did not share their passion for the content. This reality shaped Mary’s approach to preparing her PSTs:

[The ELA PSTs] may not have had exposure to students who struggle, and so that is always sort of an eye opener for them, because they come in thinking “I want to teach AP. I fell in love with literature because of that class.” And so, I spend a lot of time opening their eyes and helping them figure out how to support students that didn’t have the same experiences that they did. (interview 1, February 4, 2022, p. 2)

Lori's reflections on MAU's PSTs were parallel to Mary's, as she observed that the PSTs sometimes had a difficult time envisioning classroom experiences from the vantage points of students who had difficulties in school that the PSTs themselves may not have had:

[PSTs] struggle with cognitive dissonance around wanting to provide a really equitable education for the students that they are working with, but then at the same time, not really understanding the experiences of students who have traditionally not been successful in school. (Lori, interview 1, January 25, 2022, p. 5)

Mary and Lori seemed to share the belief that it was more difficult for the PSTs at MAU to understand the experiences and needs of struggling learners (as opposed to the needs of advanced learners), given that the PSTs themselves were unlikely to have struggled in this same capacity.

Despite the fact that this may have been an accurate characterization of the PSTs in this program, Mary reflected during her interview that perhaps in "wanting to open [PSTs'] eyes to learners that are not like themselves...I may be making the assumption that they can work with learners like themselves" (Mary interview 1, February 4, 2022, p. 6). While reflecting during her interview, Lori also suggested that although PSTs may have had more difficulty seeing a classroom through the eyes of children who struggle academically, the PSTs still may not have brought "a kind of complex understanding of what gifted means to their teaching practice at this point," even if they themselves were identified as gifted or advanced students (interview 1, January 25, 2022, p. 5). Mary and Lori's concerns that the PSTs did not fully understand the nature and needs of gifted children – even though they may have been identified as gifted or had advanced readiness levels in their own English courses – were validated by additional findings from this study (presented later in the Chapter 4) that highlighted PSTs' misconceptions about gifted learners (e.g., that all gifted students are motivated and receive good grades).

The main theme that emerged from Mary and Lori's reflections on this topic again came back to the issue of competing priorities. Assuming that it would more difficult for the PSTs to learn to teach struggling students than advanced students (even though PSTs did not particularly demonstrate the knowledge and skills needed to teach advanced students), program instructors opted to focus their courses on content that prepared PSTs for their interactions with children whose academic identities may have been more dissimilar from the PSTs'. Although one might argue that this should not be an either/or choice, previous information presented in this chapter on time-related barriers to covering content may have explained why this situation emerged.

Sub-Finding 3.3: Contextual Factors (Such as COVID-19 and Broader Social Concerns about Equity) Led to the Exclusion of Gifted-Related Content.

When reviewing interviews from instructors and PSTs, it became clear that contextual factors beyond the control of the secondary PGM program influenced the degree to which coursework addressed gifted learners. Shifts in learning modalities occurred in the secondary PGM program in response to COVID-19 regulations, which reshaped the ways in which instructors organized their courses. These changes also necessitated a reduction in course content in order to accommodate reduced instructional time associated with movement to online learning spaces. Moreover, COVID-19 drastically influenced P-12 schooling landscapes, thereby influencing the ways in which the secondary PGM program went about preparing PSTs.

In addition, amplified concerns for social justice influenced both national and local discourses on the intersection of education and equity. According to interview data gathered from instructors, this cohort of ELA PSTs was not only aware of these discourses, but was also invested in furthering the causes of social justice to create more equitable educational

experiences for their students. However, as shown in the following section, gifted education was commonly omitted from discussions relating to equity, and was often actually critiqued as being in opposition to equity-related aims. Therefore, these concerns for equity may have acted as barriers to including gifted-related content in PSTs' coursework.

COVID-19's Influence on PSTs' Coursework

In this section, I present data that illuminated the ways in which programmatic responses to the COVID-19 pandemic – as well as instructors' and PSTs' own personal responses – influenced what PSTs learned about gifted students.

Changes to Course Modalities. As a result of COVID-19 regulations, PSTs had to take their summer semester courses in a fully online format rather than in person. According to Lori, this modality constraint added layers of complexity to the already difficult task of introducing students to instructional design (the focus on EDIS 5020 [Foundations of Learning and Teaching]). She explained that challenges with online learning arose because “you can’t do things in the same way when you’re teaching online or at the same level of depth as when you’re in person, because you can’t teach online for three hours straight” (Lori, interview 1, January 25, 2022, p. 7). As a result of not being able to go as far in depth as she would have liked, Lori suggested that it became more challenging to teach the PSTs about varied learning needs during her summer course, and as a result, she did not provide as much detail about learners' readiness-level differences as she would have liked. Additionally, Lori indicated that not being able to go as in depth during EDIS 5020 had implications for EDIS 5030 (Designing Effective Learning Experiences and Environments), which she taught in the fall semester as an extension of the EDIS 5020 course (interview 1, January 25, 2022). As a result of lost coverage over the summer in EDIS 5020, she had to sacrifice some coverage in EDIS 5030.

Concerns for PSTs', Instructors', and P-12 Students' Well-Being. All three instructors involved in this study noted during their interviews that the COVID-19 pandemic left them and PSTs feeling “really tired” (Mary interview 1, February 4, 2022, p. 5). In recognition of this, instructors felt compelled to focus heavily on “needing to attend to issues of [PSTs'] wellness” (Lori interview 1, January 25, 2022). Therefore, it appeared as though the pandemic's influence on well-being affected not only the PSTs' capacities to engage in demanding coursework, but also instructors' capacities to provide it on occasion. Moreover, PSTs' considerations for the well-being of their own students informed PSTs' immediate teaching needs. Therefore, in order to be responsive to their own, PSTs', and PSTs' students' needs, instructors sometimes altered the focus of their coursework. Lori indicated that as a result of COVID-19, she felt the need to place “a tremendous focus on student well-being,” not only because she viewed this as imperative during a pandemic, but because she wanted to be responsive to PSTs' concerns, which were often on “where students were socially and emotionally” (Lori interview 1, January 25, 2022, p. 2). However, as a result of this reprioritization, PSTs did not receive much instruction centered on meeting gifted students' needs.

During Lori's interview, she further explained that time and energy “are really valuable commodities” and that “people are exhausted and overwhelmed” from dealing with COVID-19 for nearly two years (Lori, interview 1, January 25, 2022, p.7). She indicated that:

It often felt like we were in survival mode or getting-through-it mode, versus let's really dig deep and learn about some things. And that was really frustrating for me this year, that it felt like we were putting out fires instead of kindling interest and helping people learn new things about their teaching practice. . . . It felt like accommodating everyone's

levels of stress and being overwhelmed throughout a good portion of the semester.

(interview 1, January 25, 2022, p. 7)

Lori's analysis highlighted the ways in which COVID-19 introduced unanticipated barriers into content coverage in the PGM program and may have detracted from her ability to help PSTs dig deeply into learning about effective teaching practices.

Mary also observed that concerns about well-being that emerged from the pandemic influenced what she was able to cover in her ELA courses. For example, Mary indicated that in previous years, her students completed lesson plans in which they designed lessons for students with diverse learning needs. One of the requirements for these lesson plans was that the PSTs incorporate differentiated instruction for gifted learners (either whom they identified in their clinical placement or who was a hypothetical student whom Mary "created"). However, for the PSTs in this study, Mary removed this lesson plan requirement and did not replace the learning experience with another task that asked the PSTs to differentiate lessons for gifted children. When asked about her decision to remove the lesson plan requirement, Mary indicated that the decision was largely motivated by both instructor and PST fatigue (which had become increasingly common during the COVID-19 pandemic [The Chronicle of Higher Education, 2020]). According to Mary, changes to the teaching profession generated by the pandemic altered PSTs' areas of focus and need, thereby requiring Mary to divert attention to some of those immediate concerns (e.g., providing online instruction, managing classrooms with social distancing) rather than to readiness-based differentiation for gifted learners.

Based on both Lori's and Mary's interviews, it appeared as though prioritizing well-being and accommodating people's fatigue and stress meant that some content and instruction were sacrificed in response to COVID-19's influence on educational environments. As noted

previously, content focusing on readiness-based differentiation and giftedness was already somewhat “displaced” in the program, which may have made it easier for this content to be even further overlooked in the context of the pandemic. In addition, Nancy commented that the PSTs seemed “overwhelmed” and “tired,” and that as result, “emotionally, they’re not really at this place where they can grapple with this kind of material” as it related to learning exceptionalities (interview 1, January 28, 2022, p. 6). Therefore, the complex nature of learning about gifted children and their exceptional learning needs may have been another reason why this content was excluded from coursework as instructors endeavored to care for the PSTs’ well-being.

Social Concerns about Equity and Their Influence on PSTs’ Learning

In this sub-section, I present data from a review of course documents and from interviews with instructors and PSTs. A thematic analysis of the data showed that PSTs were concerned about educational equity and were “extremely justice oriented” (Mary interview 1, February 4, 2022, p. 3), but that they narrowly conceptualized equity-centered discourses as pertaining only to historically minoritized groups (most often on the basis of race and culture) or only to students who were struggling. Additionally, course materials used across the PGMT program may have underscored these beliefs, as the needs of gifted learners were almost entirely omitted from all texts and resources. When PSTs did receive information from course materials about gifted education, those practices were often described as being inequitable, which may have influenced PSTs’ beliefs about teaching advanced learners. If PSTs perceived meeting gifted learners’ needs to be inequitable, this could have presented a barrier to their preparation for teaching this population of students.

PSTs’ Concerns about Racial and Cultural Equity. In recent years, increased attention has been paid to entrenched systemic inequities across social institutions, particularly in P-12

settings. Broader conversations about racial, cultural, and linguistic sources of bias in educational practices and systems have brought much-needed attention to schooling injustices. The PSTs in this cohort, therefore, were developing their praxes within this equity-driven educational landscape, which may have mediated their experiences with both their coursework and clinical experiences. While it is important for PSTs to have an awareness of equity concerns, it is possible that the PSTs in this study were conceptualizing equity narrowly, focusing primarily on issues relating to students who struggle in school or who are from historically minoritized communities. Absent from that conceptualization of equity is the idea that an equitable education is one in which all students receive appropriate, needs-based experiences that allow them to learn and grow. For gifted children specifically, this means that an equitable education is one that is responsive to their academic needs. However, based on interview data from instructors, PSTs may not have been concerned about equitable practices for gifted learners.

For example, when asked whether or not the PSTs expressed an interest in learning more about gifted students' needs, Lori indicated that this was not a particular focus area for the cohort despite PSTs' concerns for equity:

I don't recall that people, especially in the English cohort, brought up giftedness. This group in particular is very equity focused. And so, I think that they would be more concerned about racial and cultural equity and students who have been disadvantaged historically in the education system. (interview 1, January 25, 2022, p. 3)

Given Lori's description of PSTs' concerns, it was possible that the PSTs did not have a framework for understanding how providing responsive instruction based on readiness levels

was an equitable teaching practice. Rather, it seemed as though their limited conceptions of equity centered primarily on racial and cultural considerations.

One example of the PSTs' prioritization of racial and cultural equity was highlighted specifically during an in-class S.A.C. that took place in EDIS 5030 (Designing Effective Learning Experiences and Environments). During the S.A.C., the PSTs reviewed resources presenting arguments in favor of heterogeneous and homogeneous grouping practices for varied readiness levels. Despite reviewing materials arguing that homogeneous groups can benefit gifted learners by promoting their academic growth, the PSTs seemed to hold negative views of readiness-based differentiation through like-readiness groupings. Lori explained that during this activity, the PSTs focused on the problematic practices of "stereotyping and profiling students into different readiness levels based on race and past educational experiences" (Lori interview 1, January 25, 2022, p. 3). Although many of the PSTs expressed that they personally disliked heterogeneous readiness-based groups (indicating that they did not like having to "carry the group" [Lori, interview 1, January 25, 2022, p.4]), their own personal preferences for like-readiness groupings seemed to be eclipsed by their concern for cultural and racial equity, which they may have viewed as being at odds with homogeneous groupings. According to Lori, the PSTs expressed discomfort with the idea of using homogeneous readiness groups – even if those groups were more responsive to the needs of advanced learners – as PSTs believed that "it was problematic to always have groupings of all higher-level students because it disadvantages certain students" (Lori interview 1, January 25, 2022, p. 4).

All three PSTs in this study were asked about their experiences with the S.A.C. in EDIS 5030, and each expressed beliefs that were aligned with what Mary and Lori suggested about the PSTs' concerns for equity being focused on racial/cultural considerations and the needs of

struggling learners. Although all three of the PSTs seemed to believe that like-readiness flexible groups could be better used to differentiate for gifted children by giving them more opportunities to grow, all were reluctant to say that they would employ homogeneous groupings if they perceived that the groupings were disadvantaging struggling students.

Further, when I asked Marcie about the use of readiness-based grouping in her own classroom, she vocalized her concerns about racial divisions across her leveled courses, observing that “the majority of my AP classes and Honors classes are filled with White students” (interview 2, February 24, 2022, p. 16). This quotation shows not only that Marcie was unable to differentiate between within-class flexible groups and the type of ability grouping that is programmatic in nature, but also that the PSTs may have automatically associated like-readiness groupings with inequitable practices that lead to student segregation.

PSTs’ beliefs that homogeneous groups lack equity could be further reinforced by a course document provided in EDIS 5000, which indicated that three main drawbacks associated with like-readiness groupings were: (1) “lack of equity,” (2) “poor esteem for low group,” and (3) negative stereotypes” (Emerson, 2013, para. 9). If PSTs who were concerned about equity or the well-being of their struggling learners internalized this message, it is clear why they might have avoided using like-readiness groupings, even if these groupings could benefit gifted children.

Conceptions of Equity Advanced by Course Materials. Although discerning the sources of PSTs’ beliefs about equity was beyond the scope of this study, it may have been that some of PSTs’ beliefs were rooted in or affirmed by conceptions of equity that were advanced in course materials. In my analysis of the PSTs’ coursework, I observed that gifted education

practices were either (1) portrayed as inherently inequitable or (2) excluded almost entirely from discourses on equity.

In EDIS 5000 (The Exceptional Learner), for example, PSTs were supposed to learn about the nature and needs of students with exceptionalities. However, although gifted learners fall under the umbrella of exceptional learners, there was no coursework in EDIS 5000 dedicated to better understanding these children. An analysis of the EDIS 5000 course materials revealed that very little attention was given to gifted education, and that when it was mentioned, practices supporting gifted learners were construed as being inequitable.

As one example, giftedness was mentioned briefly on a PowerPoint presentation focused on racial/cultural disproportionality in special education identification practices. On one of the slides, the narrator described how racial and cultural disproportionalities exist across the country (and in local divisions) among students receiving special education and gifted services. No further explanation was provided about gifted students, the purposes of gifted education services, or about the ways in which local school divisions (with the help of EHD) have tried to rectify issues of disproportionality.

During Nancy's interview, I asked her to elaborate on this slide in order to determine whether or not students explored gifted education disproportionality any further in their EDIS 5000 coursework. She indicated that although she did not address this topic further, the PSTs were aware of the fact that "the identified gifted population in both [the city] and MCPS do not reflect the demographics of the overall school divisions. And so that has been brought to the forefront" (interview 1, January 28, 2022, p. 5). Taken together – this brief piece of information presented in EDIS 5000, the absence of coursework further addressing gifted education disproportionality, and PSTs' awareness of racial and cultural equity concerns at MCPS – it is

possible that PSTs' coursework suggested that gifted education leads to inequitable educational experiences.

Additionally, on the same PowerPoint slide described above, academic tracking was briefly mentioned in conjunction with gifted education. Given that the practice of academic tracking is generally considered to be an inequitable practice that systematically advantages and disadvantages groups of learners (Rubin, 2006), PSTs may (as a result of viewing this PowerPoint) have come to similarly view gifted education as an inequitable practice. In the Module 5 lecture slides for EDIS 5000, the narration indicated:

When we talk about gifted education – gifted education does fall under special education⁹ – it's about tracking. It's about who is tracked and in what ways in high schools, which is really significant in Charlottesville given that there has been significant focus here through the media and media stories that were brought about by Black activism here within our community to really draw attention to the tracking issue in Charlottesville.

(slide 2)

In Charlottesville (and in many gifted programs throughout the country), the label of “gifted” did in fact serve as a proxy for “whiteness,” and the history of gifted programs for the use of racial segregation is well documented (Stark, 2004). Although this was critical information for the PSTs to understand, the narration on this topic ended here, offering no additional follow-up. The way in which this information was presented seemed to suggest to PSTs that serving gifted learners is equivalent to tracking practices, which could be partly responsible for the proliferation of racial inequities in schools (and therefore, the belief that gifted education is a racist enterprise).

⁹ In the state where this study's site is located, gifted education is not part of special education.

Not all course materials, however, positioned equity as being in opposition to gifted education practices. However, among materials that I reviewed, the majority omitted discussions of gifted learners' needs entirely from their conversations about equity. A general theme that emerged across courses was that the needs of struggling students must be prioritized over the needs of advanced students, who may be viewed as already being "advantaged." This theme was particularly resonant in *Equity by Design: Delivering on the Power and Promise of UDL* (Chardin & Novak, 2021), an anchor text for both EDIS 5020 and EDIS 5030. Although the entirety of the book was framed around equity, no mention about meeting the academic needs of gifted learners is made throughout the text. The focal point of the book was on removing barriers to learning for students who are struggling. However, it did not take a more nuanced view of the types of variables that could present barriers to learning, such as being underchallenged by instruction that lacks appropriate rigor. Although this text defined equity as "hearing somebody's voice about what they need and providing them with that," the authors failed to address how equitable, responsive teaching also involves hearing the voices of gifted children (Chardin & Novak, 2021, p. 61).

The Chardin and Novak (2021) text may also unintentionally send the message to PSTs that gifted children are privileged, and therefore, do not need supports from their teachers.

Chardin and Novak (2021) explain:

One hard truth that we continue to press in this text is that our systems do not equally support students because they were not *built* to support all students. They were built to support privileged or mythical "average" students who face little or no barriers culturally, economically, academically, behaviorally, socially, or emotionally – while oppressing others, particularly those who have been traditionally marginalized. (p. 66)

What Chardin and Novak (2021) asserted here was that schooling systems were designed for students who experience no barriers to learning. Although this assertion may not be wrong, PSTs may struggle at their novice stages of learning to understand that students who are not marginalized – academically or otherwise – still need to be recipients of responsive educational experiences. However, because the Chardin and Novak (2021) text neglected to address this, it is possible that the book may have promoted the idea to PSTs that advanced learners are not academically marginalized, and therefore, their academic needs are not related to concerns about equity.

Shifts in PSTs' Views on Equity over the Course of the Study. It is important to note that the findings from the previous sections describing PSTs' concerns about racial/cultural equity emerged from data gathered at the beginning of this study. However, one aim of this study was to use PSTs' interviews to determine if their beliefs about the relationship between equity and gifted education evolved over time as they gained more clinical experience with gifted learners. To that end, in all three interviews, I asked the PSTs to reflect on the relationship between gifted education and equity, giving them the option to direct their answer in whatever way they chose. A tension emerged in their responses as they attempted to articulate their disapproval of race- and culture-related disproportionality in gifted programs while simultaneously expressing their belief that all students deserved to be appropriately challenged in the classroom.

In the first round of interviews, the PSTs focused largely on the ways in which they had learned that gifted education could be inequitable (mostly as a result of the underrepresentation of historically minoritized students receiving gifted services). For example, when asked to describe her thoughts about the relationship between gifted education and equity, Marcie's

immediate response during her first interview was to make observations about racial and socioeconomic disparities in her “higher level” classes compared to her “non-higher-level” classes:

I feel like my classes, I guess the six that are all the higher level, there is definitely a majority of White students in the classroom in [the high school], I believe is like 67 percent White. . . . The “standard” is the White student who has either a good family, like from what [our mentors] just told us on the side, it seems like [these students are] from a pretty well-off family...who do like athletics and stuff. And then also, you’ve got to think that out-of-school sports equipment costs money, the time to drive to and from practice at an after-school thing. (February 8, 2022, p. 7)

Marcie appeared to be suggesting that a “standard” student in her advanced classes (based both on her own observations and what she heard from her MT) tended to be White and to have the financial means to engage in after-school activities. Her focus when considering gifted education and its relationship to equity was not on appropriately serving students with exceptionalities, but instead, on issues with disproportionality that existed at the programming level.

However, in her second interview, the complexity of Marcie’s thoughts on this issue seemed to evolve. In particular, Marcie observed:

Just because there’s a disproportion doesn’t mean you should not recognize [giftedness] exists. You don’t want to contribute to the disproportion of course. So yes, a lot of the majority of my AP classes and honors classes are filled with the White students, but wouldn’t it be just as bad to ignore whoever is in those classes? It’s like, yes, let’s look at the other stuff, but let’s just keep lifting all of them up. (interview 2, February 24, 2022, p. 17)

Marcie's views here suggested that she was concerned about equity and disproportionality in gifted programming, but that since getting further into her placement and interacting more with children in her AP and honors classes, she had developed a growing concern for their academic needs. This quotation from Marcie also seemed to show that she did not distinguish between a gifted programming model (which is outside of teachers' immediate control) and the need to serve gifted children within individual classrooms (which is within teachers' immediate control). Further into her second interview, Marcie expressed concern about not being taught how to fully meet these gifted students' needs, and seemed to wonder if there was a relationship between not being taught about gifted learners and equity-related concerns:

I don't want to say anything because I'm, like, all for equity and all for being culturally responsive. But it's just, like, I think it would be – regardless of culture or race or sex or gender or anything – it would be irresponsible to not be prepared to meet any [gifted] individual's needs like that. . . . You know, equity is, regardless of what is happening...[students] deserve their quality education. (February 24, 2022, pp. 17)

Later in the interview, Marcie again indicated that she wanted to learn more about how to address gifted learners' needs within her classroom, despite her awareness of the fact that there were broader concerns about racial equity in gifted education programming:

Teaching me how to keep raising up whoever's in the AP class doesn't put another student at a detriment necessarily. . . . Teaching me or not teaching me how to handle the gifted students isn't going to fix why all of my students in credit recovery are people of color, you know? That's a different problem. (interview 2, February 24, 2022, p. 17)

Here, Marcie appeared to be grappling with her desire to provide appropriately challenging experiences to her advanced learners within the context of her own classroom while

simultaneously acknowledging that the racial divisions across her courses were problematic (but a separate issue over which she had no control).

Like Marcie, both Janelle and Ruth also focused on racial disproportionality in their first interviews. However, by their second interviews, both began to reframe their conceptualizations of equity as it related to gifted education. In particular, Janelle observed:

I think [gifted education] ensures that every student is entitled to an education – a good education. And if that means that the student has a more challenging curriculum – basically, a curriculum should meet the needs of the students. And if a student is gifted and requires a harder curriculum or a curriculum that makes them reach past the learning targets that were initially there, then I think it makes sense to have a gifted education program within a school. (interview 2, February 22, 2022, p. 8)

In her second interview, Ruth similarly suggested that it was also problematic when gifted children were not given “room to grow” (February 21, 2022, p. 2). It is important to note these changes in PSTs’ beliefs over time, as it appeared as though the PSTs were beginning to think more about the ways in which meeting gifted children’s academic needs was an equitable teaching practice. However, it is unknown what may have caused this shift, and it is possible that other PSTs in the cohort may not have experienced something similar (particularly if Janelle, Ruth, and Marcie’s shift was a result of participation in this study).

Sub-Finding 3.4: Clinical Experiences Offered Limited Support in Preparing PSTs to Meet Gifted Students’ Academic Needs.

In this section exploring Sub-Finding 3.4, I present data from instructor and PST interviews that call attention to the ways in which PSTs’ clinical experiences offered limited support in preparing PSTs to meet gifted students’ academic needs. The literature suggests that

well-started teachers' capacities for enacting responsive teaching are developed through both theoretical learning in coursework and practical learning in clinical experiences (Loughran, 2006; van der Linden and McKenney, 2020). However, given what is presented for Sub-Finding 3.4, it appeared as though the practices that PSTs observed and took up in their clinical practices may have undermined their ability to serve gifted learners, thereby acting as a programmatic barrier to preparation.

Absence of Consideration for Gifted Students' Needs in Clinical Settings

In the first round of interviews with Janelle, Ruth, and Marcie, all were asked if they had any students in their courses who had been previously identified as gifted. None of the PSTs indicated that they knew that information, nor did their MTs engage them in conversations about students' identifications. Rather, MTs' focus had been placed on reviewing the learning needs for students with IEPs and 504 plans,¹⁰ suggesting that the needs of gifted children were less of a priority than the needs of students who might have needed extra supports in order to experience success. However, during the second round of interviews, two of the PSTs (Janelle and Ruth) indicated that they sought information from their MTs about whether or not they had any formally identified gifted learners in their classrooms. Marcie, however, did not seek out information about whether or not any of her students were identified as gifted (as her MT had been traveling abroad and was no longer present in the classroom).

Ruth explained that when she asked her MT to help her review PowerSchool¹¹ to find information about which students were identified as gifted, her MT was somewhat dismissive.

¹⁰ The PSTs did not indicate that any of the students with IEPs or 504 plans also had a gifted identification or were considered twice exceptional.

¹¹ PowerSchool is a web-based school registration and enrollment management tool used in P-12 schools.

Ruth indicated that her MT vocalized her disagreement with students' identification statuses, which Ruth then echoed in her interview when I asked her about her students' identification:

We went through the PowerSchool list of who's identified. We don't – we're not sure if it's super accurate because some, when we actually clicked on their IDs, some of their scores were in the 50 to 70th percentile, which [my MT] didn't think was qualified as gifted, but they were flagged as being gifted. (interview 2, February 21, 2022, p. 1)

When I followed up by asking Ruth to explain her MT's reasons for disagreeing with the identification statuses, Ruth said that her MT told her that the testing system for identification was flawed, and therefore, what is reflected in PowerSchool may not be accurate:

I think because [my MT] says [students] are only tested when they're young. And she didn't seem to think the test was very good. I guess her daughter took it and it was a very inaccurate score. . . . So, I think she doesn't believe in the test itself. (interview 2, February 21, 2022, p. 2)

It was possible that the MT's dismissive attitude had the potential to influence the messages that Ruth received about the importance of attending to gifted learners' needs.

Mary elaborated on these concerns about MTs' lack of concern for gifted students, suggesting that PSTs' experiences in clinical settings seemed to indicate that little was taking place that would prepare PSTs to deliberately differentiate plans to meet the needs of advanced learners specifically. Part of this, she explained, had to do with the "triage method" that schools employed to respond to changing educational trends (Mary interview 1, February 4, 2022, p. 10). For example, in local schools, the statewide emphasis on helping struggling learners pass mandated tests remained firmly rooted. As a result, "the tendency in our public schools is to sort

of ignore the other end of the spectrum – I mean the gifted students, we just ignore them” (Mary interview 1, February 4, 2022, p. 10).

When asked to expand upon the ways in which standardized testing had shifted attention away from gifted learners, Mary explained:

I think there is a huge barrier that is sort of institutionalized, and that is the standardized testing in the sense that when [PSTs] get into their schools, there is a huge focus on the students who need support to pass those tests. So many times, I’ve heard teachers say “Well, I don’t need to worry about so-and-so because she could just teacher herself,” that kind of thing. (Mary interview 1, February 24, 2022, p. 6)

Mary’s observation reflected a common belief that gifted children “are fine on their own,” and therefore, that attention should be diverted from them and placed on struggling learners who need additional assistance in passing state-mandated tests.

In Lori’s interview, she similarly expressed concerns about mentor teachers’ attitudes towards gifted learners and how those attitudes were reinforced by schools’ emphases on helping struggling learners reach proficiency. According to Lori, many misconceptions about gifted students were “largely perpetuated in the school placements that our candidates are in” (Lori interview 1, January 25, 2022, p. 2). In particular, Lori said that PSTs often heard the message that:

[Gifted students] are doing fine, and so if we have to dedicate our energies to modifying instruction, we should be doing it for the students who are struggling the most versus the ones who are academically probably doing fine. . . . And so [PSTs’] concerns around differentiation are often for the students who need support to meet the goals versus support to go beyond. (interview 1, January 25, 2022, p. 2)

Again, if the ethos driving schools' and MTs' decisions was informed by a hierarchical prioritization of need – where gifted or advanced learners received the least attention – it was possible that PSTs absorbed this messaging, given that clinical experiences are known to influence PSTs' practices (Allen, 2009).

To confirm whether or not Mary and Lori's suppositions were accurate, I asked the PSTs to describe the ways in which they perceived that gifted students' needs were met in their clinical settings. All three PSTs confirmed that they received messages in their placements that gifted children had fewer needs than their peers, and therefore, did not require as much attention. For example, when asked how she and her MT went about meeting gifted children's needs, Janelle described how her and her MT's teaching focus often fell more on students in her Academic Advanced classes (where there were more struggling learners) than on her AP classes (which contained more gifted learners):

I think we just expect that [learning] is going to happen and [gifted students] are going to pass and they're going to graduate. Like, we don't have to really push them to get off their phones or pay attention or do the work. But we have to do that with more of the Academic Advanced class level. So, I think because we are so focused on classroom management and getting students engaged, we don't think of the students who are already likely engaged with the material. We just assume that they're going to be good and we're going to check off their boxes. They'll be fine. (Janelle interview 1, February 2, 2022, p. 3)

Ruth also observed that the needs of gifted children seemed to be an afterthought when planning instruction. She indicated that in her sixth-grade unleveled classes during her Fall Clinical Experience, students with advanced readiness levels often appeared bored with their work, and

only received one week of extension activities (supervised by the gifted resource teacher) within a three-month span. In terms of in-class differentiation for the gifted learners, Ruth described her MT making superficial attempts to differentiate by providing advanced readers with “slightly more challenging texts than other [students],” but pointed out that the learning tasks associated with the readings were not altered to promote greater rigor or opportunities for growth (interview 1, February 3, 2022, p. 1). In this way, it seemed as though Ruth’s MT prioritized the needs of the struggling learners in this class more than the needs of the children who were advanced and underchallenged.

In Mary’s interview, she observed that PSTs were aware of the fact that MTs’ time was finite, and that because of external demands relating to mandated testing, MTs often prioritized struggling learners. She added that PSTs observed these tensions relating to MTs’ prioritization, and were likely to end up adopting the practices of their mentor teachers (a contention that is supported by the literature [e.g., Allen, 2009]), which acted as a barrier to PSTs’ preparation. However, Mary also noted that another challenge emerged from the competing priorities that PSTs observed in their clinical settings. In order to be responsive to PSTs’ needs, she explained, EPP coursework must complement and help PSTs contend with challenges that they encounter in clinical experiences. As a result, Mary designed her ELA courses to be responsive to difficulties that emerged in PSTs’ classrooms so that she could better help PSTs navigate the problems that they encountered. She observed that the focus on struggling learners in P-12 spaces had “bled into” how she prioritized content in her courses, suggesting that “[the PGMT program] was focused on struggling learners” because P-12 school divisions were focused on struggling learners, and she wanted to help her PSTs be responsive to schools’ priorities (Mary interview 1,

February 4, 2022, p. 7). Consequently, addressing the academic needs of advanced students did not appear to be prioritized either in clinical settings or during PSTs' coursework.

Perceptions of MTs' Capacities to Meet Gifted Students' Needs

Lori and Mary both expressed concerns that MTs may not have had the capacity to model instructional practices for PSTs that met gifted learners' needs. When asked about a potential barrier to preparing PSTs to work with gifted learners, Mary responded that “[she] can’t guarantee that my students in the field are going to be exposed to a mentor teacher who is able to work with the multiple types of learners that are in the classroom” (Mary interview 1, February 4, 2022, p. 6). Although MAU’s EPP’s goal was to prepare its PSTs for working with a range of learners, it was not possible to guarantee that MTs shared that value or even had the capacity for undertaking that work themselves. However, Lori observed that geographic limitations circumscribed the program’s ability to be selective in choosing the MTs with whom the PSTs were paired. As a result, Lori explained, “it’s not like we can say ‘you can’t be a mentor teacher unless you are aligned with our philosophy,’ because we wouldn’t have enough mentor teachers” (interview 1, January 25, 2022, p. 9).

When PSTs were not able to see the practices that they learned about in coursework enacted during placement, it may have had an impact on their ability to take up and perform specific competencies, even if they were learning how to practice specific instructional strategies in their coursework. This was a concern for Mary, in whose ELA methods courses PSTs learned about readiness-based differentiation for meeting the needs of students’ who had varied reading and writing levels. Mary reflected that PSTs struggled to plan for differentiation in workshops “because they have to see it in practice” before they can begin to fully conceptualize how it would work in a secondary setting with so many students (Mary interview 1, February 4, 2022,

p. 2). Here, Mary seemed to be suggesting that the PSTs could not envision what differentiation looked like in practice, as they were not seeing it done in their clinical settings. Consequently, the coursework learning that Mary designed around readiness-based differentiation may not have been taken up by PSTs.

Mary's concerns about uniformity were confirmed by Ruth, who indicated that her MT used a "one-size-fits-all approach" and did not utilize readiness-based differentiation in any of their classes (Ruth interview 3, March 4, 2022, p. 3). When asked to describe how she knew that her MT was not differentiating, Ruth described a scenario that took place in her 11th-grade Academic Advanced course (a course that was unleveled and contained several gifted or academically-advanced children): "We have students that have told us that they didn't realize how easy this class would be. And then my mentor teacher just says 'Yea, I know. You should take Honors next year'" (Ruth interview 3, March 4, 2022, p. 3). Rather than respond to students' concerns about being underchallenged by using readiness-based differentiation or other instructional strategies to target advanced learners' needs, Ruth's MT instead carried on with a one-size-fits-all approach and told the students that they should take a more challenging course the following year. As a result, Ruth then did not have the opportunity to observe her MT using readiness-based differentiation.

Mary provided an additional example of how, despite teaching PSTs about readiness-based differentiation for varied reading levels during her ELA courses, the PSTs continued to struggle to enact lessons that would incorporate those differentiation strategies. To illustrate her point, she described an encounter with a PST¹² during the spring semester:

¹² The PST to whom Mary referred was not included in this study.

[The PST] brought to me this challenge of two of her students having read the book already, and she was like “What do I do?” She couldn’t fathom it...she couldn’t imagine what to do with these two students, and I thought in my head, I was like, “Haven’t I taught you this? Haven’t I taught you differentiation with reading?” (Mary interview 1, February 4, 2022, p. 3)

Mary then explained that despite PSTs’ learning about differentiation in their coursework, she “imagines that they’re still struggling with this because they have to see it in practice and they can’t imagine...how [they] are supposed to differentiate for one hundred students at different places” (Mary interview 1, February 4, 2022, p. 2). In other words, Mary believed that PSTs’ not seeing differentiation modeled in practice was preventing them from developing the ability to use the model.

Interviews with PSTs underscored the degree to which clinical experiences may have failed to support PSTs’ abilities to enact differentiation for gifted learners. During Marcie’s second interview (February 24, 2022), she confirmed Mary’s assertion when asked to describe how her MT differentiates for gifted learners. According to Marcie, in neither her Fall Clinical Experience nor her Spring Clinical Experience had she worked with an MT who engaged in readiness-based differentiation, and that as a result, she struggled to conceptualize how to enact this type of differentiation in practice. Furthermore, the practices that MTs modeled may have even demonstrated teaching approaches that impeded gifted children’s learning. For example, in Marcie’s second interview, she explained that she and her MT, when using literature circles, did not differentiate for varied readiness levels in a way that was beneficial for students who were in need of additional challenges:

I guess a lot of what we do in placement – this is actually kind of terribly horrible – but a lot of time, if some of the students are ready to move on, I will just say “Well, go ahead and keep reading in the book – just keep reading.” And it feels almost like my default when I’m trying to catch everyone else up. (February 24, 2022, p. 3)

Here, Marcie explained that she prioritized the needs of students who were trying to “catch up” rather than providing responsive instruction for students who were ready to continue on to something new. She explained that this was her MT’s approach, and therefore, the model that she followed.

Marcie also noted that the most common approach that she and her MT took when deciding what to teach (and how) was to “look and see what the majority needs, and try and base it off of that” (Marcie interview 2, February 24, 2022, p. 6). I followed up with this statement by asking Marcie to explain whether or not this “teach to the majority” approach accurately characterized most of the instruction that she saw modeled by her MT. Marcie indicated that she did not believe that her MT needed to differentiate for higher readiness levels, given that “she is a difficult teacher and has very high expectations,” which allowed her to “collectively challenge” all of the learners in the class (Marcie interview 2, February 24, 2022, p. 7). However, in providing this description, Marcie also observed that she still did not think that all students’ needs were being met, including those with lower readiness levels and those who were achieving at the highest levels and in need of additional challenges:

I think if I were to label the class, I feel like [my MT] teaches to the upper 75 percent.

But I guess I would say the upper 75 percent, minus the five percent at the top. . . . It’s like there are a couple of people at the top who I feel like could still have extra extensions and go a little further and do a little more. But the majority of the class is still trying to be

challenged and it is working for a lot of them. I can see their improvement. (interview 2, February 24, 2022, p. 8)

Based on this information from Marcie, it seemed as though she and her MT used a one-size-fits-all approach to instruction, viewing that approach as meeting the needs of the majority.

However, in the event that students' needs were not met by that approach (either because they were struggling or were advanced) Marcie and her MT prioritized addressing the needs of those who were experiencing difficulties.

Janelle also articulated that the disconnect between what she learned in her coursework and what she observed in her placement had presented her with challenges. When asked what would help her to provide differentiated instruction for advanced learners, Janelle suggested that it would help if “what we’re learning in the [EPP] classroom is shown in the [placement] classroom” (Janelle interview 2, February 22, 2022, p. 7). She went on to say that what was “most helpful” for her was “read[ing] a lot of pedagogy books in our English seminar class last semester and this semester” about meeting students’ varied needs (Janelle interview 2, February 22, 2022, p. 7). However, she said that she did not see the pedagogical approaches “in action” in her placement, which caused her to have difficulties envisioning how the practices could have been executed in a real classroom setting (Janelle interview 2, February 22, 2022, p. 7). Based on this information, it appeared as though not seeing MTs model practices presented challenges for the PSTs.

MTs’ Capacities to Meet Gifted Students’ Needs in AP Courses. Each of the PSTs in this study taught multiple AP Literature or AP language courses. In secondary schools, these courses are commonly used to meet gifted children’s learning needs by offering rigorous content and accelerated rates of instruction (Rinn et al., 2020). However, according to Hertberg-Davis et

al. (2006), “there [are] shortcomings is these [AP] curricula, particularly with respect to developing deep understandings of concepts and key ideas from the disciplines,” indicating that AP courses may fall short of meeting gifted students’ needs (p. 21). During Mary’s interview (February 4, 2022), she described her concerns that the PSTs were not seeing MTs model effective teaching practices for gifted learners in AP settings, as she had observed that “the only thing that worries [the MTs] is those AP courses was “are [students] prepared for the [AP] test?” (interview 1, February 4, 2022, p. 8). In focusing largely on test preparation, Mary worried that the MTs “don’t do enough to help [gifted] students explore their curiosity and build on it” and that gifted students’ “funds of knowledge” were infrequently considered when designing the instruction for AP courses (Mary interview 1, February 4, 2022, p. 8). Mary’s concern was that the MTs for the AP courses failed to capitalize on gifted students’ background knowledge and curiosity for learning more about the English discipline. She worried that they instead focused on content coverage, rote memorization, and test preparation, thereby rendering the courses inadequate for meeting gifted children’s needs (a concern that was substantiated by Hertberg-Davis et al.’s [2006] findings).

Mary’s concerns were validated by Ruth’s reflection on what she had been observing in her AP classes, where Ruth reported that her students were bored and found the class unenjoyable, describing it as feeling like “a chore” (Ruth interview 2, February 21, 2022, p. 7). When asked to explain this further, Ruth indicated that many of her AP students said that they used to be interested in reading and literature, but that after taking the class, they no longer were. Ruth commented that the course appeared to “squander any love for English that they might have had,” and worried that the continual focus on repetitive writing tasks in the class had not

encouraged students to embrace or explore their curiosities and interests (Ruth interview 2, February 21, 2022, p. 7).

In both Janelle’s second and third interviews, Janelle replied “no” when I asked her if she had seen her MT modeling specific teaching practices that she thought would meet the needs of gifted learners in AP classrooms. However, Janelle did explain that her MT’s approach to holding discussions in the AP courses involved “[having] students come in with their own discussion questions so they basically run the discussions themselves,” which Janelle viewed as an opportunity to challenge AP students (Janelle interview 2, February 22, 2022, p. 4). When I asked Janelle if she could identify any other instructional methods (like these student-driven discussions) that seemed to be appropriate for advanced learners, Janelle was unable to produce a response. Moreover, she also observed that most of the time, students were expected to complete identical work “with the same questions and basically, like, essentially the same level of reading passage,” and that there was no readiness-based differentiation used to address varied levels of need among this group of students (Janelle interview 3, March 7, 2022, p. 6).

Clinical Coaches’ Roles in Supporting PSTs’ Teaching in Clinical Experiences

In MAU’s EPP, instructors, MTs, and clinical coaches all served critical roles in supporting PSTs during clinical experiences. Specifically, clinical coaches acted as liaisons between the EPP, PSTs, and MTs. One of the primary functions of a clinical coach was to support the PSTs in enacting effective practices in their clinical placements by providing them with targeted feedback on filmed observations of PSTs’ teaching. Given that the clinical coach played a role in supporting PSTs’ work in clinical settings, I asked all three PSTs whether or not their clinical coaches helped them to better understand how to provide responsive instruction for gifted learners.

Both Ruth and Marcie indicated that they had not received specific support from their clinical coaches that would have helped them to better understand gifted children's needs or to better implement instruction that would be responsive for students with higher readiness levels. Janelle (the PST with whom I worked as a clinical coach) did indicate that working with me had helped her consider gifted students' needs, but that the reason for this was largely a result of our discussions that grew out of the interviews that were part of this research study, which meant that the data that I gathered from Janelle may not be representative of the experiences of other PSTs in the PGM program. During the Fall Clinical Experience, Janelle and I did not discuss gifted learners. However, as a result of this study, she and I did talk more about gifted learners' needs, which Janelle observed helped her be more aware of the fact that advanced learners should not just "continue on with the same curriculum" when they are underchallenged (Janelle interview 3, March 7, 2022, p. 7). Despite having this realization for her Spring Clinical Experience, Janelle also said that she "wouldn't have thought about [gifted students' needs] in the fall," as she and I had not discussed gifted-related concerns at that point (Janelle interview 3, March 7, 2022, p. 7).

Sub-Finding 3.5: PSTs Had Misconceptions about Gifted Students and Their Needs.

Sub-Finding 3.5 was generated by a thematic analysis of course documents, instructor interviews, and PST interviews. The themes that emerged suggested that PSTs harbored misconceptions about gifted students and their academic abilities and needs. These misconceptions appeared to be outgrowths of PSTs' prior experiences and pre-existing beliefs, which could have been reaffirmed during their clinical experiences, and which may not have been controverted by materials that they encountered in their coursework.

Opportunities to Learn about Gifted Students

A review of PSTs' course materials suggested that PSTs were given very few opportunities to learn about giftedness (as a construct), gifted learners' needs, and gifted education practices that could be used to support these students. This finding was corroborated by interviews with faculty (who indicated that very little was taught about giftedness in the current iterations of their courses) and interviews with PSTs (who indicated acquiring little knowledge about gifted learners through either their coursework or clinical experiences).

During their interviews, the PSTs were transparent about their limited understanding of giftedness and the needs of advanced learners. Also, as noted previously, the PSTs indicated that they had not learned about evidence-based approaches for meeting gifted children's needs (e.g., curriculum compacting, independent study, learning contracts) and that they did not yet feel confident in their abilities to design instruction that was differentiated for varied readiness levels. Furthermore, perhaps as a result of not learning about gifted children or their needs, PSTs struggled to recognize indicators of advanced academic abilities in their classroom. For example, Marcie explained:

I'm not really sure how to differentiate between gifted and the general readiness level [students]. It's pretty easy to see the comparison with the people who are in the credit recovery class, but with the general ed, I'm not really sure how much of a difference there is. (interview 1, February 8, 2022, p. 2)

When asked why she felt like she had a limited understanding of gifted learners and their academic needs, Marcie explained:

I feel like I've learned a lot about how to accommodate for students with specific things going on or how to be more culturally responsive and more aware of equity. . . . So we've seen students through so many lenses so far. But I've never seen students through a gifted

lens or learned how to see them through that lens. And it's like, how do you even tell if a student is gifted? How do you tell where the breaking point is of "I want to challenge them but I don't want to go overboard?" I don't know where that ceiling is. How do you know and how can you recognize that? I don't know. I guess I'm trying to think of like – I just don't know how to even tell who is a gifted learner and who's not. (interview 2, February 24, 2022, p. 15)

Here, Marcie was clearly trying to make sense of two different things: (1) how she might identify or recognize the attributes of academically gifted children, and (2) how she should go about challenging them by providing tasks within their zones of proximal development. Additionally, during her third interview, Marcie indicated that she believed her uncertainty could be addressed by learning more in her coursework about gifted students and "their personal beliefs, their insights, their ideas, and how much they keep up with the current world around us" (March 4, 2022, p. 8).

Like Marcie, Janelle vocalized uncertainty about her understanding of gifted learners' attributes and needs. When asked what she knew about gifted learners, she said:

From what I'm aware, it's students who have high readiness levels for learning targets, and if I were to, I guess, give everyone some sort of assessment, they would have higher readiness levels for the specific targets being tested on. (interview 1, February 2, 2022, p. 1)

When asked to expand upon this statement, she was unable to articulate a response that added complexity to her original answer. In all three interviews with Janelle, I asked her what she learned in her coursework and her clinical placements about gifted children and their needs, and each time, she responded by saying that giftedness was not addressed either in course materials

or by her MT. Considering this in combination with her response above, it was possible that Janelle's inability to produce a substantive response to the question was related to not having opportunities to learn about gifted students.

Of the three PSTs in this study, Ruth seemed to demonstrate the most sophisticated understanding of gifted learners, although her responses during interview questions lacked depth and did not suggest her knowledge base was adequate for meeting gifted children's academic needs. However, Ruth indicated that her main source of learning about gifted students came not from her coursework or clinical experiences, but from her participation in a program during high school called Virginia Teachers for Tomorrow. As part of this program, Ruth completed an internship at a magnet school for gifted and academically advanced students. During her interview, Ruth indicated that this experience (more than anything she learned during her courses or her placement) gave her the most insights into needs of gifted children. When asked to describe what she learned from this experience, Ruth noted a few things: (1) that the school heavily emphasized instruction that "promoted creativity," (2) that the courses encouraged "a lot of intellectual challenge," (3) that the school utilized interest-based differentiation that allowed gifted learners to "explore their interests" more deeply, and (4) that many of the ELA courses centered on whole-class discussions (Ruth interview 1, February 3, 2022, p. 1). Although Ruth's understanding of gifted learners may have been more substantive than Janelle's and Mary's, she still observed during her interview that she had uncertainties about how to best teach gifted children and would have liked to learn more about that in her coursework and clinical placement, suggesting that "maybe a week or two – if we can't do a full class on gifted – that would have been really beneficial" (interview 3, March 4, 2022, p. 11).

PSTs' Misconceptions about Gifted Students

In this section, I describe misconceptions that PSTs held based on interview data from both PSTs and instructors. However, it should be noted that Janelle, Ruth, and Marcie did not all share the same misconceptions. I have therefore only included data in each sub-section below for the PSTs who demonstrated a specific misconception.

Misconception: Gifted Students Are Active Participants in Class. Despite the fact that Ruth had more experience with gifted learners and appeared to have a more nuanced understanding of their academic needs, she too seemed to hold misconceptions about these students. For example, Ruth indicated that she believed that gifted children were often “vocal participants in class,” and observed that if a student were gifted but not a frequent participant in discussions, she would struggle to identify that student as being an advanced learner (Ruth interview 1, February 3, 2022, p. 2). According to Lori, Ruth’s difficulty in recognizing gifted learners who may not have participated readily in class reflected a larger misconception that she had observed in the cohort of PSTs. Lori explained that PSTs tended to think that “a gifted student is typically a fairly active participant in class” (interview 1, January 25, 2022, p. 5).

Misconception: Gifted Students Are Not Active Participants in Class. Janelle’s impression of gifted students differed substantially from Ruth’s. As described above, Ruth believed that gifted students should be active participants. Janelle, however, explained that she thought gifted children were “more reserved” than their peers, and therefore, more reluctant to participate in class (interview 1, February 22, 2022, p. 1). This lack of participation was a concern for Janelle, as she noted that it was typical for gifted learners to appear “bored” or “not super engaged” in her classes (Janelle interview 1, February 22, 2022, p. 1). Based on her interview responses, Janelle seemed to believe that this was an inherent quality of gifted learners, and did not suggest a possible connection between students being underchallenged and a lack of

engagement. It was possible that what Janelle interpreted as students being “more reserved” was actually students being inadequately challenged. In the review of course documents, I was only able to locate one text that briefly described a gifted student who was disengaged and gave only “minimal effort” as a result of being underchallenged (Gonzalez, 2016, para. 13), so it was possible that course materials did not controvert this myth that Janelle appeared to believe.

Misconception: Good Grades Are Indicators of Giftedness. In the first interview with Marcie, I asked her whether or not she had gifted students in her classes, and if so, how she knew that they were gifted. She indicated that she had not been able to determine using PowerSchool whether or not students had gifted designations; however, she observed that she could determine that students were gifted based on their high GPAs. Later in the interview, Marcie reiterated this belief when asked what she knew about gifted learners, suggesting that these students were all motivated to “get good grades so that they can go to college” (interview 1, February 8, 2022, p. 6).

It is not uncommon for teachers to assume that high grades are indicators of giftedness or advanced readiness levels (Berman et al., 2012; Megay-Nespoli, 2000), but this assumption may not always be accurate. During her interview, Lori observed that in her experience, PSTs often thought that “A gifted student gets good grades. A gifted student is successful,” which may have led PSTs to equate high grades with giftedness (interview 1, January 25, 2022 p. 5). Lori also expressed concern that this misconception could become further ingrained during PSTs’ clinical experiences, where they were likely to hear narratives from their MTs that supported this belief (interview 1, January 25, 2022).

Misconception: Gifted Students Demonstrate Teacher-Pleasing Behaviors. In Lori’s experiences working with PSTs, she indicated that it was not uncommon for PSTs to link

academic abilities to motivation, which was consistent with Berman et al.'s (2012) findings that teachers often conflate “ideal” behaviors (e.g., motivation, compliance) with giftedness. In Lori's interview, she explained that many PSTs think that “a gifted student is typically fairly compliant” and that:

A lot of [PSTs] attribute students' poor performance to lack of motivation. And so, when you ask them about gifted students, I think a lot of them have the preconceived notion that...a gifted student is self-motivated. (interview 1, January 25, 2022, p. 5)

Throughout the interviews with the PSTs, it became evident that they had a tendency to associate teacher-pleasing behaviors with academic giftedness.

For example, in Marcie's first interview (February 8, 2022), I asked her describe what academic attributes she believed were indicators of giftedness. Her response revealed a common misconception about gifted learners, which was that they should consistently display academic motivation, regardless of context:

The first word that comes to mind is some sort of sense of motivation, whether that comes from family or friends or wanting to go to college and get a particular job. From my experience, they all seem to have some reason to be [in high-level classes], because if they didn't then they wouldn't be in the higher-level classes provided for them. Other than that – I guess I'm trying to think – yea, I think the main thing is just having the motivation to want to get better. (p. 2)

Marcie's inability to disentangle indicators of “good” behavior from indicators of advanced readiness levels represented the belief that gifted children do not have behavioral challenges, a myth that has long been debunked (Peterson, 2009).

Finding 3 Implications

This sub-section presents an overview of the implications that Finding 3 had for the secondary PGMAT program. Finding 3 raises programmatic concerns about equity, clinical placements, and coursework addressing PSTs' beliefs.

Equity for Gifted Students

A trend emerged across several of the sub-findings in Finding 3 regarding the de-prioritizing of gifted-related content. Although this study showed that there were numerous barriers to covering content in a newly-redesigned program that had reduced its duration (particularly in the context of the COVID-19 pandemic) the need to ensure that PSTs were prepared to meet the needs of all learners remained. For time-related reasons, EDIS 5000 (The Exceptional Learner) did not provide PSTs with any information about the ways in which gifted learners have exceptionalities, and therefore, require schooling experiences that are responsive to those exceptionalities. Additionally, because of time limitations, neither the PSTs' general methods courses nor the ELA-specific courses provided the same curriculum and instruction centered on advanced learners' needs that they provided prior to the program redesign. It is easy to understand how, in the midst of program restructuring and a global pandemic, instructors' capacities to cover all of their course materials might have been temporarily compromised. As things existed at the time of this study, the program had a prioritization imbalance; some learners' needs had been privileged over others', resulting in an equity issue in which gifted students were relegated to the periphery of coursework. Additionally, including considerations for gifted learners into courses does not mean that other students must then be excluded. Rather, many strategies that are known to support gifted learners' achievement are also known to support all learners' achievement (Hockett, 2009).

Clinical Experiences

Although the secondary PGM program could not control MTs' practices or what PSTs observed in schools, it remains important to acknowledge that PSTs' clinical experiences may have had a substantial impact on their future teaching (Allen, 2009). The development of PSTs' professional knowledge exists at the junction of theoretical and practical learning. Therefore, to develop PSTs' awareness of gifted learners and their needs through coursework alone may not have been adequate for shaping PSTs' professional knowledge. However, as noted previously, the secondary PGM program did not have power over what took place in clinical settings.

PSTs' Misconceptions

The PSTs in this study demonstrated that they held several misconceptions about gifted learners. In particular, the PSTs seemed to believe that giftedness should be a somewhat "obvious" trait based on indicators such as students' motivation, participation, and grades (which is consistent with findings in the literature [Olthouse, 2014]). Although these indicators may reflect the attributes of some gifted learners, their application is not universal. It is also worth noting that two of the PSTs in this study actually had conflicting views of gifted children, although both represented misconceptions. Ruth, for example, thought that gifted students were typically vocal in class, whereas Janelle believed that they had more reserved demeanors and were more reluctant to participate.

In addition to the misconceptions that I observed among the PSTs in this study, the literature points to several other common beliefs about gifted children that are not validated by empirical evidence, including (1) the belief in the disharmony hypothesis (Preckel et al., 2015), (2) the belief that gifted students require less teacher assistance (Berman et al., 2012; Megay-Nespoli, 2000), and (3) the belief that exhibiting "ideal" classroom conduct is a marker of giftedness (Berman et al., 2012; Rinn & Nelson, 2009).

Although the express purpose of this study was not to unearth PSTs' misconceptions, data analysis did reveal that several misconceptions existed. Therefore, it was possible that the PSTs held additional misconceptions beyond those noted previously. It was also possible that other PSTs in the ELA cohort shared these misconceptions or had others that were not explored in this Capstone. Given that new learning cannot take place in the presence of misconceptions and that teachers' beliefs shape their practices (Fives & Buehl, 2016; Pajares, 1992), the secondary PGMT program should consider how it might identify PSTs' misconceptions and work to overturn them. Doing this would be a necessary precursor to preparing PSTs for working with gifted learners.

Finding 4: PSTs Struggled to Plan for or Enact Instruction That Was Responsive to Gifted Students' Learning Needs.

Finding 4 emerged from a review of course materials, instructor interviews, and PST interviews, and is intended to answer research questions 1 and 2. In reviewing these data sources, trends emerged that suggested that PSTs were able to analyze data and identify students' readiness levels as a result of practicing these skills in several courses across the program. However, PSTs then struggled in taking the next step, which was to determine differentiated instructional responses based on those readiness levels. In Findings 2 and 3, I observed several things that may have contributed to PSTs' difficulties in providing this differentiated instruction: (1) Few course materials focused on differentiation. The guiding framework for instructional design that was most common across course materials was UDL. (2) Course materials provided either no coverage or surface-level coverage of specific instructional strategies that would target gifted learners' academic needs. When those strategies were described, examples of how they could be enacted and managed in practice were only minimally discussed. (3) PSTs did not see

differentiated instruction for gifted learners modeled in their clinical placements, which was a barrier to the development of their professional knowledge for how to utilize specific strategies.

Finding 4 builds upon the difficulties described above in order to provide a more comprehensive illustration of PSTs' experiences attempting to plan for and implement practices that benefit gifted children. Additionally, Finding 4 highlights themes that emerged regarding PST's perceptions of their preparation for working with advanced learners, which helped to answer research question 2. Overall, PSTs perceived themselves to be more prepared to meet the needs of gifted students in classes with (presumably) more narrow ranges of readiness levels than in classes with wider ranges of readiness levels.

PSTs' Abilities to Analyze Data

Janelle, Ruth, and Marcie all expressed confidence in analyzing students' work to determine varied readiness levels, noting that they had had practice doing this across several different courses in the program. In their interviews, all three indicated that they felt comfortable trying to look at student data and make grouping decisions based on readiness levels using data analysis practices that they had begun to learn in EDIS 5820 (Assessment of and for Learning). Additionally, the PSTs observed that they were able to develop this skill set even further in their ELA courses (specifically, EDIS 5400 and EDIS 5401), where they were able to look at real student data samples from their clinical placements. Janelle, Ruth, and Marcie all cited a specific activity that took place in the spring semester in EDIS 5401 as being particularly useful to them in building their capacity for evaluating students' work, identifying areas of strengths and needs, then deciding how those students could be flexibly grouped based on their readiness levels.

Marcie described how she translated this skill set to her teaching practice in order to identify variation in students' writing readiness levels, juxtaposing the work produced by students in her credit recovery class with work produced by students in her AP classes:

There's the students in AP who are working on thesis statement and using rhetorical devices and trying to incorporate a strong vocabulary that you would see on college level essays and things like that. But then you compare it to...the credit recovery classes, we were literally going over similes and metaphors today with 11th-grade students. So, for someone to be relatively the same age – and there's some people who are writing these five- to seven-page essays on novels that are extending the conversation to how it relates to society and social justice and heavy topics like that – and then some students who are still learning the very basics of how to read and write, it's very clear that [the AP students] are at a higher level. (interview 1, February 8, 2022, p. 1)

Marcie demonstrated her ability to look at student writing and identify characteristics of students' work that signified readiness variance, which suggested that her self-reported ability to engage in data analysis may have been accurate.

PSTs' Abilities to Translate Data into Instructional Decisions

Although the PSTs reported being capable of analyzing data to assign students to readiness-based groups, all three indicated that they were not yet at the point where they had developed the skills for taking the next steps to determine what instructional actions should be used in response to learner variance. In Mary's interview, she confirmed that the PSTs struggled to translate their data analysis into instructional practices. She described a specific encounter

with a PST¹³ during the spring semester in EDIS 5401 in order to illustrate what was taking place:

Somebody said “I gave a pre-assessment and they all got it.” And I was like “Well, okay, now what does that mean for your future instruction?” And the response was just “Um nothing. I’m just proud of them now.” (Mary interview 1, February 4, 2022, p. 9)

Mary’s example reflected a common theme that emerged from PSTs’ interviews, reinforcing that the PSTs had yet to be prepared to undertake the work of differentiating for gifted students.

Although PSTs did learn about differentiation for varied readiness levels (as described in Finding 2), most attention was paid to providing supports for struggling learners, and very little was paid to differentiating to challenge those who were advanced. In Janelle’s second interview, she confirmed that this was the case, indicating that when her MAU courses did discuss differentiation, it was almost entirely about how it could be used to support “students really struggling to meet the baseline learning targets” (February 22, 2022, p. 6).

Janelle, like Ruth, indicated that she felt more comfortable analyzing data and making instructional decisions to support struggling learners than advanced learners. When asked about how she had been prepared in her courses to plan instruction for gifted children, Janelle described a recent experience in EDIS 6991 (Professional Field Project)¹⁴ where expectations for using data to inform instruction decisions in the Teacher Education Portfolio (TEP)¹⁵ were discussed:

¹³ The PST whom Mary described was not included in this study.

¹⁴ EDIS 6991 was not a traditional course in which PSTs would be expected to learn how to complete the various elements of the TEP. The course was designed primarily to help scaffold PSTs through the process of completing the TEP.

¹⁵ The TEP was a culminating project completed by all PSTs in order to demonstrate mastery of program objectives.

There wasn't really a discussion how to do it. . . . It's more like just showing us we are expected to find ways to respond to assessment data and showcase it in our portfolio. So, it wasn't really like how to do it, but more like this is something we should do. (interview 2, February 22, 2022, p. 2)

Marcie expressed similar uncertainty when asked how she would differentiate instruction for advanced learners as part of the TEP:

With [EDIS 6991], we need to have something that shows that we use actual hard evidence for students. Anything past that, we didn't really dive into – at least not yet – for how to differentiate that instruction. But we at least got to the point of using hard data. (interview 2, February 24, 2022)

I followed up by asking Marcie why she did not yet feel prepared to make instructional decisions for advanced learners. She explained:

At this point, I have not done any specific differentiated instruction. I've looked at the data and sort of grouped who I think would be paired well for working on skills – based on what they have or what they don't have. But I don't have any specific instruction or activities or anything. (interview 2, February 24, 2022, p. 2)

Based on this information from Janelle and Marcie, it appeared as though one of the main impediments to planning differentiated instruction for gifted children involved the inability to connect students' readiness-related needs to specific instructional strategies that would target them.

In Janelle's second interview, her inability to determine which instructional strategies might be used in response to readiness levels became increasingly clear. In the interview, she described her observation of students' readiness differences:

There's a couple of students who are really just struggling with comprehension, but a lot of students are ready to go towards argumentation and analysis. So, I was trying to figure out a way to help those students, but also, the students who want the analysis, to still push them. And a couple of students prefer to read the play independently. (Janelle interview 2, February 22, 2022, p. 1)

In a follow-up question to Janelle, I asked her how she planned to differentiate to meet the varied levels of needs in her classroom. Rather than describing a course of action that would differentiate based on readiness, Janelle instead described that her plan was to differentiate according to students' preferences. She explained that she intended to allow the students who preferred to read independently to do so in the hallway while she worked with the rest of the class. When I asked her if those students in the hallway would have differentiated materials (perhaps if their readiness levels were higher), Janelle indicated that they would be reading the same text, but instead of having to participate in a class dialogue, they would "do a write-up instead or something, to still have that same activity for them to do as well" (Janelle interview 2, February 22, 2022, p. 1). In this scenario, Janelle clearly recognized that students had varied readiness levels. However, she was unable to connect that recognition to instructional steps that were differentiated based on those readiness levels, instead focusing on preference-based differentiation.

To determine if Janelle's ability to differentiate based on readiness grew over time, I again asked her in a later interview to describe whether or not she had learned about or gained any experience choosing instructional strategies that respond to advanced learners' needs. However, at the time of the third interview, Janelle continued to express a lack of confidence in determining what instructional strategies she could use to respond to variations in student data.

As an example, she described an activity that she had recently participated in in EDIS 5401 and EDIS 5872:

So, we were supposed to sort students, then based on our groupings, we either had to think of direct instruction or indirect instruction or independent study. However, we weren't really sure what that looks like in the classroom. And we weren't sure how to have some students have direct instruction while other students – like, we just weren't sure of the logistics. (Janelle interview 3, March 7, 2022 p. 1)

When I asked Janelle to explain what she meant by being unsure of logistics, her response went in two directions: (1) she was unsure of how she would plan for the varied readiness-level groupings, believing that it would require much more planning and preparation work for her, and (2) she was unsure how she would manage a classroom where different groups are completing different tasks. She then elaborated upon this second point in greater detail when I asked her to further unpack her concerns:

I think I can't visualize it. We watch videos, and so I've seen small group work in action, but I just can't visualize how the instructions are given – and I don't want students to feel like, “Oh, well, this person is getting something that's, like” – like it's more obvious where the lines are. I don't want students to be aware of that or feel bad about themselves based on that, and I'm not sure how to, like with the instruction piece, make it so that everyone's on the same page, everyone knows what they're doing, and everyone feels good about the activity. (Janelle interview 3, March 7, 2022, p. 3)

I then asked Janelle why she thought she struggled to visualize what readiness-based differentiation looked like in practice. She explained that this difficulty was the result of not having seen it modeled either in her coursework or her placement, particularly in terms of the

logistics of managing varied groupings. She also voiced concern that readiness-based differentiation “feels like three different classrooms, and I’m only one person, so I’m not sure how to do it all” (Janelle interview 3, March 7, 2022, p. 3). These concerns seemed to suggest that Janelle and the other PSTs did not yet have knowledge of appropriate instructional strategies that would allow them to envision how differentiation could be logistically managed within a classroom.

PSTs’ Knowledge of Curricular Approaches and Instructional Strategies for Meeting Gifted Students’ Needs

This sub-section presents findings relating to specific curricular approaches (e.g., concept-based curriculum) and instructional strategies (e.g., tiering) that the literature recommends for advanced students. An analysis of PSTs’ interviews in combination with information presented in Finding 2 about course materials suggested that PSTs had limited knowledge of these approaches and strategies, with the exception of concept-based curriculum.

Concept-Based Curriculum

During PSTs’ interviews, they were asked to describe their familiarity with several research-based teaching strategies that could be used to provide gifted students with appropriately challenging learning experiences. However, the only curricular or instructional approach PSTs expressed being comfortable employing was concept-based unit-planning, which they viewed as being helpful for meeting gifted students’ needs. Concept-based curricula are known to support the learning needs all students – not just those who are gifted – which may be why this particular approach received substantive coverage across courses in the PGMT program (Hockett, 2009). This emphasis on concept-based learning first appeared for PSTs in EDIS 5020, where PSTs “touch[ed] on the idea that utilizing concepts allows students to access the content at

a range of different levels, and particularly for students who want to go deeper and explore things on a more complex level” (Lori interview 1, January 25, 2022, p. 1).

Focus was also placed on the creation of concept-based curricula in EDIS 5400 and EDIS 5401, where PSTs were required to create a concept-based unit on a topic of their choice. In each of these courses, PSTs not only read about what concept-based curricula were, but they also practiced applying their learning by designing their own concept-based units. This merger of theoretical learning, achieved through reviewing course materials, and practical learning, achieved through the application of knowledge and skills, may have been a significant contributing factor to PSTs’ beliefs in their ability to use concept-based curricula for challenging gifted learners. For example, Ruth explained that in her ELA courses, she learned that classes “are more engaging and creative when their units are [built] around concepts” (interview 2, February 21, 2022, p. 7), indicating that she understood that concept-based curricula could help generate more engaging learning experiences.

Tiering

Data gathered from Lori’s interview, PSTs’ interviews, and course materials suggested that tiering was not covered extensively in PSTs’ coursework, nor was it something that the PSTs observed in their clinical experiences. According to Lori, prior to the program redesign, she was able to focus on tiering in EDIS 5020 in greater detail and have the PSTs “watch videos about tiering,” as the previous version of the course was dedicated more fully to the exploration of instructional strategies (Lori interview 1, January 25, 2022, p. 1). However, Lori was unable to cover tiering in the version of EDIS 5020 that was taken by the PSTs included in this study.

In EDIS 5030, however, Lori was able to provide the PSTs with some materials about tiering (e.g., Cox, 2014) during the PSTs' completion of a brief module on differentiation. These materials explained that:

Tiering assignments is a fair way to differentiate learning. It allows teachers to meet the needs of all students while using varying levels of tasks. . . . If done properly, it can be a very effective method to differentiate learning because it challenges all students. (Cox, 2014, para. 13)

This explanation provided PSTs with a clear definition of what tiering is; however, this resource (and the others in the differentiation module in EDIS 5030) did not provide any detailed examples of what tiering looked like in practice, which may explain why the three PSTs in this study indicated that they had heard of tiering and knew that it could be used to target varied readiness levels, but struggled to envision how tiering could be enacted in an actual classroom.

For example, when asked to describe instructional strategies that she would use for readiness-based differentiation, Marcie said that she would try to use a tiering process, but when asked to give an example of what that might look like, she said:

The tiered system – I think we may have touched on it once – but also, we've never really had demonstrations of it. So, I think that the fact of not really knowing much about it, never seeing it in action, and then never really. . . . I guess I don't even think of it as something in the realm that I could use. Although it would be really nice, thinking about my classes now. (interview 1, February 8, 2022, p. 4)

Later in the interview, Marcie again expressed that she wanted to know more about tiering, as she explained that “it would be so nice to be able to differentiate for what students actually need

based on how they're working and understanding concepts" (Marcie interview 1, February 8, 2022, p. 4).

Differentiation of Products

A close examination of the materials on differentiation that PSTs reviewed in EDIS 5030 revealed that some of the information presented may seem contradictory regarding the ways in which teachers can differentiate (e.g., by process, by product, by content, etc.). This contradictory information could be a source of confusion for PSTs, which might have contributed to PSTs' difficulties in enacting differentiation processes. For example, in "Differentiated Instruction Strategies: Tiered Assignment," Cox (2014) explained that:

Tiering assignments by differentiated outcome is [when] your students will use the same materials, but depending on their readiness levels, will actually have a different outcome.

It may sound strange at first, but this strategy is quite beneficial to help advanced students work on more progressive applications of their learning (para 6).

Here, Cox (2014) was describing "differentiated outcomes," but all other materials that the PSTs reviewed referred instead to differentiated products. A reader familiar with differentiation might recognize that Cox (2014) was referring to differentiated products; however, given that the PSTs had little experience with differentiation at the time when they encountered this material, they may not have fully understood what Cox (2014) was referring to.

Additionally, if PSTs interpreted "outcomes" to mean "learning targets," they may have viewed this material as being in contradiction to other course documents that emphasized that learning targets should remain the same for all students. For example, one of the texts that PSTs reviewed in EDIS 5030 explained that "no matter what, teachers should align all differentiated tasks with the same learning goals" (Hockett, 2014, para. 9), while another stated that

differentiation “is making sure that *all students are working toward the same learning goals*,” as “different tasks aligned to different learning goals are not differentiated” (Doubet & Hocket, 2015, p. 43). This message was communicated in materials from EDIS 5000 as well, where the PSTs learned that “differentiated instruction is a teaching approach that tailors instruction to all students’ learning needs. All the students have the same learning goal. But the instruction varies based on students’ interests, preferences, strengths, and struggles” (Tucker, 2020, para. 1).

In the novice stages of learning about differentiation, it was possible that PSTs either (1) did not understand that when Cox (2014) used the phrase “outcome-based differentiation,” she was referring to differentiation of products, or (2) interpreted “outcome-based differentiation” to mean the alteration of learning targets for varied readiness levels, which contradicted the information found in their other course materials. The inability to parse these differences may have been partly responsible for the confusion about readiness-based differentiation that the PSTs described in their interviews, particularly as all materials besides the Cox (2014) article indicated that differentiation should be based on process, product, or content – not on outcomes. For example, when I asked Janelle about her understanding of how outcome-based differentiation might be used to push advanced students’ learning, she indicated that she had no knowledge of how to do that (interview 3, March 7, 2022).

Enrichment

In the review of course documents, I coded only a few brief segments of text that mentioned the use of enrichment practices. However, all segments were vague, offering at most the suggestion that enrichment should involve “differentiated activities, such as critical thinking, creative problem solving, or extension of the general curriculum for more complexity and depth” (NAGC, 2009, para. 5). None of the reviewed materials contained detailed examples of the ways

in which enrichment pedagogies could support the learning of all students, nor did they provide specific illustrations of how a teacher might use enrichment for supporting gifted learners in their need for increased depth and complexity (Reis et al., 2021).

The absence of these explanation might have explained why Ruth, when asked to describe what she believed enrichment would entail in her classroom, responded by describing “extension activities” (interview 2, February 21, 2022, p. 4), which she and the other PSTs seemed to adopt as a term that was synonymous with “enrichment” (although I was unable to locate any course materials that suggested that the terms meant the same thing). Therefore, what is presented here is information about how PSTs conceptualized “extensions,” which they viewed as a method for working with advanced learners.

In Marcie’s first interview (February 8, 2022), she explained that she would use “extension activities” to meet gifted children’s learning needs. However, when I asked her to describe what some of those activities might look like in an ELA context, she replied with uncertainty:

From what I’ve gathered, it’s just something that pushes beyond the bare minimum. You don’t want to end at the floor; you want to push to the ceiling. But what that entails, I’m not quite sure. I think it would be somewhere along the lines of deeper thinking, analysis, connecting to the local community. But in practice, I’m not sure. (p. 6)

Marcie clearly struggled to describe what she believed “extensions” would look like in a classroom. Although she indicated that extension work for gifted learners should be “intellectually stimulating,” she was unable to articulate a more fully developed conception of what that work would involve (interview 1, February 8, 2022, p. 5).

A common thread that ran through PSTs' interview responses about "extensions" was their difficulty in separating extensions from additional work. Despite the fact that PSTs reviewed several course materials (e.g., Vatterott, 2009) that emphasized that extra work does not necessarily equate to increased rigor, Mary worried that PSTs still erroneously believed that "rigor is quantity, that just doing more is what you do for students who are gifted" (interview 1, February 4, 2022, p. 6). Mary's concern seemed to be rooted in the fact that the PSTs picked up on that message (i.e., that rigor equates to more work) during their clinical experiences, and that what they learned from their MTs often overwrote what they learned in their coursework.

Based on Ruth's interview, Mary's concerns were not unfounded. Ruth explained that in her Fall Clinical Experience, "if students finished early or if the task was too easy, they would just be given an extension activity that was really just more work – so it was like another thing for them to complete" (interview 2, February 21, 2022, p. 4). This practice was also modeled in her Spring Clinical Experience. According to Ruth, in her 11th-grade Academic Advanced course (an unleveled class that Ruth believed had students with a wide range of readiness levels), she and her MT had difficulties providing responsive instruction to the advanced learners. Ruth described a common scenario that she observed throughout the first several weeks of her Spring Clinical Experience where she was co-teaching with her MT:

In the classes where I have those gifted students in the standard level, many of them prefer to just work outside of the class because everyone else is so disruptive and loud. . . . So like, I've been accommodating with that and giving them different projects to do outside of the room. But I know they would benefit from in-class discussions that push their thinking, but that can't really happen in the classes that I'm currently situated in. (interview 3, March 4, 2022, p. 5)

Ruth went on to explain that these “different projects” were typically just additional work with little or no increased rigor. She indicated that her MT allowed the advanced learners to do extra work out in the hallway rather than staying in the classroom, as Ruth believed that this was necessary because “we have some people [in the class] who have never passed an SOL in the same class as kids who could be in AP” (interview 3, March 4, 2022, p. 5). Ruth had clearly been able to identify that students in her classes had varied readiness levels and needs, but the practices being modeled for her involved providing students with extra work, which according to Ruth, lacked rigor.

Marcie also reported having difficulty conceptualizing what enrichment would entail “without it looking like I’m piling on work” (interview 2, February 24, 2022, p. 3). She described the challenge that she experienced in wanting to give gifted learners more rigorous tasks, but being unsure of what the difference was between enriching instruction and additional work:

I would give [gifted students] an extension activity, but in reality, it’s going to be a very, very uncomfortable look if I give everyone else normal course loads and give the students who are at that higher readiness level even more work to do. So, all of that being said, if I were to just give them all the same amount of work and differentiate that work – I don’t really know at what point that differentiation would work, especially when you’re trying to grade them all in a fair way. (Marcie interview 1, February 8, 2022, p. 5)

Notably, Marcie did appear to recognize that it was possible to provide advanced students with differentiated tasks that serve as enrichment. However, she appeared to be struggling to envision what that would entail if giving additional work were not an option.

Beyond this concern, Marcie also worried that if she provided additional work to gifted learners, that they would push back against it by refusing to complete the tasks, or that they would “purposely underperform in the beginning of the year so that they don’t end up being those guys with twice as much work to do” (interview 1, February 8, 2022, p. 5). Given this concern about behavior and the misconception that enrichment for gifted children solely involves additional tasks, it was possible that Marcie did not seek out opportunities to provide instructional opportunities that were appropriate for gifted students.

Curriculum Compacting

PSTs seemed to have limited knowledge of curriculum compacting, a strategy that the literature suggests can be used to support advanced learners (Colangelo et al., 2004; NAGC, 2019). A review of the materials for all eight courses included in this study showed that curriculum compacting was mentioned only in the NAGC (2009) grouping position statement. In this statement, no explanation was given as to what curriculum compacting entails or how it might be implemented. During PSTs’ interview, I asked them to describe the process of curriculum compacting; however, the PSTs indicated that they had no familiarity with this strategy. To follow up, I explained to the PSTs what curriculum compacting entails, but even after this description, they indicated having no experience learning about compacting. Janelle, however, did say that she could relate the concept of compacting to what she learned in EDIS 5820 (Assessment of and for Learning) and EDIS 5401 (Teaching English in Secondary Schools II) about making instructional changes based on pre-assessment data, but could not articulate how compacting itself could actually be implemented. Based on PSTs’ interview responses, it also did not appear as though their MTs were modeling the use of compacting in PSTs’ clinical experiences.

Independent Study and Learning Contracts

When asked about the use of independent studies or learning contracts as means by which to provide differentiated opportunities for gifted children, the PSTs seem to have limited understandings of these instructional strategies. During Marcie’s second interview, for example, when asked what she knew about independent studies, she said “Independent study? Could you give me a refresher? I feel like I’ve heard before what an independent study would be” (February 24, 2022, p. 11). I then provided Marcie with a definition and example of independent study, but afterwards, she replied simply “I don’t know what it is, but again, it sounds really cool” (February 24, 2022, p. 11). A similar interaction occurred when I asked Marcie about her knowledge of learning contracts. She replied: “I don’t know what [learning contracts are], but it sounds really cool” (interview 2, February 24, 2022, p. 11).

Like Marcie, Janelle indicated that she did not know what an independent study would involve, and when I first asked her about learning contracts, her response was that “the first time I heard that phrase [learning contract] was when you just said [it now]” (February 22, 2022, p. 5). However, when I explained to her what a learning contract was in greater detail to determine if she knew about the strategy (but perhaps called it by a different name), she said:

That sounds very familiar. I don't know if we explicitly talked about that. I remember when I mentioned last time that the gifted coordinator met with our team PLC about a student, and she said that the way she does the gifted program for some students – if they want to – is to give them like, just an individual project, where it's basically a learning contract where they check in with her and she sets up like expectations and all that. And I feel like that was mentioned at some point in our MAU curriculum, but I can't remember where I heard that. (Janelle interview 2, February 22, 2022, p. 5)

Based on Janelle's response, it seemed as though she had some degree of familiarity with learning contracts, despite initially indicating that she had never heard the term. However, she was not able to provide any additional details about her knowledge of either independent studies or learning contracts beyond what is described here.

Additionally, when I asked Ruth about her knowledge of independent studies, she (like Janelle) responded by indicating that it was something with which she had superficial familiarity: "[Independent study] was thrown out there like, 'oh, if you have advanced students, you should do an independent study,' but that's the extent of it, including how you would facilitate it or what it would look like" (interview 2, February 21, 2022, p. 3). Ruth seemed to be suggesting that she had heard the term "independent study" used to describe a strategy one might use to meet gifted learners' needs, but could not elaborate on what it would look like in practice.

Likewise, Ruth seemed to have a surface level understanding of learning contracts. When I asked Ruth about her knowledge of how these could be employed, she responded by saying: "Is that like when students agree to do certain things? We haven't talked about it, but I've heard about it from past education classes" (interview 2, February 21, 2022, p. 3). I then asked Ruth if she knew enough about learning contracts to implement them in her own classroom to meet gifted children's needs, to which she responded:

I could put something together, but I don't know if it would be good or not...or beneficial. Yeah, I would probably have to test it out. And I would have to see, okay, these students are actually working. So, I don't have any steps to follow [in implementing it] other than common sense. (interview 2, February 21, 2022, p. 3)

Based on the response from all three PSTs about independent studies and learning contracts, it appeared as though the PSTs were not prepared to utilize these instructional strategies to support gifted children.

Flexible Grouping

Teachers can use readiness-based flexible groupings to provide differentiated instruction for gifted learners (Hall et al., 2004; NAGC, 2009; Tomlinson, 2005). Although flexible grouping practices are discussed at length in many course materials (see Finding 2), PSTs' interview responses suggested that they may not have absorbed information about the ways in which those practices could be used to ensure that gifted learners were receiving appropriate instructional challenges. One of the themes that emerged from the analysis of PSTs' responses focused on flexible grouping was that PSTs tended to use groups to sort students based on motivation and behavior rather than on readiness. While it is possible to use flexible groupings in that way, the main concern here was that the PSTs seemed to make the assumption that readiness was synonymous with whether or not students had prepared for class by completing required readings (which is a behavioral consideration, not a cognitive one).

For example, when Ruth was asked to describe how she used readiness-based differentiation in her classroom, she indicated that she utilized like-ability groupings to target students' varied needs. However, when asked to explain this further, it became clear that Ruth was sorting students into groups based on their behaviors rather than on their readiness levels:

When I think of a lesson that would appeal to gifted students, I think of a lot of collaboration and discussion and solving problems. The one challenge is when students don't do the readings and don't have any motivation to get off their phones during class, then the collaboration and discussion is a big fail. . . . And what we've done to combat

that is we make homogeneous groups with people we know are doing the work and who we know aren't doing the work. (interview 2, February 21, 2022, p. 6)

Similarly, when asked to describe the types of groupings that her MT might use in order to challenge students with different readiness levels, Ruth described how her MT put students into groups based on whether or not they were completing readings outside of class (a behavior) rather than based on their ability to engage with the text.

Interviews with Marcie suggested a similar focus on behavior rather than on readiness when making flexible grouping decisions. In her second interview, Marcie described how she would like to use flexible groupings in literature circles for her 10th-grade Honors classes, where she observed that students showed a range of readiness levels for engaging with *To Kill a Mockingbird*. In her description of how this would meet advanced learners' needs, Marcie explained:

What I'm thinking is that some kids – at least what I've gotten in my experience in the *Mockingbird* unit – is that some people won't even open the book, whereas others are cranking through and enjoying it. And it's like, how can I best meet their reading needs or is there a way that I could do lit circles and have one group have a more challenging text or a text that would set them up more for success in AP classes in the future while also having another text that could be interesting or something to get other students to even open their book in the first place? (interview 2, February 24, 2022, p. 4)

While Marcie did mention that she would vary the text difficulty (a differentiation strategy that could support gifted learners), she ultimately focused primarily on students' behaviors. To encourage Marcie to unpack her ideas further, I asked her if her groupings related more to students' varied academic readiness levels or to their behavioral compliance/noncompliance.

Marcie responded to this inquiry by further discussing the behavioral difficulties that present challenges in her class (focusing particularly on students who did or did not complete assigned readings) which made it difficult to discern whether or not she had a true understanding of how flexible groups with like-readiness levels could be responsive to gifted learners' needs.

Changes in PSTs' Abilities over Time

Although previous information provided in Finding 4 suggested that PSTs had limited knowledge of instructional strategies for teaching gifted learners and may have struggled to differentiate, one of the PSTs in the study did appear to be developing her capacity to address gifted children's needs. At the time of Ruth's third interview (approximately eight weeks into her Spring Clinical Experience), she described one of the gifted learners in her Academic Advanced class who had finished reading a short story well in advance of her peers. When asked how she responded to this student, Ruth indicated that she tried to do more than just provide her with extra work to be completed in the hallway (as had been the case previously). Ruth described how she allowed the student to work ahead, then provided her with the opportunity to engage in multimodal composition (which was one of the student's interest areas):

Once I noticed she had finished [the story] and I checked her guiding questions and saw she had gotten everything from the story that I wanted, I just had her basically work ahead. So, the next step was to do a writing assignment attached to the story. So, she did that while we were finishing up the story, and then the following block, while everyone was writing, I gave her a little extra one-pager where she got to be artistic. She hates writing, but she's one of the best writers I've ever seen. So, I just gave her this one-pager because she likes drawing and doing art. . . . So that was the extra kind of thing she had. But I asked her "Do you want to do this? I know it's extra work." And she said she did. . .

. It had requirements. She had to use words and pictures to visually represent her thinking over the course of the unit. So, we did the Wild West [as the unit], so she was supposed to incorporate the various short stories we read and then a reflection on how that represents ideals of America, ideals of westward expansion. She could choose to do it mostly in drawing, but she could choose to do some writing as well. It was very open ended. (interview 3, March 4, 2022, p. 7)

Ruth's description of her approach to working with this student showed that Ruth was able to recognize the student's advanced readiness, respond to it by allowing the student to move at a faster pace through the material, and provide her with independent work that was rooted in the unit and gave the student the opportunity to connect to her interest in art. Ruth's approach here represented her growing capacity to differentiate for advanced learners.

Furthermore, Ruth also described how an interaction with Mary in her EDIS 5401 (Teaching English in Secondary Schools II) course helped her to better understand how to differentiate for advanced students. During class, Ruth was asked to analyze writing samples from her Spring Clinical Experience, sort students into groups based on their readiness, and then outline how those varied groups' needs would be met during future instruction. When asked how she planned the instruction for the advanced group, Ruth explained:

My brain immediately went to independent study because that's all I've known. And so, I asked [Mary] individually if that was the best move. And she said that I didn't necessarily have to do independent study, and advised me to have the advanced group do direct instruction with me while the other students were doing indirect instruction, and then switch it. And that did help. Like when you have gifted and advanced students, independent study should not be the only option. (interview 3, March 4, 2022, p. 1)

As a result of this discussion with Mary, Ruth began to think more broadly about other instructional options for meeting gifted children's needs. Based on the quotation above, it appeared as though she thought that direct instruction in small groups was reserved for struggling learners and had not previously considered that that method could be employed for advanced students, as well.

To find out more about how Ruth envisioned what direct instruction for advanced learners would look like in this scenario (where she had varied readiness levels based on writing samples), I asked her to further describe her instructional plans for these students. She indicated that the focus of the lesson for which the writing samples were produced had been on embedding quotations, but that based on the student data, the advanced group had mastered this skill. Therefore, she said that she would “do something that helps them push their writing forward, whereas with the other students, I would continue to work on the surface-level goals” (interview 3, March 4, 2022, p. 2). It appeared as though Ruth was able to recognize when it was appropriate to push advanced learners past the goals that were set for the whole class, which is critical for meeting gifted children's needs. Her discussion with Mary seemed to have helped Ruth begin to make connections between students' needs and the instructional strategies that she would need to employ to meet them. This connection-making, however, began only to emerge in interview three, and was not apparent in interviews one and two.

This information provided during Ruth's third interview suggested that Ruth's capacity to meet gifted children's needs may have been increasing as the semester progresses. An additional example of this progress emerged when I asked Ruth what she had planned for her 11th-grade Academic Advanced class (an unleveled course) in an upcoming lesson. She explained that she intended to try using literature circles with like-readiness groupings in order to vary the text

complexity for students' readings. This was an instructional approach that Ruth had not mentioned using previously, so I asked her about her perceptions of her ability to implement these differentiated literature circles. She explained that she lacked confidence in planning for and enacting the strategy because "I don't know how it'll work because I'm not sure if I'm supposed to give the different students different expectations or if I give everyone something that I know that they can accomplish" (Ruth interview 3, March 4, 2022, p. 4). Although it was promising that Ruth was seeing opportunities for readiness-based differentiation, her response indicated that she did not yet perceive herself as being fully prepared to develop the instructional and managerial details of the lesson, such as determining what students' specific learning targets and activities would look like. However, her willingness to try this strategy showed that her ability to provide challenging instruction for gifted learners may have been growing. (As an additional note, similar growth was not yet observed in Janelle or Ruth.)

PSTs' Perceptions of Their Abilities to Differentiate

Interviews with PSTs revealed that overall, PSTs did not feel fully prepared to differentiate their teaching for gifted learners. In unlevelled classrooms, where the range of readiness levels was presumed to be wide, PSTs perceived themselves as being very underprepared for teaching gifted learners. However, PSTs expressed feeling somewhat more prepared to differentiate for and meet advanced students' needs in leveled classroom settings where the range of students' readiness levels was presumed to be more narrow.

Differentiating in Classrooms with a Wide Range of Readiness Levels

Each PST in this study reported that they perceived themselves as being unprepared to meet advanced learners' needs in classrooms with a wide range of readiness levels. When asked to explain what she imagined would transpire if asked to teach gifted children in an unlevelled

course, Ruth explained: “I would be able to teach [gifted students], but I don’t think that they would be getting what they deserve because I would not know how to differentiate that much” (Ruth interview 2, February 21, 2022, p. 4). Ruth worried that in a classroom with a wide range of readiness levels, she would be unprepared to offer adequate challenges to gifted children:

I don’t know how to get students to those higher-level thinking areas. So, like, not just giving [gifted students] harder readings, but giving them harder tasks while measuring the same learning targets. I still don’t quite understand that, I guess. (interview 2, February 21, 2022, p. 4)

Ruth appeared to be struggling to conceptualize how differentiation could take place in an unleveled classroom where students’ disparate readiness levels might necessitate that they complete different tasks.

Marcie’s perceptions of her preparation to meet the needs of advanced learners in classrooms with a broader spectrum of readiness levels were similar to Ruth’s. Marcie, however, was more emphatic in her response, and indicated that the prospect of differentiation in this type of setting was overwhelming and “impossible” (Marcie interview 2, February 24, 2022, p. 12).

When asked to elaborate on why it felt like an impossible task, Marcie explained:

The idea of having unleveled is just wild to me, especially because I’ve been working with Honors and AP students and the fact that I feel like I’m not always meeting the needs of my current students. Now how could I do that when the demand is even higher? . . . I would feel so badly because there’s just so many needs to be met and I think there’s just so much pressure to get the collective through, and I feel terrible. (interview 2, February 24, 2022, p. 12)

After Marcie described these challenges that she faced in meeting the varied needs within her leveled AP and Honors courses, I asked her to further describe what challenges she might anticipate in a classroom with wider ranges of readiness levels. Her response centered on concerns about time, divided attention, and the need to ensure struggling learners are fully supported:

There's only a certain amount of minutes and support I can give. And once you've reached that, I can only give my full focus to one at a time. And when I do that, that takes away from the opportunity of giving my focus to others. And balancing that in an unleveled group would be so difficult. (interview 2, February 24, 2022, p. 13)

Marcie's concerns about meeting the needs of all learners in an unleveled classroom context emerged multiple times throughout all three of her interviews.

In the third interview, when I asked Marcie to reflect on any challenges she was currently experiencing in trying to teach gifted children, she again observed that she mostly worried about dividing her time among different groups. Marcie indicated that she could not figure out how to develop "a schedule where I can still give the other people time and attention while meeting the needs of [gifted students] who are probably far above what I'm giving to them" (interview 3, March 4, 2022, p. 3). Based on her current preparation, however, she indicated that she would have been most likely to give attention to struggling learners in a class with a wide spectrum of readiness levels. Marcie then indicated that she might have felt more prepared to meet the needs of students with highly varied readiness levels "if [she] were equipped with some of the skills of how to best differentiate" or if she had observed her MT engaging in those practices (interview 2, February 24, 2022, p. 14).

Janelle's interview responses also indicated that she perceived herself as not possessing the skills to differentiate in classes where students had a broad range of readiness levels. She explained that:

I feel like if I was given a class of all gifted learners, I feel like I could help them succeed and meet their needs. But I think it's really the differentiation where I don't know exactly how to help a student reach way past the ceiling when some students really are struggling to meet the baseline learning targets. (Janelle interview 2, February 22, 2022, p. 6)

Here, Janelle echoed Marcie's belief that she did not yet possess the skills needed to differentiate effectively in order to accommodate a wide spectrum of readiness levels in a single classroom. When asked if she believed that she could be successful teaching an unleveled class following program completion, Janelle said: "I don't know if I could do that if I was thrown into it next year. . . . I would probably spend a good part of my summer preparing to differentiate in that class, and I feel like I would need more preparation than what I have" (interview 2, February 22, 2022, p. 7).

Additionally, Janelle (like Marcie) attributed her lack of preparation to not having seen differentiation modeled by her MT:

I don't really know exactly what [differentiation] looks like in the classroom, and not to get too much into placement, but I haven't seen it. . . . I feel like I – and this could just be me maybe not paying attention – but I feel like it is more like I just really don't know what [differentiation] looks like. So, I can't really implement that in my classes.

(interview 1, February 2, 2022, p. 3)

Janelle seemed to believe that she would be more prepared to differentiate if she saw the process utilized in a real-life classroom setting.

Ruth also believed that her perceived difficulties in enacting readiness-based differentiation were rooted in not having seen it carried out in unleveled classrooms. She also indicated that she had “moderate” confidence in being able to plan a differentiated lesson, but much less confidence in implementing it, particularly because she had not yet enacted a lesson in her placement that used differentiation based on readiness:

I think it’s because I haven’t actually tried it. I’m very much, like, I have to see how it works with the students in the classroom and then get feedback. So that might be my next step – seeing if [the differentiated plans] work and then gaining more confidence around it. But at the moment, it mostly feels like I know on paper what to do, but in implementation, I’m less confident. (interview 3, March 4, 2022, p. 5)

It was clear based on these interview responses from PSTs that they would have benefitted from seeing differentiation modeled in their placements, and that their perceived lack of preparation for providing responsive instruction for gifted learners in classrooms with a wide array of readiness levels was partly caused by the absence of that modeling.

Differentiating in Classrooms with a Narrow Range of Readiness Levels

All three of the PSTs in this study claimed to feel more prepared to meet the needs of gifted learners in leveled classrooms, where they expect the range of readiness levels to be narrower. Janelle, for example, expressed a much higher degree of confidence in her ability to teach gifted or advanced learners in leveled classrooms. When asked about her perceptions of her ability to design instruction with high degrees of cognitive rigor that would meet gifted learners’ needs, Janelle indicated that she believed she had been successful in “pushing [students] to think deeper” in her AP and honors courses (interview 2, February 22, 2022, p. 6).

Ruth shared Janelle's feelings of confidence for teaching in a classroom with a narrower range of student readiness levels. When asked if she perceived herself to be well prepared for meeting gifted learners' needs in these contexts, she said:

Yes, to some extent, yes. Maybe it's because of my prior education being raised in gifted classrooms, but also in Mary's class, a lot of our instruction, I can see its link to gifted learning and project-based learning. . . . I'm sure there would be room to grow, but in a leveled class, I think I would be successful in accommodating gifted students and their needs. (interview 2, February 21, 2022, p. 2)

When I asked Ruth to expand upon her perceptions of her preparation, she explained that in Mary's classes (specifically, EDIS 5400 and EDIS 5401), she had learned how to use things like visual journals, performance-based assessments, and gallery walks, which she believed could be used to meet gifted children's needs. However, although Ruth listed these instructional strategies, she did not fully articulate the ways in which she believed that they could be used to challenge gifted children.

According to Marcie, she also perceived herself as being more well prepared to meet advanced students' needs in settings where students' readiness-level ranges are more narrow. However, she also acknowledged that her leveled classes still have learners with varied readiness levels and needs:

In my experience so far, there are people who could be doing more and there are students who need to be doing more. And the fact that there's still people on either side shows that I'm not meeting all of their needs individually. But I definitely feel a lot better about handling a situation in that [leveled] realm than in the completely unleveled. (interview 2, February 24, 2022, p. 14)

It is important to note here that despite Marcie's recognition of the varied needs in her leveled class, and despite her greater confidence in meeting gifted students' needs in leveled settings, she did not describe in any of her interviews (nor did I observe in her recorded lessons) ways in which she might differentiate in her AP classes to challenge the "students who could be doing more."

Likewise, Janelle also noted that she observed heterogeneity in readiness levels among the students in her three AP courses. She indicated that one of her AP blocks contained numerous identified gifted children, who, when asked to generate discussion questions for *Frankenstein*, "are consistently producing very impressive questions that really spark a lot of discussion" (Janelle, interview 2, February 22, 2022, p. 3). In contrast, Janelle noted that her other two AP blocks (where there were fewer identified gifted children) tended to produce discussion questions that led to convergent responses, which stagnated the class dialogue. However, like Marcie, Janelle did not describe using any differentiation methods to support the varied needs that she observed.

Influences of This Study on PSTs' Perceptions of Their Preparation

Based on the PSTs' interview responses, it was possible that their perceptions of their preparation for working with gifted children were influenced by this study. For example, at the time of her third interview, Marcie reported that she did not experience any increased confidence in her ability to implement readiness-based differentiation in an unleveled classroom. However, she did say: "I am aware that I'd like to do better and have differentiated things, but I have no concrete plan or ideas how to get there" (interview 4, March 4, 2022, p. 2). I followed up with this statement by asking what had prompted Marcie's growing awareness, to which she replied:

I think a lot of it has been talking to you, especially the last time of hearing a bunch of questions and then hearing me have a lot of consistent answers of “I’m not sure,” or “I don’t know” or that I don’t know what certain terms mean. And it’s like, the fact that [these terms] exist and I don’t know them. And at this point, I’m like, what else exists that I don’t know exists that I could do better. (interview 3, March 4, 2022, p. 2)

Based on Marcie’s explanation, it may have been that her perceived lack of preparedness stemmed from a growing awareness of the importance of using evidence-based strategies for meeting gifted children’s needs (which she indicated not knowing about prior to beginning this study). Both Janelle and Ruth expressed a similar growing awareness as a result of participation in this study. Therefore, it is important to acknowledge how my interviews with PSTs may have influenced these findings about their perceptions of their preparation.

Finding 4 Implications

This sub-section presents implications that Finding 4 had for the secondary PGMT program as it worked to support PSTs in developing the ability to select, plan for, and utilize instructional responses that challenged gifted students to work in their zones of proximal development or to experience academic growth.

Compliance with VDOE Professional Requirements and InTASC Standards

Professional requirements and accreditation standards from VDOE (2018) and CAEP required that MAU’s EPP prepare its PSTs to provide educational experiences to students that were responsive to their varied needs. However, the data described in Finding 4 suggested that PSTs had not cultivated the ability to plan for or implement instruction that was differentiated for gifted learners. As a result, the secondary PGMT program may not have fully prepared PSTs to differentiate their teaching for students with advanced readiness levels, and therefore may not

have been in compliance with VDOE requirements (2018) and CAEP accreditation standards (CCSSO, 2013).

Implications for Coursework and Clinical Experiences

Equitable teaching practices serve all learners. However, if the PSTs in the secondary PGMT program were not prepared to serve gifted students, then they were not prepared to be equitable educators. If the program aims to ensure that PSTs enter the profession with the skills needed to provide equitable instruction, then it is imperative that the program endeavors to develop coursework that supports PSTs in reaching this goal. According to the PSTs' interview data, doing this may involve providing PSTs with more detailed examples of readiness-based differentiation. It may also involve having instructors model readiness-based differentiation in their own courses, given that research shows that when teacher educators model practices, PSTs are more likely to understand and utilize them (Korthagen et al., 2006).

Finding 4 also provided evidence that PSTs struggled to differentiate for varied readiness levels because they did not see it occurring in their clinical experiences. Although the program had no control over MTs' practices or what took place in schools, it is difficult to envision how PSTs might develop the ability to differentiate for gifted learners without ever seeing it take place in a secondary classroom. Therefore, to whatever extent possible, the program in general (or the instructors more specifically) may need to encourage PSTs to discuss readiness-based differentiation with their MTs, and with their MTs' consent, attempt to use differentiation strategies in practice.

Finding 5: In Their Clinical Experiences, PSTs Employed One-Size-Fits-All Teaching Methods despite Being Able to Recognize Variance in Students' Readiness Levels.

To answer research question 3 (What is the nature of ELA PSTs' teaching experiences with gifted learners during clinical experiences?), I conducted several video-based observations of each of the PSTs involved in this study. I also supplemented the observations of the PSTs' teaching with (1) reviews of their lesson plans for the recorded teaching sessions and (2) interview questions that inquired about PSTs' planning processes for the recorded teaching sessions. These questions asked the PSTs to explain their approaches (if any) to planning and enacting instruction that they believed would meet the academic needs of the gifted and advanced learners in their classes.

My observation protocol and observation codebook centered on instances in which the PSTs planned for and delivered lessons that utilized research-supported approaches for meeting advanced learners' needs (e.g., compacting, readiness-based differentiation, independent study, etc.). In the review of the PSTs' lessons, I did not observe that they made use of many empirically-based strategies for teaching gifted children. However, in their interviews, the PSTs did articulate having an awareness of the presence of gifted or advanced learners in all of their courses. Therefore, the absence of these codes became its own data point, suggesting that despite PSTs' knowledge of learner variance, they continued to employ one-size-fits-all teaching methods.

In the following sections, I present an analysis of PSTs' lesson plans and highlight general trends that emerged across the documents. I also describe my observations of each PST's video recordings, noting instances in which PSTs did or did not utilize instructional methods to meet gifted learners needs. I conclude by calling attention to the ways in which the observational data indicated that PSTs' capacities to design instruction for gifted learners may have improved over time.

Lesson Plans

The observation protocol focused the analysis of lesson plans on two central questions: (1) Did the instruction planned by the PSTs appear to promote cognitive rigor commensurate with what gifted and advanced learners would need in order to be challenged? and (2) Did the PSTs plan for how they might offer varied or differentiated instructional strategies to meet gifted learners' needs? To answer the first question, I coded and analyzed the lesson plans for evidence of cognitive rigor in PSTs' planning, and observed that the PSTs seemed to choose instructional strategies that encouraged students to employ higher-order thinking. Although a determination could not be made as to whether or not the higher-order thinking required was appropriately challenging for the gifted learners in the class, I made the observation that the PSTs often endeavored to design challenging instruction that promoted cognitive rigor. For example, students were often tasked with engaging in textual analysis and connection-making, rather than strictly focusing on simple recall and comprehension.

To answer the second question, I looked for instances in PSTs' lesson plans where they specifically planned for readiness-based differentiation. In one section of the lesson plan template titled "Planning for Learner Diversity/Instructional Scaffolds," the PSTs were prompted to "identify specific ways you plan to ensure equity and inclusion by building on learners' diversity," and to consider how they could "leverage students' prior experiences and assets" throughout the lesson. Common across all of the observed lesson plans in this "Planning for Learner Diversity/Instructional Scaffolds" section was the absence of considerations for readiness-based differentiation for gifted students. In none of the plans did PSTs explain how they would capitalize on gifted learners' assets or take into account what they would do if advanced learners would not be challenged by their general instructional plan.

Overall, in the “Planning for Learner Diversity/Instructional Scaffolds” section of their lessons plans, PSTs appeared to focus on ensuring that their curriculum and instruction were accessible to students who were struggling. This section of the template was not utilized to consider the needs of gifted children. For example, in Ruth’s first lesson plan, she made numerous equity-related considerations for learners, including playing in-class videos multiple times so that “students who might process more slowly [can] still get the same information out of the text and be able to contribute to the brief class conversation following the video” (Ruth lesson plan 1). Ruth’s intention here was to make the class more inclusive for students who had varied processing speeds. This intention was underscored at another point in her lesson plan, where Ruth indicated that she would spend class time providing students with background information on the American Revolution, and that doing this “will level the playing-field between students, as they all will have the same background knowledge necessary to understand the songs for the day” (Ruth lesson plan 1). Again, Ruth’s focus appeared to be on ensuring that students had the supports that they needed in order to engage with the lesson.

Additionally, as Ruth’s lesson transitioned to focus on citing sources and using annotation strategies, Ruth described her approach to “planning for learner diversity” in the following way:

I will provide all students with the citing sources in writing handout to reference throughout class and while they are writing at the end of class. Although students should have already learned how to do this skill in previous English classes, providing this resource does not disadvantage any student based on their past schooling or English teacher. (Ruth lesson plan 1)

Here, Ruth described how her instructional plans were made with struggling learners in mind, explaining that her goal was to ensure that the lesson provided additional instruction for students who had not yet mastered a skill. However, notably absent from Ruth's plans for supporting learner diversity were considerations for students with advanced readiness levels. In Ruth's lesson plan, instruction for students who already had background knowledge on the American Revolution or who had already met learning targets for citing and annotating texts would solely be a review of previously-learned content. It is probable that this situation would occur, as Ruth noted in her lesson plan that she anticipated several of her students would have already mastered this content. Therefore, despite Ruth's observation of variance in learners' readiness levels, she opted to tailor her instruction to better support only struggling students rather than differentiating for the spectrum of diverse needs in her class.

In the "Planning for Learner Diversity/Instructional Scaffolds" section, Marcie similarly focused on making accommodations for students' preferences or needs for additional supports, despite her awareness of substantial variation in students' readiness levels in her 10th-grade Honors English course:

There's a difference [in readiness] in Honors classes, same grade level and everything.

There's one student who is writing down such profound sentences that I want to put them on sticky notes and have them posted around the room. I love what she says. But there are other students who are still struggling to form "proper sentences." (interview 2, February 24, 2022, p. 5)

Although Marcie was clearly aware that these learner differences existed, she acknowledged that she was not altering her instructional practices to be responsive to her students. During her

second interview, Marcie specifically discussed two students in her 10th-grade Honors course, and reflected on the fact that she was not differentiating for their disparate needs:

How are these students in the same exact grade level? . . . It's like these two are sitting like two seats over from each other – how are they on such different levels and why am I giving them the same sort of instruction? (p. 6).

Even though Marcie recognized that one-size-fits-all instruction was not appropriate for her students, she continued to design lesson plans that did not differentiate for learners who were more academically advanced. This linked to findings reported earlier in Chapter 4 about PSTs' abilities to identify patterns in students' readiness levels, but challenges in designing instruction that was responsive to learner variance.

Just as Ruth and Marcie neglected to consider gifted students' needs in the “Planning for Learner Diversity/Instructional Scaffolds” portion of the lesson, Janelle also excluded considerations for advanced learners from her plans. Although an initial review of Janelle's lesson plan for her second observation indicated that she intended to use like-ability groupings based on readiness levels for an in-class activity, the follow-up interview with Janelle revealed that she had not actually carried out the plan. The original lesson plan (for her 9th-grade Academic Advanced class) explained that she would use homogeneous readiness-based groups to support students' varied needs during small group work. However, prior to implementing the lesson, she decided to use heterogeneous readiness-based groupings instead. When asked about her decision to make this change, Janelle explained that she wanted to group the advanced learners with the struggling learners so that “students who are really understanding the content – but are also really nice – could support students who might not be understanding it” (interview 3, March 7, 2022, p. 6). When I asked Janelle if she thought that those heterogeneous groupings

would also support advanced students' learning or would offer them appropriate challenge, she indicated that the groupings did not, but that her focus was more on getting students "all on the same page" (Janelle interview 3, March 7, 2022, p. 3) rather than on challenging advanced students. It was possible that Janelle's decision to use heterogeneous groups in which advanced students assisted struggling students was influenced by the course materials (e.g., NEA, 2005) described earlier in Chapter 4. These materials posited that (1) homogeneous ability grouping is inequitable and (2) advanced students should be placed in groups with struggling students in order to serve as tutors.

Observations of PSTs' Teaching: Janelle

In her first and second observed lessons (both for 9th-grade Honors courses), Janelle indicated that she did not take the needs of gifted or advanced learners specifically into account when designing instruction. Her main focus, she said, was just to "push students past reading comprehension and more towards analysis" in their examination of *Romeo and Juliet* (Janelle interview 3, March 7, 2022, p. 10). As I reviewed the first observation video (a lesson in which students worked to co-construct the meaning of the prologue from *Romeo and Juliet*), I noticed that Janelle initially attempted to allow students to discern the meaning of the text through a tea party activity. However, when she brought the whole class together to debrief the activity, Janelle's instruction primarily involved her making the connections for students (rather than pushing them to make the connections on their own) and asking lower-level comprehension-oriented questions. Based on the observation video, it did not appear as though Janelle met her objective of pushing analytic thinking in a way that would have challenged her more advanced learners.

However, during her second observation video, Janelle was more successful in utilizing an activity that encouraged students to think more deeply and complexly about *Romeo and Juliet*. Her instruction involved having the students work in small groups to analyze the ways in which passages from the text established specific characters' motivations, and as a result, developed thematic elements of the play. However, despite Janelle's claim that the students in the class sometimes displayed substantial variations in their readiness to engage with course content, she did not take those variations into account during this lesson.

Observations of PSTs' Teaching: Ruth

In Ruth's second lesson for her 11th-grade Academic Advanced course, she planned a carousel discussion that involved a synthesis of topics related to the *Narrative of the Life of Frederick Douglass*. When asked to reflect on whether or not this lesson met the needs of gifted children, Ruth explained that it did because it promoted deeper extended thinking and connected to overarching concepts that the students were exploring in the unit. In reviewing the carousel discussion questions and observing Ruth's teaching, there did appear to be instruction that moved students towards higher-order, critical thinking in relation to the text. However, Ruth had identified gifted students in this course, and noted in interviews that her advanced learners sometimes appeared disengaged. During the observation, I looked for evidence that Ruth had utilized readiness-based differentiation to challenge or extend the thinking of the gifted children even further, but did not see that transpire.

In Ruth's third observed lesson, she chose to utilize a Socratic seminar, anticipating that this instructional method would capture her students' interest and push them to think more complexly. She explained that this decision was based on the observation that her AP Language students frequently appeared bored in class. Although she could not pinpoint the source of their

disengagement, she hypothesized that it related to being underchallenged as a result of the instructional repetitiveness that characterized her MT's coursework. To try to better challenge her AP Language students, Ruth said:

After the carousel discussion I did with [the AP students] two weeks ago, I noticed that they're fine at answering questions at the surface level, but they're not good at pushing – at thinking further. . . . I anticipate [the Socratic seminar] helping them push their thinking and listen to other people's ideas. (interview 3, March 4, 2022, p. 10)

Ruth appeared to be suggesting several things here: (1) that advanced learners, when underchallenged, would not fully demonstrate the range of their abilities, and (2) that utilizing an instructional format (e.g., Socratic seminar) that encouraged depth and complexity of thought had the potential to maximize advanced learners' engagement. In watching Ruth's video recording of this lesson, I observed that the students' dialogue during the seminar tended towards complex analysis rather than towards a surface-level discussion, and that the students' engagement appeared to be high. However, there was no evidence in the video recordings that Ruth used any instructional strategies to differentiate for students who may have needed additional challenges.

Observations of PSTs' Teaching: Marcie

In Marcie's first observed lesson, she centered her instruction for *To Kill a Mockingbird* on student-driven discussions about contentious or "challenging" subject matter. When Marcie was asked to explain the ways in which this lesson met the needs of gifted children, she said that the lesson targeted students with higher readiness levels because it asked them to have "mature conversations" about "heavy stuff, to make personal connections to the text, and to apply what they are learning to contexts beyond the novel" (interview 2, February 24, 2022, p. 19). In her

second and third observed lessons, Marcie similarly engaged students in conversations about difficult topics introduced in *To Kill a Mockingbird*, and explained in her interviews that she chose to focus the classes on these topics because they were appropriately challenging for advanced learners and encouraged them to make connections to their own lives.

Based on this interview, it seemed as though Marcie believed that having difficult conversations about sensitive topics or having students make connections to texts were instructional strategies reserved for use with academically advanced children. This was consistent with Mary's observation that "[the PSTs] have a tendency to think that when students are able to apply what they learned to a different context, that that's abnormal, that that would be for gifted kids" (interview 1, February 4, 2022, p. 2). Although Marcie did seem to display this misconception that Mary suggested PSTs may harbor, Marcie's focus on challenging topics did help her develop lesson plans that were concept based (which is an effective curricular approach for gifted children [VanTassel-Baska et al., 2000]).

For example, during Marcie's first lesson, she implemented instruction that asked students to analyze music that contained themes relating to social justice. She provided the students with questions that required them to use higher-order thinking skills in their examinations of the songs. In her second lesson, I observed that Marcie used a 1-1-1 activity for chapters 16-19 of *To Kill a Mockingbird*, which gave the students greater ownership of the lesson by requiring them to determine the inquiry topics for the class discussion. When I asked Marcie why she chose to use this 1-1-1 activity, she explained:

I came at the lesson from a point of wanting [the students] to have a first attempt at pulling out some of these key passages, key analysis points, so that the discussion could

be more of them bringing ideas and me prompting them rather than me showing them a slideshow. (interview 3, March 4, 2022, p.6)

In doing this, Marcie said that her goal was to put herself “in more of a back-burner position instead of them feeling like I’m telling them what’s important” (interview 3, March 4, 2022, p. 6).

I followed up with Marcie on this point, asking her to explain her rationale for these instructional decisions in relation to what she perceived the needs of the advanced learners in her class to be. She indicated that “with the gifted level, I want [students] to find the pieces themselves,” and that she wanted to guide discussions by prompting students to unpack ideas more and to engage in critical conversations with peers (Marcie interview 3, March 4, 2022, p. 7). In contrast, she explained, if she were to conduct a similar lesson with students who did not have advanced readiness levels, she would provide them “with the backbone” (meaning additional structure) rather than keeping things more open ended and student driven (Marcie interview 3, March 4, 2022, p. 7). Although student-driven inquiry should not be reserved for advanced learners alone, Marcie’s instructional rationale does indicate that she was trying to provide gifted children with additional challenges that might promote the type of cognitive rigor that they require. As I observed in her video recording, students were able to successfully complete the 1-1-1 activity in a way that showed evidence of complex thinking. However, I did not observe any instances in which Marcie enacted differentiated practices that would have helped her to better meet the needs of the students she had identified as being more advanced than their peers.

Finding 5 Implications

The information presented in Finding 5 had several implications for the secondary PGMT program, particularly concerning PSTs' use of uniform instructional practices.

Rigorous Instruction

In reviewing the PSTs' lesson plans and the videos of their teaching, it was clear that they all endeavored to design lessons that promoted cognitive rigor. None of the lesson plans focused entirely on lower-order thinking. Instead, the PSTs designed learning activities or provided students with questions that were designed to elicit more complex thinking, which was promising for PSTs' teaching practices.

Differentiation

In all of their lessons, the PSTs utilized uniform approaches to instruction, and therefore, did not take into account that their most advanced learners may not have been adequately challenged by the tasks that PSTs planned for the whole class. PSTs appeared capable of identifying the students who needed additional rigor, but were not able to provide them with responsive instruction.

Summary

Chapter 4 presented data gathered through course materials, interviews with instructors and PSTs, and video observations of PSTs' teaching. By engaging in a thematic analysis of these data, I generated the following findings and sub-findings that comprised this chapter:

- Finding 1: The secondary PGMT developed a foundation for teaching PSTs about all students' learning needs.
- Finding 2: Course materials and course instruction provided information about varied readiness levels, but few discussed gifted students specifically.

- Finding 3: There were numerous barriers to teaching PSTs to address gifted students' needs within the context of the secondary PGMAT program.
 - Sub-Finding 3.1: The secondary PGMAT program redesign resulted in coursework alterations that led to the exclusion of gifted-related content.
 - Sub-Finding 3.2: Helping PSTs learn about meeting the needs of struggling learners rather than meeting the needs of advanced learners was prioritized across courses.
 - Sub-Finding 3.3: Contextual factors (such as COVID-19 and broader social concerns about equity) led to the exclusion of gifted-related content.
 - Sub-Finding 3.4: Clinical experiences offered limited support in preparing PSTs to meet gifted students' academic needs.
 - Sub-Finding 3.5: PSTs had misconceptions about gifted students and their needs.
- Finding 4: PSTs struggled to plan for or enact instruction that was responsive to gifted students' learning needs.
- Finding 5: In their clinical experiences, PSTs employed one-size-fits-all teaching methods despite being able to recognize variance in students' readiness levels.

In Chapter 5, I will present commendations and recommendations to the secondary PGMAT program stakeholders based on these findings.

Chapter 5: Recommendations

This study was an outgrowth of curriculum mapping and CAEP accreditation efforts undertaken by the Teacher Education department at MAU. These efforts involved reviewing and cross referencing: (1) the InTASC standards (CCSSO, 2013) used by CAEP for accreditation purposes, (2) the VDOE professional licensure requirements (2018) for teachers, and (3) the Teacher Education Program Outcomes (TEPOs) specific to MAU's EPP. Additionally, they involved reviewing secondary PGMT program course materials and meeting with instructors in order to identify what PSTs did in their courses that aligned to all three sets of objectives listed above.

Knowing that the overarching goal of the secondary PGMT program is to prepare its PSTs to be well-started teachers upon program completion, I used this curriculum mapping opportunity to identify areas of strength and areas for growth in the ELA endorsement area of the secondary PGTM program, with the purpose of sharing that information with stakeholders (e.g., the Teacher Education Program director, the secondary PGMT program coordinator, the secondary PMGT program instructors). Upon completion of a thorough review of the TEPOs, it became clear that the ELA endorsement area of the secondary PGMT program values learner diversity and aspires to prepare its PSTs to effectively teach all students. It also became clear during the review of the InTASC standards (CCSSO, 2013) and VDOE professional requirements (2018) that not only is teaching all students effectively something that the program should aspire to do, but also something that it is required to do in order to be compliant with CAEP and VDOE standards. Therefore, the necessity of identifying issues in which PSTs may not be fully prepared to meet the needs of some students became paramount to the curriculum

mapping process, which is what ultimately led to the recognition of the problem of practice explored in this study.

In reviewing the data generated through document analyses, instructor and PST interviews, and video observations of PSTs' teaching, several themes emerged that formed the basis of the findings presented in Chapter 4. These findings, when considered alongside the literature presented in Chapter 2, allowed for the identification of both areas of strength and areas for growth in the ELA endorsement area of the secondary PGMT program as it works towards actualizing its goal of preparing well-started teachers who can meet all learners' needs. The literature described in Chapter 2 centered on the traits of well-started teachers, qualities of successful EPPs, attributes of effective teachers of the gifted, and the curricular and instructional practices used by programs to prepare PSTs for teaching gifted learners. Therefore, I grounded both the commendations and recommendations that I provide to the secondary PGMT program stakeholders in what is known about these topics based on the literature and on the NAGC-CEC (2013) Teacher Preparation Standards in Gifted Education explored in Chapter 2.

I begin this chapter with several commendations for the secondary PGMT program, as my findings suggest that the ELA endorsement area has numerous strengths in its capacity to prepare well-started teachers. I then provide recommendations for adjustments to the program's curriculum and instructional practices that can be used to build upon its successes and to target its areas for growth. The recommendations for the program range from setting broad, long-range goals to making minor changes to course materials for immediate implementation. Therefore, in recognition of the fact that some of these goals might be more immediately accessible than others, I organized the recommendations from most proximal to most distal in terms of actionability. Table 5.1 provides an overview of the commendations and recommendations,

Table 5.1*Commendations and Recommendations for Secondary PGM T Program Stakeholders*

Commendations	
Commendation 1	The secondary PGM T program infuses equity-related considerations throughout its coursework.
Commendation 2	The secondary PGM T program is committed to continual improvement, which is a precursor to effecting positive changes.
Commendation 3	The secondary PGM T program strives to prepare its PSTs to analyze student data from their clinical experiences in order to build PSTs' understandings of varied readiness levels.
Recommendations	
Recommendation 1	<p>Facilitate the development of PSTs' theoretical knowledge (episteme) regarding the nature and needs of gifted learners.</p> <ul style="list-style-type: none"> • Incorporate the needs of gifted learners into discussions about equity, focusing on the importance of inclusivity. • Help PSTs examine the ways in which their knowledge of gifted learners can help rectify disproportionality in gifted identification. • Help PSTs identify and unpack misconceptions about gifted students. • Ensure that instructors address the cognitive dissonance that PSTs experience if what they learn in their courses about gifted learners is not modeled in their clinical experiences.
Recommendation 2	<p>Develop the conceptual coherence of the program by addressing gifted-related content throughout all courses.</p> <ul style="list-style-type: none"> • Utilize curriculum maps to assist in developing coherence. • Encourage instructor collaboration across courses and strategically leverage expertise.
Recommendation 3	<p>Build PSTs' capacities to provide differentiated curricular and instructional experiences for all learners, including those who are gifted.</p> <ul style="list-style-type: none"> • Provide instruction on strategies that the PSTs can employ to differentiate for gifted learners. • Adjust the lesson plan template to include prompts that encourage PSTs to consider/differentiate for gifted learners. • Require PSTs to plan for and enact practices that meet gifted learners' needs. • Ensure that instructors model readiness-based differentiation.
Recommendation 4	<p>Facilitate the development of PSTs' practical knowledge (phronesis) regarding the nature and needs of gifted learners.</p> <ul style="list-style-type: none"> • Ensure that all PST have a clinical experience where gifted learners are present. • Require clinical coaches to support PSTs in meeting the needs of gifted learners. • Select MTs who can model effective curricular and instruction practices for meeting gifted learners' needs.

Commendations

The secondary PGM program experiences many successes in its work to prepare PSTs to be well-started teachers. These successes serve as the foundation for an effective program, and can therefore support stakeholders' continued work in program improvement. The commendations specifically link to the following NAGC-CEC (2013) Teacher Preparation Standards in Gifted Education, which focus on understanding learner diversity and the need to be responsive to students' needs and identities. Although the program may not yet have reached these standards in their entirety, it has begun to lay the groundwork for doing so:

- Standard 1.1: Beginning gifted education professionals understand how language, culture, economic status, family background, and/or area of disability can influence the learning of individuals with gifts and talents.
- Standard 2.1: Beginning gifted education professionals create safe, inclusive, culturally responsive learning environments that engage individuals with gifts and talents in meaningful and rigorous learning activities and social interactions.
- Standard 6.3: Beginning gifted education professionals model respect for diversity, understanding that it is an integral part of society's institutions and impacts learning of individuals with gifts and talents in the delivery of gifted education services.

Commendation 1: The Secondary PGM Program Infuses Equity-Related Considerations Throughout Its Coursework.

Research suggests that EPPs are effective in their efforts to prepare well-started teachers when their programs have shared, clear programmatic visions for what “good teaching” looks like in practice (Hammerness, 2006). These shared visions form the basis for conceptual coherence, which refers to the consistent messaging from instructors across courses that helps

PSTs solidify their learning (Cavanna et al., 2021; Hammerness & Klette, 2015). A review of the data presented in Chapter 4 suggests that the secondary PGMT program is advancing a clear vision about the ways in which equity and responsive teaching practices underpin effective teaching. Across all of the courses that I reviewed for this study, equity-related considerations are explicitly infused throughout. Moreover, based on instructor interviews, this coherence is not accidental; rather, the program deliberately works towards achieving this emphasis on equity through collaborative efforts among instructors. Also, based on PSTs' interviews, it appears as though the messages about the importance of equity are being taken up by PSTs, which points to the program's successful development of conceptual coherence.

The secondary PGMT program should be applauded for this success, as Hammerness (2013) suggests that developing this type of coherence is a challenging task, particularly because PSTs often report that they do not perceive their programs as being coherent (Flores et al., 2014). As I noted throughout Chapter 4, however, gifted and advanced learners may inadvertently be excluded from equity-related discourses in the program. Although the needs of these students seemed to be overlooked at the time of the study, the foundation for focusing PSTs' attention on equity had already been put into place. Therefore, the PGMT program can leverage the conceptual coherence that it has already built in order to expand conversations about equity to include gifted learners.

Commendation 2: The Secondary PGMT Program Is Committed to Continual Improvement, Which Is a Precursor to Effecting Positive Changes.

In undertaking this study, I received support from program stakeholders and instructors, which enabled the research to be carried out and for the generation of commendations and recommendations relating to their work. Without this support, the study would not have taken

place. The Teacher Education Director and the instructors who were included in the study clearly signaled that they wanted the study to take place, as they recognized that it had the potential to help the program reach its goals of preparing well-started teachers. Despite the numerous barriers that existed to working towards program improvement (e.g., continued structural/course sequencing changes to the redesigned PGM program, challenges resulting from the COVID-19 pandemic) at the time of this study, the instructors whom I interviewed expressed their desire to engage in analysis of the program and its courses so that they could better serve PSTs. This commitment towards continual improvement should be commended, particularly in light of the barriers noted above. Additionally, this commitment serves as the precursor for the secondary PGM program attaining its goal of preparing PSTs to meet the needs of all children, which is critical moving forward.

Commendation 3: The Secondary PGM Program Strives to Prepare Its PSTs to Analyze Student Data from Their Clinical Experiences in Order to Build PSTs' Understandings of Varied Readiness Levels.

Information gleaned from PSTs' interviews indicated that the PSTs perceived themselves as having been well prepared by the program to gather, analyze, and make grouping decisions about students' readiness levels based on classroom data. It appears as though conceptual coherence may have supported this success, as the PSTs noted that their abilities to perform these tasks emerged through coursework in both the fall and spring semesters. In their interviews, the PSTs suggested that what they learned about data-driven decision-making in their fall EDIS 5820 course (Assessment of and for Learning) was developed in greater detail during their spring ELA courses (EDIS 5401 and 5872). The PSTs explained that the task of examining actual student data from their Spring Clinical Experiences was instrumental in building their confidence

in their abilities to use data to determine students' readiness levels. The ability to make these determinations is integral to providing PSTs' students with responsive instruction that is within their zones of proximal development, which is particularly critical for ensuring gifted learners' academic growth. With these abilities established, PSTs can work towards designing "respectful tasks" that are central to differentiation. Instructors should continue to emphasize data analysis in order to position the PSTs for successfully designing differentiated instructional practices.

Recommendations

The recommendations provided in this section are grounded in the analysis of data presented in Chapter 4. As I noted in the commendations above, the secondary PGMAT program has a strong, cohesive foundation upholding its improvement efforts, as its instructors and the Teacher Education Director are continually seeking ways to better support PSTs. The recommendations focus on changes that the secondary PGMAT program should consider making to its curriculum and instruction to facilitate the development of PSTs' abilities to meet gifted learners' needs, which will enable the program to meet its goal of producing well-started teachers who can serve all students. The recommendations are aligned to the following NAGC-CEC (2013) Teacher Preparation Standards in Gifted Education:

- Standard 1.2: Beginning gifted education professionals use understanding of development and individual differences to respond to the needs of individuals with gifts and talents.
- Standard 3.2: Beginning gifted education professionals design appropriate learning and performance modifications for individuals with gifts and talents that enhance creativity, acceleration, depth, and complexity in academic subject matter and specialized domains.

- Standard 3.4: Beginning gifted education professionals understand that individuals with gifts and talents demonstrate a wide range of advanced knowledge and performance levels and modify the general or specialized curriculum appropriately.
- Standard 5.1: Beginning gifted education professionals know principles of evidence-based, differentiated, and accelerated practices and possess a repertoire of instructional strategies to enhance the critical and creative thinking, problem-solving, and performance skills of individuals with gifts and talents.
- Standard 7.1: Beginning gifted education professionals apply elements of effective collaboration.

Recommendation 1: Facilitate the Development of PSTs' Theoretical Knowledge (Episteme)

Regarding the Nature and Needs of Gifted Learners.

Recommendation 1 focuses on the development of professional knowledge, which Fenstermacher (1994) indicates is critical to teachers' praxes. Research suggests that professional knowledge exists at the nexus of theoretical knowledge (episteme) and practical knowledge (phronesis) (Loughran, 2006; van der Linden & McKenney, 2020), which PSTs develop through coursework and clinical experiences, respectively. Although both episteme and phronesis must work in tandem to support the development of PSTs' professional knowledge, the secondary PMGT program cannot control what occurs in clinical placements. As Mary indicated in her interview, it was not possible for the program to choose MTs who could model best practices for the PSTs, as the MT candidate pool was not large enough to justify that selectivity. However, the secondary PGMT program can control the development of PSTs' episteme. Recommendations for building PSTs' theoretical knowledge about gifted students are provided in the following sub-recommendations.

Sub-Recommendation 1.1: Incorporate Research-Based Information about Gifted Learners and Their Needs into Course Materials. The review of course materials suggests that very little information is provided to PSTs about the needs of gifted learners and that the term “gifted” is very rarely used in course texts. Additionally, although variations in readiness levels is frequently discussed in course materials, emphasis tended to be placed on struggling learners rather than on advanced learners. Instructors should consider identifying empirically-based materials that provide PSTs with information about gifted learners and should remove course materials that indicate that gifted learners should serve as peer tutors, as this practice is not supported by research. PSTs should then have the opportunity to engage in collaborative sense-making with the content in these materials, as research shows that the co-construction of knowledge may be integral to PSTs’ development (Holmes et al., 2020).

Further, some of the course materials advance messages that the PSTs (in their novice stages of learning about the teaching profession) find confusing. For example, PSTs may have conflated the meanings of tracking, ability grouping, and readiness-based flexible grouping. The first two are programming models (over which classroom teachers do not have control), whereas flexible grouping is something that teachers can use within their own classrooms when it is appropriate to differentiate based on readiness levels. Additionally, tracking and ability grouping are often considered by PSTs to be inequitable practices. If PSTs understand that these practices can lead to inequities, they may then make the incorrect assumption that readiness-based in-class groupings are synonymous with these programming models. Therefore, PSTs may become reluctant to use like-ability flexible groupings in their classrooms. Based on interviews and observations in this study, it seems as though this may have transpired.

Therefore, to ensure that PSTs develop accurate, research-based knowledge about gifted learners, instructors should find ways in which to integrate materials about gifted children into their coursework. This involves ensuring that EDIS 5000 (The Exceptional Learner) devotes time to helping PSTs understand gifted learners' needs and exceptionalities. General instructional methods courses and ELA-specific courses should also cover gifted-related content, focusing on building PSTs' knowledge of these learners, how their advanced abilities might manifest in the classroom, and the implications that those abilities have for instruction.

Sub-Recommendation 1.2: Include Gifted Students into Discussions about Equity.

Equitable educational experiences are those that are responsive to all learners' needs. The secondary PGMT program has successfully incorporated equity-related considerations across its coursework, promoting the coherent, clear message that PSTs are expected to enact equitable practices in their classrooms in response to students' varied needs, assets, and identities. Opportunities for PSTs to understand how being responsive to gifted learners' exceptionalities is part of being equitable. When gifted children are underchallenged or do not engage in "respectful tasks" that are within their zones of proximal development (Hall et al., 2004), they are denied the opportunity for academic growth. Therefore, PSTs should engage in coursework where gifted learners' needs are included in conversations about equity. Course materials on equity advance messages about inclusivity; however, they often omit considerations for gifted learners. Instructors should take a critical eye to the course materials and note opportunities in which they can present PSTs with information about how serving gifted children is both responsive and equitable.

Additionally, the PSTs in this study indicated that they were concerned about racial and cultural disproportionality in gifted education. Given that this is a concern (both at a broader

level and for PSTs specifically), instructors might find it helpful to make explicit connections for PSTs in which they articulate how PSTs' learning about gifted children's needs may help to address this disproportionality. For example, instructors can urge PSTs to "teach up" to all learners in order to cultivate the development of students' talents and potential, which can support their learning and provide greater access to rigorous coursework (Tomlinson, 2005).

Sub-Recommendation 1.3: Help PSTs Identify and Unpack Misconceptions about Gifted Students. PSTs do not come to their EPPs as blank states. Rather, they have ingrained beliefs about teaching and learning that they have developed through what Lortie (1975) calls the "apprenticeship of observation." Having spent many years in classrooms, PSTs have deeply-held conceptions about schooling, which are often in contradiction to what is known about best practice. According to Fives and Buehl (2016), beliefs often remain stable over time, and can be exceedingly difficult to overturn. Moreover, as shown in the conceptual framework for this study, PSTs' beliefs mediate their experiences in both coursework and clinical experiences, which is why it is critical that those beliefs are addressed if they are in opposition to best practice.

As demonstrated in this study's findings, the PSTs harbor several incorrect beliefs about gifted learners. Controverting those beliefs, however, may be difficult insofar as the misconceptions also seem to be reinforced during clinical placements. The secondary PGMT program must acknowledge the challenges associated with altering PSTs' misconceptions about gifted learners, then find a way forward in order to achieve its goal of preparing PSTs to serve all children. The recommendation is to help PSTs identify and unpack their beliefs and misconceptions about gifted learners through ongoing exercises of reflexivity. According to

Krapivynk et al. (2021), when PSTs engage in reflection that is embedded within their program and that takes place at regular intervals, they are more likely to develop their theoretical knowledge.

The literature also suggests that PSTs are likely to harbor numerous misconceptions about gifted learners. Although only some of those misconceptions were identified in this study, it is possible that other PSTs share those presented in the literature (e.g., the belief the gifted children are emotionally and socially maladjusted [Preckel et al., 2015]). Therefore, instructors should design learning experiences for PSTs in which the PSTs identify and examine their beliefs about gifted children. Then, instructors should have the PSTs reflect on their beliefs and continue to revisit them over time (perhaps with ongoing reflective exercises). Doing this might help ensure that misconceptions are surfaced so that myths about gifted learners can be addressed by instructors.

Sub-Recommendation 1.4: Ensure That Instructors Address the Cognitive Dissonance That PSTs Experience if What They Learn in Their Courses about Gifted Learners Is Not Modeled in Their Clinical Experiences. As previously noted, the secondary PGMT program does not control what takes place in clinical experiences or the practices that MTs model for the PSTs. However, this study indicates that one barrier to preparing PSTs for their work with gifted children comes from what PSTs observe in their clinical experiences. In their work with MTs, PSTs reported being told to focus on struggling learners (which translated to ignoring the needs of advanced learners), and noted that MTs do not differentiate for students based on readiness levels. If the secondary PGMT program makes an effort to teach PSTs about gifted students and their needs, it is therefore possible that what PSTs learn in their coursework will not be in alignment with what they see in their MTs' classrooms. As a result, PSTs might

experience cognitive dissonance between their theoretical and practical learning. When this occurs, PSTs are more likely to take up the practices that they observe in their clinical settings (Allen, 2009). Therefore, instructors need to be responsive to any dissonance that emerges by helping PSTs critically interrogate the practices that they see modeled. To do this, instructors should leverage the power of co-constructing knowledge (Holmes et al., 2020) and ongoing reflection (Krapivynk et al., 2021; Loughran, 2006) to help PSTs process this dissonance with the aid of their instructors and peers.

Recommendation 2: Develop the Conceptual Coherence of the Program by Addressing Gifted-Related Content Throughout All Courses.

Conceptually coherent programs are those that have a shared conception of what constitutes effective teaching and learning, which is established by having consistent messaging across courses and through the continual reinforcement of content (Cavanna et al., 2021; Hammerness & Klette, 2015). Research suggests that conceptual coherence is essential to the development of PSTs' teaching capacities, and may therefore influence the degree to which they are prepared to become well-started teachers (Korthagen et al., 2006; Smith-Sherwood, 2018). Therefore, the secondary PGMT program should ensure that gifted-related content is being covered not just in a single course. Instead, this content should be woven throughout the program in order to capitalize on the influence that consistent messaging and reinforcement has on PSTs' development.

Sub-Recommendation 2.1: Utilize Curriculum Maps to Assist in Developing Coherence. Curriculum maps are helpful tools for programs seeking to develop conceptual coherence (Cavanna et al., 2019; Wijngaards-de Meij & Merx, 2018), particularly if the maps capture the ways in which PSTs' learning in coursework develops sequentially, as sequencing is

critical to ensuring that PSTs build competencies over time (Hammerness, 2006). While the curriculum maps being used by the secondary PGMT program at the time of this study do describe the ways in which courses address PSTs' learning about the diversity of students' needs, they do not include any information about ways in which topics relating to gifted education are being addressed. For the program to make use of these maps as tools to promote its coherence, instructors should add information about the ways in which their courses prepare PSTs for their work with gifted learners. Given that the maps are shared among instructors, they can then be used as starting points for work towards building coherence.

Sub-Recommendation 2.2: Encourage Instructor Collaboration across Courses and Strategically Leverage Expertise. It is not expected that the secondary PGMT instructors will have expertise in all areas. Although all of the instructors in this study have or are working towards terminal degrees in education, each has expertise in different sections of the field. The same is presumably true about the other instructors in the program, as well. Because of this, instructors should be encouraged to collaborate with one another and leverage the help of colleagues whose expertise is in the realm of gifted education. By using colleagues as resources, instructors can more readily identify helpful resources that can be used as course materials when teaching the PSTs about gifted learners. Further, experts in gifted education could assist instructors in identifying common misconceptions about gifted learners that PSTs have, then help instructors to address those myths.

Additionally, if conceptual coherence is to be achieved across courses, instructors must commit to collaboration. The curriculum maps can be used as a starting point for this work, but meaningful collaboration needs to be more intensive. Instructors should meet to discuss the ways

in which they might all infuse relevant gifted-related material into their courses so that each course strategically builds off of one another throughout the PSTs' course sequence.

Recommendation 3: Build PSTs' Capacities to Provide Differentiated Curricular and Instructional Experiences for All Learners, Including Those Who Are Gifted.

PSTs' difficulties with planning and enacting lessons that utilize differentiation is one of the main themes in this study. These difficulties are likely not unique the secondary PGMT program, as Dack (2019) found that PSTs in general struggle to use differentiation in practice, both as a result of a lack of coherence in how differentiation is taught across courses and as a result of not seeing the practice undertaken in clinical settings. PSTs' abilities to differentiate, however, are critical to their development as well-started teachers who provide instruction that addresses the spectrum of learning needs present in their classrooms. Because gifted students' academic needs can sometimes go unmet by the use of more general approaches to curriculum and instruction (Hertberg-Davis & Callahan, 2008; NAGC, 2014a, 2019; Tomlinson, 2005), PSTs must be able to differentiate their practices to accommodate advanced readiness levels.

Further, it should be noted that helping PSTs develop competencies needed to meet gifted learners' needs actually helps PSTs better serve all learners, as Hockett (2009) suggests that:

The curriculum promoted by general education curriculum experts for all learners and the curriculum promoted by experts in gifted education curriculum for highly able learners have more in common than they do at odds. There are no attributes of curriculum emphasized by either field that are in direct conflict with one another. (p. 412)

Therefore, in helping PSTs think about principles of curriculum and instruction that benefit gifted children, the program may also be able to help PSTs think about how they can provide more enriching learning experiences for all of their students.

When thinking about curriculum and instruction, Robinson et al. (2014) suggest that teachers should be taught to ask the following questions: (1) Would all children want to be involved in such learning experiences? (2) Could all children participate in such learning experiences? and (3) Should all children be expected to succeed in such learning experiences? If the answer to all three questions is “yes,” a teacher is expected to offer the experiences to all learners, which can result in “teaching up” (one of the key principles of differentiation) (Hall et al., 2004; Tomlinson, 2005). However, as Robinson et al. (2014) also observe: “A ‘no’ response to any of the three questions indicates that the curricular experience may not be appropriate for all students but might be appropriate for some. In other words, the curricular experience could be differentiated for talented learners” (p. 228). Therefore, in teaching PSTs to plan for meeting gifted learners’ needs, PSTs can also be taught to consider teaching up for all of their students. Then, using Robinson et al.’s (2014) questions, PSTs can determine if some of the curricular or instructional experiences might be suited for the whole class or just for students with advanced readiness levels.

If PSTs ultimately determine that an experience is likely only suitable for their gifted learners, then the PSTs need to be able to choose materials or instructional strategies that would enable those students to engage with the content. PSTs must also be able to manage the logistical challenges associated with managing a differentiated classroom. However, the findings in Chapter 4 suggest that PSTs struggle in these endeavors. Overall, the PSTs displayed confidence in their abilities to look at student data and identify readiness levels, which is a starting point for differentiation. To build upon this foundation, the secondary PGMT program must ensure that PSTs develop the skills to differentiate for all readiness levels. The following sub-recommendations can be used to help the program achieve that goal.

Sub-Recommendation 3.1: Provide Instruction on Strategies That the PSTs Can Employ to Differentiate for Gifted Learners. Although course materials advocate for the use of differentiation, few provide detailed insights into how to plan for and carry it out (particularly when that differentiation was readiness based, which requires decision-making about instructional strategies and classroom management approaches). Instructors should review the materials in which readiness-based differentiation is explored in detail, then be sure to discuss those materials with PSTs at length. Or, if materials with detailed demonstrations of readiness-based differentiation are not provided, instructors should consider adding to or replacing existing materials.

Additionally, PSTs should learn about strategies that they might employ specifically with gifted learners (in the event that they answer “no” to one of the Robinson et al. [2014] questions listed above regarding a classroom experience). For example, gifted learners may benefit from the use of curriculum compacting, independent studies, learning contracts, and like-ability flexible grouping (Schmitt & Goebel, 2015), and there may be times when PSTs need to use these strategies in order to provide gifted students with differentiated, respectful tasks. However, as shown in Chapter 4, the PSTs in this study reported having no familiarity with these strategies, and therefore, would not be able to implement them. Therefore, to begin building PSTs’ skills for providing responsive instruction to gifted children, instructors should introduce materials and/or assignments into their coursework that build PSTs’ knowledge of these strategies.

Sub-Recommendation 3.2: Adjust the Lesson Plan Template to Include Prompts That Encourage PSTs to Consider/Differentiate for Gifted Learners. As described in the Chapter 4 findings, the lesson plan template used by the secondary PGMT program does not specifically prompt PSTs to consider the ways in which they might differentiate their instruction

for students with advanced readiness levels. In the “Planning for Learner Diversity/Instructional Scaffolds” section of the lesson plan, PSTs are primarily prompted to consider how they would use differentiation to help all learners access content. Although using scaffolds to help struggling learners access content is a critical component of differentiation, the phrasing in the template may lead PSTs to overlook the fact that differentiation should also be used to push advanced students towards increased levels of knowledge and skills. Evidence from PSTs’ lesson plans showed that the PSTs were only using the “Planning for Learner Diversity/Instructional Scaffolds” section to describe supports that they would provide for struggling learners or to describe how they would accommodate students’ learning preferences. There was no indication that the PSTs were using this section to plan for the exceptional learning needs of students demonstrating advanced readiness (despite PSTs’ claims that these students were present – and underchallenged – in several of their classes). The secondary PGMT program should therefore consider adjusting the prompt in the “Planning for Learner Diversity/Instructional Scaffolds” section of its template to direct PSTs’ attention towards ways in which they could differentiate for gifted students.

Sub-Recommendation 3.3: Require PSTs to Plan for and Enact Practices That Meet Gifted Learners’ Needs. In order to prepare PSTs to meet the needs of gifted learners, PST must develop and practice the accompanying skill sets. The findings in Chapter 4 indicate that PSTs struggled to connect their observations about students’ readiness levels with instructional steps that would be responsive to those readiness levels. Therefore, instructors should integrate instruction into their coursework that supports PSTs in making those connections, perhaps first through scaffolded collaborative activities (which can support PSTs’ meaning-making [Holmes

et al., 2020]), then through the design of lesson plans in which differentiated instruction for gifted learners is emphasized.

This planning phase is important, but is unlikely to fully prepare PSTs for working with gifted children. PSTs must also carry out the lessons that they design in order to build their capacities for implementing responsive instruction and managing a classroom that is using readiness-based differentiation. This enactment can be done through microteaching experiences within PSTs' coursework, which, when paired with structured reflective exercises, can help PSTs develop skills in lesson delivery (Joseph & Heading, 2010). Additionally, enactment practice can help PSTs better understand the intersection of theory and practice, which facilitates the cultivation of professional knowledge (Joseph & Heading, 2010; Kourieos, 2016). When microteaching takes place during coursework, it also allows PSTs to participate in collaborative sense-making with their peers, which gives them the opportunity to talk through their decision-making processes and any challenges they may encounter (Güngör & Güngör, 2019).

Although enactment is known to support PSTs' development, many EPPs provide PSTs with few opportunities to practice delivering instruction (Hammerness & Klette, 2015). A review of the curriculum maps included in this study suggests that the secondary PGMT program does not require PSTs to engage in much in-class enactment across their courses. Therefore, instructors should build enactment and microteaching experiences into their coursework in which PSTs are required to use readiness-based differentiation strategies that meet all learners' needs.

Beyond this practice during coursework, the program should also require PSTs to design and implement a lesson using readiness-based differentiation in their placement, with a particular emphasis on meeting the needs of advanced students. By requiring PSTs to do this – and perhaps accompanying the requirements with follow-up reflection and sense-making exercises – the

program may be more likely to achieve its goal of preparing PSTs to deliver responsive instruction that accounts for learner variance.

Sub-Recommendation 3.4: Encourage Instructors to Model Readiness-Based

Differentiation. An analysis of PSTs' interviews showed that PSTs' struggles to plan for and implement readiness-based differentiation were the result of not seeing that type of differentiation utilized in practice. It also became clear during the interviews that PSTs do not see differentiation modeled in their clinical experiences, which means that if PSTs are to develop the ability to practice this type of differentiation, they may need to see it modeled during their coursework. However, all three PSTs in this study indicated that they struggled to envision what differentiation looks like from a logistical and managerial perspective. During Janelle's interview, she also explained that watching videos about differentiation in her classes was not enough to help her conceptualize how she could take up the practice. Therefore, knowing that PSTs are unlikely to have differentiation modeled in their clinical placements, but that seeing it "in action" is critical to their preparation, instructors should model readiness-based differentiation in their own classrooms.

However, as Berry (2004) and White (2002) found in their self-studies of their work as teacher educators, the modeling of specific pedagogical practices can be challenging. Despite the challenges associated with modeling (which involves making instructors' decision-making and thought processes explicit for PSTs), Korthagen et al. (2006) suggest that it is integral to the work of any EPP. Loughran (2006) recommends the use of think-alouds to support the modeling process, as this will give the PSTs insights into instructors' planning and implementation of readiness-based differentiation. In providing this modeling of differentiation, the secondary

PGMT program can help to address one of the barriers to PSTs' preparation for working with gifted learners.

Recommendation 4: Facilitate the Development of PSTs' Practical Knowledge (Phronesis)

Regarding the Nature and Needs of Gifted Learners.

Recommendation 4 involves making changes to PSTs' clinical experiences, and is therefore likely to be the recommendation that is most difficult to enact. The findings presented in Chapter 4 suggest that PSTs' clinical experiences do not support their preparation to work with gifted learners, and may actually undermine the secondary PGMT program's efforts to prepare well started teachers when MTs' teaching methods are not aligned to best practice. However, as Loughran (2006) and Smith-Sherwood (2018) suggest, PSTs' clinical experiences are integral to the development of professional knowledge, which means that the secondary PGMT program must consider the role that these experiences play in PSTs' development. Effective EPPs not only have conceptual coherence, but structural coherence as well, which McQuillan et al. (2012) define as the alignment and mutually supporting relationship between coursework and clinical work. Therefore, the program should cultivate robust EPP/school partnership that are structurally coherent, and therefore, more supportive of PSTs' preparation (Millwater & Yarrow, 1997; Smith-Sherwood, 2018). Doing this likely involves ensuring that PSTs are placed in clinical settings where gifted learners are present and are able to work with MTs who can model best practices for meeting those learners' needs.

Sub-Recommendation 4.1: Ensure That All PSTs Have a Clinical Experience Where Gifted Learners Are Present. Clinical experiences provide PSTs with insights into the realities of teaching (Loughran, 2006) and can help PSTs develop their abilities to teach a variety of learners (Wyss et al., 2012). Therefore, it is important that the secondary PGMT program

leverage the influence that clinical experiences have on supporting PSTs' professional development. Studies (e.g., Bégin & Gagné's, 1994; Tirri et al., 2002) have found that teachers' perceptions of gifted learners become more positive simply by having interactions with those students in a clinical setting. Therefore, it is important for the program to consider the feasibility of ensuring that PSTs have at least some exposure (during either the Fall or Spring Clinical Experience) to working with gifted learners. To ensure that this exposure is meaningful, the program should require PSTs to complete coursework tasks focused on their interactions with gifted children in the clinical settings. According to Chamberlin and Chamberlin (2010), encouraging meaning-making about gifted learners during coursework can help PSTs better understand the needs of gifted children, which may lead to more responsive instruction. Furthermore, this deliberate alignment between PSTs' clinical experiences and theoretical learning helps to build the structural coherence of the program.

Sub-Recommendation 4.2. Require Clinical Coaches to Support PSTs in Meeting the Needs of Gifted Learners. Although there are few studies that examine the role that university clinical coaches play in supporting PSTs' abilities to teach gifted learners specifically, there is literature (e.g., Roberts et al., 2021) to suggest that structured, reflective coaching can help PSTs develop professional knowledge and skills. According to Tas et al. (2018), a more highly structured coaching model can better support PSTs' development than a less structured model. The secondary PGMAT program already uses a highly structured framework for guiding the work of clinical coaches, but should consider expanding beyond the prompts provided by the CLASS-S¹⁶ guide while keeping those formal structures in place. The clinical coaches, PSTs, and MTs

¹⁶ The Classroom Assessment Scoring System - Secondary (CLASS-STM) is an observational instrument used to assess classroom quality in secondary classrooms. MAU uses this instrument to guide its clinical coaching practices.

should be provided with additional questions about responsiveness to learners' varied assets and needs, which should be discussed during each coaching cycle meeting. These questions should help support PSTs in meeting the needs of diverse learners more broadly, with specific consideration given to various student populations whose exceptional needs may warrant differentiated teaching responses (e.g., gifted learners, English language learners, learners with IEPs and 504 plans, etc.).

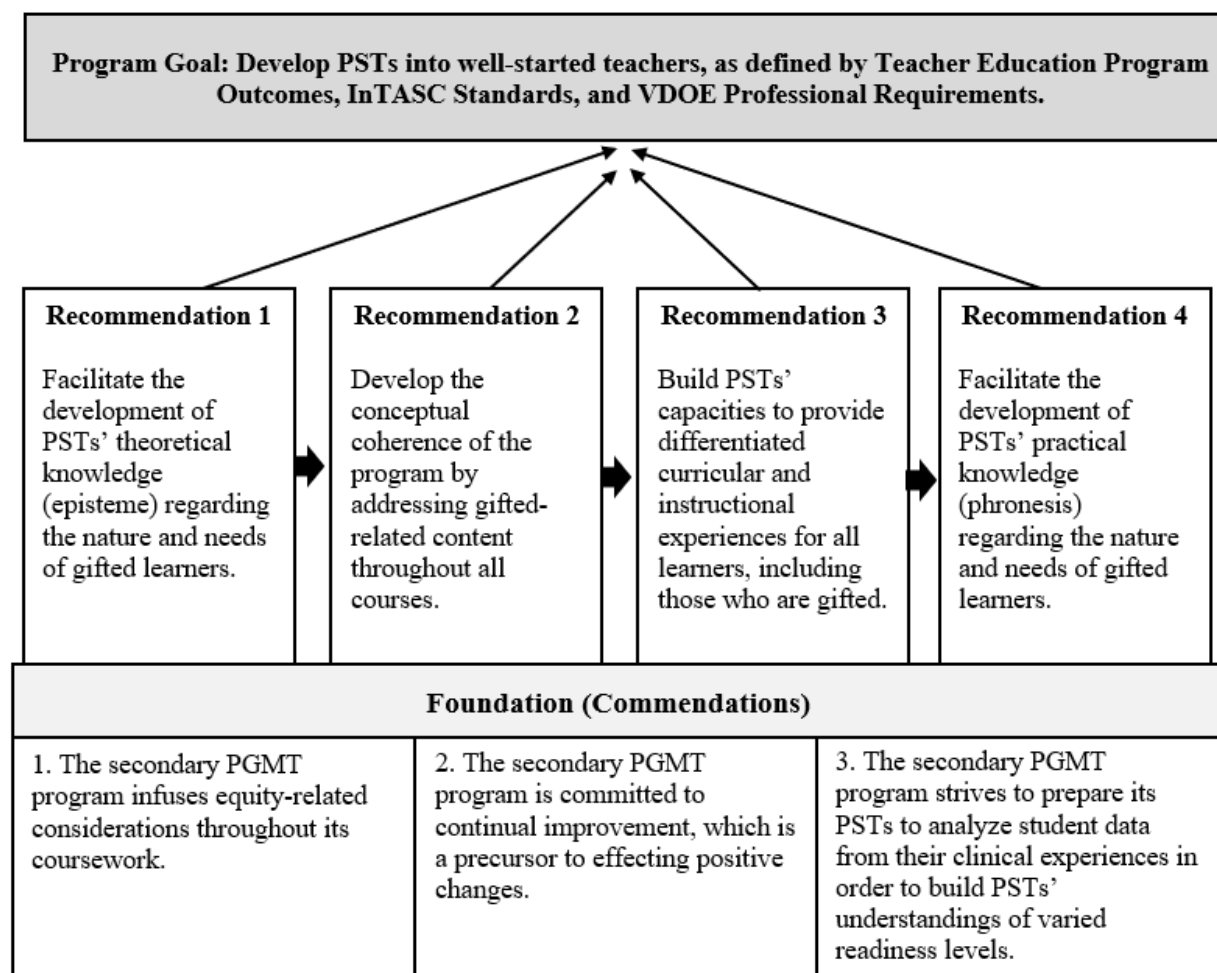
By integrating these additional questions into the existing coaching structures, the secondary PGMT program will be better able to ensure that PSTs are attending to learner diversity in the lessons that they implement in classroom contexts. The EPP has greater control over what takes place during clinical coaching than it does over what takes place with MTs; therefore, this is a viable step that the program can take to ensure that clinical experiences help PSTs meet all learners' needs more effectively.

Sub-Recommendation 4.3: Select MTs Who Can Model Effective Curricular and Instructional Practices for Meeting Gifted Learners' Needs. According to Zanting et al. (2003), PSTs are most likely to acquire practical knowledge of teaching during their clinical work by observing their MTs' practices and asking their MTs for input on PSTs' lessons. Therefore, it is clear that MTs' capacities to effectively teach gifted children is a factor that will likely influence PSTs' preparation for working with advanced learners. However, as demonstrated in the Chapter 4 findings, the PSTs did not observe their MTs modeling practices that were intended to support gifted students. The PSTs also reported that they struggled to differentiate instruction based on readiness levels because they had not seen that type of differentiation modeled in their clinical experiences.

Given these findings, the secondary PGMt program should try to select MTs who can model best practices in meeting the diverse learning needs of all students. In doing so, the program is more likely to ensure that the MTs' practices are aligned with what PSTs learn in their coursework, which will influence the uptake of key teaching skills. However, because of the logistical challenges associated with this recommendation, it may not be feasible for the program to meet this goal in the short term. Rather, program stakeholders might consider ways in which they can (over time) increase MT selectivity and ensure that MTs share/model the values and practices endorsed by the program.

Summary

Chapter 5 presented both commendations and recommendations for stakeholders in the ELA endorsement area of MAU's secondary PGMt program. Those commendations and recommendations are presented visually in Figure 5.1. In the figure, the commendations serve as the foundation for program improvement. The pillars represent the recommendations that, when implemented, can support the program in its efforts to achieve the goal of preparing well-started teachers. The recommendations are ordered from left to right in terms of their actionability, ranging from the more immediate to the long term.

Figure 5.1*Overview of Study Commendations and Recommendations*

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Appendix A

Recruitment Email Template for Instructors

Dear _____,

I am working on a research study for my Capstone and would like to ask you if you are interested in participating. Your participation would involve a one hour-long interview with me during the winter break or spring semester.

The goals of this study are threefold:

1. to determine what UVA's secondary PGMT program does (through coursework and clinical placements) to prepare pre-service teachers (PSTs) to meet the needs of gifted learners in English/language arts (ELA) classrooms
2. to better understand ELA PSTs' perceptions of their preparation to meet gifted learners' needs
3. to develop a more clear picture of what ELA PSTs' experiences are in working with gifted learners during their clinical placements

Through this study, I hope to provide useful recommendations to the Teacher Education Program so that it can achieve its aim of preparing PSTs to meet the diverse learning needs of all K-12 students, including those who are gifted.

Should you choose to participate in this one-hour interview, you would be helping me to achieve the first goal for this study that I listed above. The interview will specifically explore:

- What PSTs are taught in your course(s) in relation to gifted learners and gifted education
- Whether or not (and in what ways) you might have taught about gifted learners and gifted education in your courses prior to the PGMT program redesign (i.e., the restructuring from a 2-year to a 1-year program)
- What you have observed about PSTs' beliefs in relation to gifted learners and gifted education
- What barriers you perceive (if any) to preparing PSTs to meet the needs of gifted learners

If you are interested in participating in this study, please respond to this email to express your interest. Indicating your interest at this time does not mean that you are required to participate. I will send a follow-up email and consent form if you are interested in participating and will then reach out to schedule a day and time for the interview should you choose to participate in the study. The interview can take place either in person or via Zoom, depending on your preference. The Teacher Education data committee has reviewed and approved this study.

If you have any questions, please contact me at mlher@virginia.edu.

Thank you for your time and consideration,

Michelle Hock

UVA IRB-SBS #4847

Appendix B

Recruitment Email Template for PSTs

Dear _____,

I am working on a research study for my Capstone and would like to ask you if you are interested in participating. Your participation would involve a series of 4 interviews and 4 observations during the spring semester, which would conclude around March 11. I estimate that each interview would last about 45 minutes. The observations will ideally take place in your school setting (for one class period per day); however, given COVID-19 regulations, I may not be able to enter the schools. If this is the case, then I would ask to use the videos that you record for your clinical coaching cycles as an alternative form of observation.

The goals of this study are threefold:

1. to determine what UVA's secondary PGMT program does (through coursework and clinical placements) to prepare pre-service teachers (PSTs) to meet the needs of gifted learners in English/language arts (ELA) classrooms
2. to better understand ELA PSTs' perceptions of their preparation to meet gifted learners' needs
3. to develop a more clear picture of what ELA PSTs' experiences are in working with gifted learners during their clinical placements

Through this study, I hope to provide useful recommendations to the Teacher Education Program so that it can achieve its aim of preparing PSTs to meet the diverse learning needs of all K-12 students, including those who are gifted.

Should you choose to participate in these interviews and observations, you would be helping me to achieve the goals for this study that I listed above. The interviews will specifically explore:

- What you know about gifted learners and gifted education
- What you have learned through this program (in courses and your clinical placements) about gifted learners and gifted education
- The nature of your interactions with gifted learners in your placements
- Your beliefs about the relationship between gifted education and equity
- The ways in which you plan and deliver lessons in order to meet gifted learners' needs

If you are interested in participating in this study, please respond to this email to express your interest. Indicating your interest at this time does not mean that you are required to participate. I will send a follow-up email and consent form if you are interested in participating. At that time, we will also discuss plans for scheduling future interviews and observations should you choose to participate. The Teacher Education data committee has reviewed and approved this study.

If you have any questions, please contact me at mlher@virginia.edu.

Thank you for your time and consideration,

Michelle Hock

UVA IRB-SBS #4847

Appendix C

Document Selection Protocol

Documents	Source	Format	Location	Audience	Date of Publication/Update	Date Accessed
Course syllabi	Provided by course instructors	Word documents and PDFs	N/A	Intended for PSTs	Summer 2021 through Spring 2022	
Course materials	Provided by course instructors	Varied (e.g., textbooks, articles, podcasts, etc.)	N/A	Intended for PSTs	Summer 2021 through Spring 2022	
Curriculum maps	Teacher Education program site on Canvas	Word documents	https://educationvirginia.instructure.com/courses/3698/pages/curriculum-mapping	Intended for secondary PGMT faculty and instructors	Summer 2021	
InTASC standards	CCSSO, 2013	PDF	https://ccsso.org/resource-library/intasc-model-core-teaching-standards-and-learning-progressions-teachers-10	Intended for EPPs	2013	
VDOE Professional Studies Requirements	VDOE, 2018	Website	https://law.lis.virginia.gov/admincode/title8/agency20/chapter543/section140/	Intended for EPPs	2018	
Teacher Education Program Outcomes (TEPOs)	Teacher Education program site on Canvas	Word document	https://educationvirginia.instructure.com/courses/3698/files	Intended for secondary PGMT faculty, instructors, and PSTs	2017	

The documents included in the study were chosen in order to help answer RQ 1 (In what ways does the secondary PGMT program prepare ELA PSTs to address the needs of gifted students?). Answering RQ 1 involves knowing what the intended curricula are for the seven courses that I identified as being most relevant for this study (EDIS 5000, 5020, 5030, 5400,

5401, 5852 and 5872). To determine the intended curricula, I need to review the syllabi and materials for each of these courses. Therefore, I will obtain and examine all relevant documents and texts order to better understand what PSTs learn about teaching gifted students. I will not exclude any materials listed in the syllabi, as it is important to have a clear, thorough awareness of what PSTs learn about gifted students through their interactions with course resources.

Additionally, I included the ELA endorsement area curriculum map for the secondary PGMT program. I chose to review this map because it helped me better understand the intended curricula throughout the ELA course of study and therefore provided additional information about the intended curricula. I excluded the curriculum maps for other endorsement areas, as they were outside of the bounds of the case under investigation in this study.

I included regulations and sets of standards in this study that are used by the secondary education program for purposes associated with accreditation, PST licensure, and desired outcomes for program completers. The InTASC standards are included because they represent the PSTs competencies and dispositions that PSTs are expected to have upon program completion in order for MAU's EPP to meet CAEP accreditation standards. The VDOE Professional Studies Requirements are included because they establish the set of professional standards that PSTs should be able to meet in order to obtain licensure in the state. The Teacher Education Program Outcomes are included because they detail the specific set of learning outcomes established by the secondary PGMT program that PSTs are expected to demonstrate by the time of program completion. These were the most relevant sets of standards and outcomes for the program, and therefore, were those that were chosen for inclusion in this study.

Appendix D

Interview Protocol: Instructors

Interview Protocol: Faculty Instructors of Pre-Service Teachers (Lori and Mary)

Interviewer:

Interviewee:

Date and time:

Location:

Thank you for agreeing to take part in this research study and interview. I estimate that the interview will take approximately 45 minutes. The purpose of the interview is to learn more about the ways in which the secondary PGMT program prepares PSTs in the ELA cohort to teach gifted and advanced learners. I will ask you questions about the course (or courses) that you teach, including the intended curricula outlined on the course syllabi and curriculum map, as well as the enacted curricula, or what actually transpires in your courses. I will also ask you questions about the extent to which your courses address gifted students and gifted education and what strategies, if any, are used to prepare PSTs in your courses for teaching gifted learners.

Before we begin, I want to remind you that if you feel uncomfortable or want to stop the interview for any reason, you may do so. Please let me know if you would like to end the interview now. If not, remember that you may ask to stop the interview at any point during our conversation. Also, you do not have to answer all of the questions. If there is a question you would rather not answer, we can skip it.

As we engage in the interview process, I would like to record our discussion. With this recording, I will be able to transcribe the interview in a way that most accurately captures your ideas. However, if you have any concerns about my recording, or would like me to stop recording at any point in time, please let me know. All recordings and transcriptions from the interview will be de-identified and stored in a secure location in order to protect your privacy. As a reminder, the information I collect from you is for use in my Capstone project. Data from the interview will therefore become part of the project and will be available to the members of the Capstone committee.

Question 1: What are PSTs taught about gifted students or meeting the needs of advanced learners in your course?

Follow-Up Question 1: If PSTs are not taught about gifted students, gifted education, or meeting the needs of advanced learners in your course, what are your reasons for excluding this content?

Question 2: In what ways, if any, does your course require PSTs to demonstrate the ability to teach and meet the needs of gifted students or advanced learners?

Question 3: If you taught these courses prior to the program redesign (from a two-year to a one-year program), did you prepare PSTs for teaching the gifted in previous iterations of the course in ways that are different from how you prepare them in the current version of the course?

Follow-Up Question 1: If so, what was the nature of that preparation?

Follow-Up Question 2: What influenced your decision to change the ways in which you are preparing PSTs to teach gifted students?

Question 4: What have you observed about PSTs' beliefs about gifted students?

Follow-Up Question 1: Do PSTs express interest in teaching gifted students?

Follow-Up Question 2: Do PSTs seem to hold misconceptions about gifted students?

Question 5: What barriers – either in general or specific to the program – do you perceive to preparing PSTs to teach gifted students?

Question 6: Is there anything else you would like to tell me that I have not asked you about?

Closing

- Review themes from responses (member checking)
- Thank participants for their time

Interview Protocol: Instructors of Pre-Service Teachers (Nancy)

Interviewer:

Interviewee:

Date and time:

Location:

Thank you for agreeing to take part in this research study and interview. I estimate that the interview will take approximately 45 minutes. The purpose of the interview is to learn more about the ways in which the secondary PGMT program prepares PSTs in the ELA cohort to teach gifted and advanced learners. I will ask you questions about the course (or courses) that you teach, including the intended curricula outlined on the course syllabi and curriculum map, as well as the enacted curricula, or what actually transpires in your courses. I will also ask you questions about the extent to which your courses address gifted students and gifted education and what strategies, if any, are used to prepare PSTs in your courses for teaching gifted learners.

Before we begin, I want to remind you that if you feel uncomfortable or want to stop the interview for any reason, you may do so. Please let me know if you would like to end the interview now. If not, remember that you may ask to stop the interview at any point during our conversation. Also, you do not have to answer all of the questions. If there is a question you would rather not answer, we can skip it.

As we engage in the interview process, I would like to record our discussion. With this recording, I will be able to transcribe the interview in a way that most accurately captures your ideas. However, if you have any concerns about my recording, or would like me to stop recording at any point in time, please let me know. All recordings and transcriptions from the interview will be de-identified and stored in a secure location in order to protect your privacy. As a reminder, the information I collect from you is for use in my Capstone project. Data from the interview will therefore become part of the project and will be available to the members of the Capstone committee.

Question 1: What, if anything, are PSTs taught about gifted students, gifted education, and meeting the needs of advanced learners in your course?

Follow-Up Question 1: If PSTs are not taught about gifted students, gifted education, or meeting the needs of advanced learners in your course, what are your reasons for excluding this content?

Question 2: In what ways, if any, does your course require PSTs to demonstrate the ability to teach and meet the needs of gifted students or advanced learners?

Question 3: If you taught this course before: Did you prepare PSTs for teaching the gifted in previous iterations of the course in ways that are different from how you prepare them in the current version of the course?

Follow-Up Question 1: If so, what was the nature of that preparation?

Follow-Up Question 2: What influenced your decision to change the ways in which you are preparing PSTs to teach gifted students?

Question 4: What have you observed about PSTs' beliefs about gifted students/gifted education?

Follow-Up Question 1: Do PSTs express interest in teaching gifted students?

Follow-Up Question 2: Do PSTs seem to hold misconceptions about gifted students?

Question 5: What barriers – either in general or specific to the program – do you perceive (if any) to preparing PSTs to teach gifted students?

Question 6: Is there anything else you would like to tell me that I have not asked you about?

Closing

- Review themes from responses (member checking)
- Thank participants for their time

Appendix E

Interview Protocol: Pre-Service Teachers (Round 1 Interviews)

Interviewer:

Interviewee:

Date and time:

Location:

Thank you for agreeing to take part in this research study and interview. I estimate that the interview will take approximately 45 minutes. The purpose of the interview is to learn more about your perceptions of the ways in which the secondary PGMAT program has prepared you to teach gifted students. I will ask you questions about your coursework and clinical experiences in order to better understand the degree to which you feel prepared to meet the needs of gifted or advanced learners in your classroom. I will also ask you questions about your experiences with gifted and advanced students in the context of your current placement.

Before we begin, I want to remind you that if you feel uncomfortable or want to stop the interview for any reason, you may do so. Please let me know if you would like to end the interview now. If not, remember that you may ask to stop the interview at any point during our conversation. Also, you do not have to answer all of the questions. If there is a question you would rather not answer, we can skip it.

As we engage in the interview process, I would like to record our discussion. With this recording, I will be able to transcribe the interview in a way that most accurately captures your ideas. However, if you have any concerns about my recording, or would like me to stop recording at any point in time, please let me know. All recordings and transcriptions from the interview will be de-identified and stored in a secure location in order to protect your privacy. As a reminder, the information I collect from you is for use in my Capstone project. Data from the interview will therefore become part of the project and will be available to the members of the Capstone committee.

Preliminary Warm-Up Questions

Question 1: Tell me a bit about your current placement setting.

Questions Linked to Research Questions

Question 2: Do you have any gifted or advanced students in your courses?

Follow-Up Question 1: How do you know that they are gifted or advanced?

Question 3: What do you know about gifted students in general?

Follow-Up Question 1: Where did you learn this information?

Question 4: What do you know about gifted students' academic abilities and/or need?

Question 5: What do you think classroom teachers can do to meet gifted students' academic needs?

Question 6: In what ways (if any) has your coursework in this program prepared you to teach gifted students?

Follow-Up Question 1: Have there been any specific courses or learning experiences in this program (excluding placements) that have helped prepare you to teach gifted students?

Question 7: What types of interactions have you had with gifted or advanced students in your placement? Can you describe those interactions?

Follow-Up Question 1: In what ways (if any) have these experiences in placement prepared you to teach gifted students?

Follow-Up Question 2: In what ways (if any) have interactions with your mentor teacher prepared you to teach gifted students?

Question 8: In your opinion, what is the relationship (if any) between gifted education and equity?

Question 8: Describe the ways in which (if any) you planned to meet the needs of gifted students for the lesson you taught in this past coaching cycle.

Follow-Up Question 1 [if not answered in the question above]: Why did you choose these instructional methods for this lesson?

Follow-Up Question 2 [if PST indicates he/she will not plan to meet the needs of gifted students in this lesson]: Why have you chosen not to using any specific instructional methods to meet the needs of gifted students during this lesson?

Question 9: Is there anything else you would like to tell me that I have not asked you about?

Closing

- Review themes from responses (member checking)
- Thank participants for their time

Interview Protocol: Pre-Service Teachers (Round 2 Interviews)

Interviewer:

Interviewee:

Date and time:

Location:

Thank you for agreeing to take part in this research study and interview. I estimate that the interview will take approximately 45 minutes. Before we begin, I want to remind you that if you feel uncomfortable or want to stop the interview for any reason, you may do so. Please let me know if you would like to end the interview now. If not, remember that you may ask to stop the interview at any point during our conversation. Also, you do not have to answer all of the questions. If there is a question you would rather not answer, we can skip it.

As we engage in the interview process, I would like to record our discussion. With this recording, I will be able to transcribe the interview in a way that most accurately captures your ideas. However, if you have any concerns about my recording, or would like me to stop recording at any point in time, please let me know. All recordings and transcriptions from the interview will be de-identified and stored in a secure location in order to protect your privacy. As a reminder, the information I collect from you is for use in my Capstone project. Data from the interview will therefore become part of the project and will be available to the members of the Capstone committee.

Question 1: Since our last interview, have you found out any additional information about which students in your courses are identified as gifted?

Follow-Up Question 1: How did you find out this information?

Follow-Up Question 2: For the class in the lesson that you taught, what do you believe the range of readiness levels is?

Question 2: Since our last interview, have you learned anything new about gifted students in your courses? This can include characteristics of gifted learners or their academic needs.

Question 3: Since our last interview, have you learned anything new about gifted students in your placement? This can include characteristics of gifted learners or their academic needs.

Question 4: Has your mentor teacher modeled ways in which to meet gifted learners' need?

Question 5: Has your clinical coach supported you in meeting gifted learners' needs?

Question 6: At this point in time, do you feel as though you are prepared to meet gifted learners' needs in a leveled classroom context in which students have similar readiness levels to engage with content?

Follow-Up Question 1: What would help you feel more prepared?

Question 7: At this point in time, do you feel as though you are prepared to meet gifted learners' needs in an unleveled classroom context in which students have a wider range of readiness levels to engage with content?

Follow-Up Question 1: What would help you feel more prepared?

Question 8: What challenges (if any) are you currently experiencing in trying to meet gifted students' needs?

Question 9: Since our last interview, what types of interactions have you had with gifted or advanced students in your placement? Can you describe those interactions?

Follow-Up Question 1: In what ways (if any) have these experiences in placement prepared you to teach gifted students?

Question 10: Since our last interview, have your thoughts evolved or changed regarding the relationship between gifted education and equity? If so, how and why?

Question 11: Describe the ways in which (if any) you planned to meet the needs of gifted students for the lesson you taught in this past coaching cycle.

Follow-Up Question 1 [if not answered in the question above]: Why did you choose these instructional methods for this lesson?

Follow-Up Question 2 [if PST indicates he/she will not plan to meet the needs of gifted students in this lesson]: Why have you chosen not to using any specific instructional methods to meet the needs of gifted students during this lesson?

Question 12: If you had to teach the same text to a classroom of gifted learners and to a classroom of non-gifted learners, would you approach your unit or lesson planning any differently for those groups?

Question 13: Is there anything else you would like to tell me that I have not asked you about?

Closing

- Review themes from responses (member checking)
- Thank participants for their time

Interview Protocol: Pre-Service Teachers (Round 3 Interviews)

Interviewer:

Interviewee:

Date and time:

Location:

Thank you for agreeing to take part in this research study and interview. I estimate that the interview will take approximately 30 minutes. Before we begin, I want to remind you that if you feel uncomfortable or want to stop the interview for any reason, you may do so. Please let me know if you would like to end the interview now. If not, remember that you may ask to stop the interview at any point during our conversation. Also, you do not have to answer all of the questions. If there is a question you would rather not answer, we can skip it.

As we engage in the interview process, I would like to record our discussion. With this recording, I will be able to transcribe the interview in a way that most accurately captures your ideas. However, if you have any concerns about my recording, or would like me to stop recording at any point in time, please let me know. All recordings and transcriptions from the interview will be de-identified and stored in a secure location in order to protect your privacy. As a reminder, the information I collect from you is for use in my Capstone project. Data from the interview will therefore become part of the project and will be available to the members of the Capstone committee.

Question 1: Since our last interview, have you learned anything new about gifted students in your courses? This can include characteristics of gifted learners or their academic needs.

Question 2: Since our last interview, have you learned anything new about gifted students in your placement? This can include characteristics of gifted learners or their academic needs.

Question 3: Has your mentor teacher modeled ways in which to meet gifted learners' need?

Question 4: Has your clinical coach supported you in meeting gifted learners' needs?

Question 5: Since our last interview, do you perceive yourself to be more prepared to meet gifted learners' needs in leveled classrooms?

Question 6: Since our last interview, do you perceive yourself to be more prepared to meet gifted learners' needs in unleveled classrooms?

Question 7: What challenges (if any) are you currently experiencing in trying to meet gifted students' needs?

Question 8: Describe the ways in which (if any) you planned to meet the needs of gifted students for the lesson you taught in this past coaching cycle.

Follow-Up Question 1 [if not answered in the question above]: Why did you choose these instructional methods for this lesson?

Follow-Up Question 2 [if PST indicates he/she will not plan to meet the needs of gifted students in this lesson]: Why have you chosen not to using any specific instructional methods to meet the needs of gifted students during this lesson?

Question 9: If you had to teach the same text to a classroom of gifted learners and to a classroom of non-gifted learners, would you approach your unit or lesson planning any differently for those groups?

Question 10: Is there anything else you would like to tell me that I have not asked you about?

Closing

- Review themes from responses (member checking)
- Thank participants for their time

Appendix F

Observation Protocol

Research Question: What is the nature of ELA PSTs' teaching experiences with gifted learners during clinical experiences?

Environment:

Prior to Observation:

- Review contextual information on lesson provided by PST
- Review PSTs' lesson plans

During the Observation:

- Note students' behaviors and dialogue
- Note students' participation
- Note interactions between PST and students
- Note instances in which PST provides appropriate instruction for gifted/advanced students (e.g., focusing on concepts, using readiness-based differentiation, providing options for independent study, using compacting or acceleration as appropriate, etc.)

Date: PST Being Observed: Location: Observer:		
Time	Facts and Details in the Field Site	Observer Comments
Reflective Summary		

Appendix G

Codebook: Documents (Syllabi and Standards)

Code Name	Definition	Inclusionary Criteria	Exclusionary Criteria	Example
Gifted Students				
Academic/ability diversity	Content that addresses academic/ability diversity	Content focused specifically on diversity as it relates varied academic or ability-related development or readiness levels.	Content in which diversity is focused on other identity elements (e.g., race, culture, language, gender, etc.)	Outcome 2c from the Teacher Education Program Outcomes: “Use data to plan differentiated instruction that responds to learners’ diversity (e.g., background, strengths, needs, interests, language proficiency, literacy level, academic readiness).”
Gifted students’ attributes	Content focused on helping PSTs learn about gifted students’ attributes (including their development and differences)	Content focused specifically on gifted or advanced students’ development and differences	Content describing learner development and differences generally (not gifted-specific focus)	InTASC standard 2(h): “The teacher understands students with exceptional needs, including those associated with disabilities and giftedness, and knows how to use strategies and resources to address these needs.”
Gifted students’ needs	Content focused on helping PSTs learn about gifted students’ needs	Content focused specifically on gifted or advanced students’ learning needs	Content describing learning needs generally (not gifted-specific focus)	InTASC standard 6(k): “The teacher differentiates assessments, which may include providing more challenging learning goals for learners who are advanced academically.”
Curriculum for Gifted Students				
Rigorous content	Content addressing ways in which rigorous content and curricula can meet gifted students’ needs	Information provided that addresses the need to provide gifted or advanced students with	Information about rigorous content and curricula that does not mention or tie	Possible example: A course syllabus listing a reading that focuses on providing rigorous course content and curricula for gifted or advanced students

		rigorous content and curricula	to gifted students' needs	
Concept-based curriculum	Content addressing ways in which concept-based curriculum can meet gifted students' needs	Information provided that addresses the ways in which concept-based curriculum can be specifically used to meet gifted learners' needs	Information about concept-based curricula in general (not gifted-specific focus)	Possible example: A course syllabus listing a reading that focuses on using concept-based curricula for gifted or advanced students
Instructional Strategies for Meeting Gifted Students' Needs				
Compacting	Content addressing ways in which compacting can meet gifted students' needs	Information about the use of compacting as it relates to gifted or advanced learners	Information about the use of compacting that does not relate to gifted or advanced learners	Possible example: Syllabus with a suggested reading about the use of compacting strategies.
Differentiation	Content addressing ways in which differentiation can meet gifted students' needs	Information about the use of differentiation as it relates to gifted or advanced learners or varied readiness levels	Information about the use of differentiation that does not relate to gifted or advanced learners	InTASC standard 8(l) "The teacher knows when and how to use appropriate strategies to differentiate instruction and engage all learners in complex thinking and meaningful tasks."
Independent Study	Content addressing ways in which independent study can meet gifted students' needs	Information about the use of independent study as it relates to gifted or advanced learners	Information about the use of independent study that does not relate to gifted or advanced learners	InTASC: "The teacher offers learners choices about the topics and formats for major projects. S/he provides options for extensions and independent projects to challenge learners and to build their critical and creative thinking skills. (5a; 5o)."
Groupings	Content addressing ways in which grouping strategies can meet gifted students' needs	Information about the use of group strategies as they relate to gifted or advanced learners	Information about the use of grouping strategies that does not relate to gifted or	InTASC: The teacher identifies learners with similar strengths and/or needs and groups them for additional supports. (7d; 7l; 7q)."

			advanced learners	
Other strategies	Content addressing ways in which other strategies can meet gifted students' needs	Information about strategies for meeting the needs of gifted or advanced learners not captured by the other codes in this category	Information about strategies for general classroom practice that is not specific to gifted or advanced learners	VDOE Professional Studies Requirements: "c. Instructional practices that are sensitive to culturally and linguistically diverse learners, including English learners, gifted and talented students, and students with disabilities, and appropriate for the level of endorsement sought shall be included."
Course Features				
Opportunities to learn about gifted-related content	Instances in which PSTs have the opportunity to learn about gifted content through tasks, assignments, materials, etc.	Any tasks described in the syllabus that involve opportunities to learn about gifted content, advanced learners, readiness-based differentiation, etc.	Tasks that do not address gifted or advanced learners specifically	Possible example: A reading assignment about gifted learners
Opportunities to collaborate around gifted-related content	Instances in which PSTs have the opportunity to collaborate and co-construct learning around gifted content	Any tasks described in the syllabus that involve opportunities for PSTs to work collaboratively to learn about gifted content, advanced learners, readiness-based differentiation, etc.	Tasks that do not address gifted or advanced learners specifically	Possible example: An assignment in which PSTs collaboratively analyze classroom scenarios about providing differentiated instruction for gifted or advanced learners based on readiness levels
Opportunities for enactment around gifted-related content	Instances in which PSTs have the opportunity to enact lessons	Any tasks described in the syllabus that involve	Tasks that do not address gifted or advanced	Possible example: Teaching a mini-lesson during placement to a small

	(microteaching, placement assignments, etc.) around gifted content	opportunities for PSTs to practice (or actually teach) gifted or advanced learners	learners specifically	group of gifted/advanced learners
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Appendix H

Codebook: Documents (Course Materials)

Code Name	Definition	Inclusionary Criteria	Exclusionary Criteria	Example
Gifted Students				
Academic/ability diversity	Content that addresses academic/ability diversity			
Gifted students' attributes	Content focused on helping PSTs learn about gifted students' attributes (including their development and differences)			
Gifted students' needs	Content focused on helping PSTs learn about gifted students' needs			
Course Content on Curriculum for Gifted Students				
Rigorous content	Course content addressing ways in which rigorous content and curricula can meet gifted students' needs			
Concept-based curriculum	Course content addressing ways in which concept-based curriculum can meet gifted students' needs			
Course Content on Instructional Strategies for Meeting Gifted Students' Needs				
Compacting	Course content addressing ways in which compacting can meet gifted students' needs			
Differentiation	Course content addressing ways in which differentiation			

	can meet gifted students' needs			
Independent Study	Course content addressing ways in which independent study can meet gifted students' needs			
Groupings	Course content addressing ways in which grouping strategies can meet gifted students' needs			
Other strategies	Course content addressing ways in which other strategies can meet gifted students' needs			
Course Content around Equity				
Opportunity for growth	Course content addressing the need to provide all learners (including the gifted) with opportunities for growth			
UDL	Course content addressing removing barriers to learning in order to support gifted students			
Course Features				
Opportunities to collaborate around gifted-related content	Instances in which PSTs have the opportunity to collaborate and co-construct learning around gifted content			
Opportunities for enactment around gifted-related content	Instances in which PSTs have the opportunity to enact lessons			

	(microteaching, placement assignments, etc.) around gifted content			
Modeling of practice for gifted students	Instances in which faculty utilize modeling or think-alouds to help PSTs understand practices for teaching gifted students			

Appendix I

Codebook: Interviews

Code Name	Definition	Inclusionary Criteria	Exclusionary Criteria	Example
Beliefs				
Nature of giftedness	Beliefs, conceptions, and understandings about giftedness			
Gifted education services/programs	Beliefs or understandings about gifted services/programs			
Positive attitude towards gifted	Instances in which PSTs note a positive attitude toward or support for gifted education or meeting gifted students' needs			
Negative attitude towards gifted	Instances in which PSTs note a negative attitude toward or support for gifted education or meeting gifted students' needs			
Uncertainty about gifted	Instances in which PSTs note that they do not have an awareness of or beliefs about gifted students or gifted education			
Disharmony hypothesis	Belief that gifted students are academically or intellectually advanced but socially and/or emotionally maladjusted			
Okay on their own	Belief that gifted students do not			

	need attention or help from the teacher because they are already advanced			
Equity	Beliefs relating to equity and gifted education			
Elitism	Belief that gifted education is elitist			
Knowledge of Curriculum and Instructional Strategies				
Rigorous content	Knowledge of gifted students' need for rigorous content			
Compacting	Knowledge of/beliefs about compacting as an instructional model for meeting gifted students' needs			
Differentiation	Knowledge of/beliefs about differentiation as an instructional model for meeting gifted students' needs			
Independent Study	Knowledge of/beliefs about independent study as an instructional model for meeting gifted students' needs			
Groupings	Knowledge of/beliefs about grouping methods for meeting gifted students' needs			
Sources of Learning				
Challenges/Barriers	Instances in which PSTs or instructors note barriers to learning about gifted students			

Coursework	Instances in which PSTs indicate learning about gifted students during coursework			
Clinical Placements	Instances in which PSTs indicate learning about gifted students during clinical placements			
Other	Instances in which PSTs indicate learning about gifted students from other sources			
Clinical Placements				
Interactions with gifted students	PSTs' descriptions of their interactions with gifted students			
Perceptions of gifted students	PSTs' perceptions of their gifted students			
Curriculum for gifted students	PSTs' descriptions of the curriculum that they use for gifted students			
Instruction for gifted students	PSTs' descriptions of the instructional practices they use for gifted students			
Grouping practices	PSTs' descriptions of their grouping practices for gifted students			
Meeting gifted students' needs	PSTs' indications of whether or not they believe that they are meeting gifted students' needs			

Mentor teachers' practices	PSTs' descriptions of what MTs do to support their work with/model working with gifted students			
Clinical coach interactions	PSTs' descriptions of what clinical coaches do to support their work with gifted students			
Perceptions of Preparedness				
Prepared to teach gifted	PSTs' perceptions of being prepared to meet gifted students' needs			
Unprepared to teach gifted	PSTs' perceptions of not being prepared to meet gifted students' needs			
Helpfulness of coursework for preparation	PSTs' perceptions of the ways in which (if any) coursework has prepared them to meet gifted students' needs			
Helpfulness of clinical placement experiences for preparation	PSTs' perceptions of the ways in which (if any) clinical placements have prepared them to meet gifted students' needs			
Helpfulness of MT for preparation	PSTs' perceptions of the ways in which (if any) their MTs have prepared them to meet gifted students' needs			

Helpfulness of clinical coaches for preparation	PSTs' perceptions of the ways in which (if any) their clinical coaches have prepared them to meet gifted students' needs			
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Appendix J

Codebook: Video Observations

Code Name	Definition	Inclusionary Criteria	Exclusionary Criteria	Example
Lesson Plans				
Attention to academic/ability diversity	Instances in lesson plans where PSTs plan for attending to academic/ability diversity			
Rigorous content	Instances in lesson plans where PSTs plan for rigorous content			
Compacting	Instances in lesson plans where PSTs plan to use compacting			
Differentiation	Instances in lesson plans where PSTs plan to use differentiation			
Independent Study	Instances in lesson plans where PSTs plan to use independent study			
Groupings	Instances in lesson plans where PSTs plan for using strategic grouping to meet gifted students' needs			
Other strategies for meeting gifted students' needs	Instances in lesson plans where PSTs plan to use other strategies			

	to meet gifted students' needs			
Lesson Implementation				
Attention to academic/ability diversity	Instances in which PSTs enact lessons that attend to academic/ability diversity			
Rigorous content	Instances in which PSTs enact lessons that use rigorous content			
Compacting	Instances in which PSTs enact lessons that use compacting			
Differentiation	Instances in which PSTs enact lessons that use differentiation			
Independent Study	Instances in which PSTs enact lessons that use independent study			
Groupings	Instances in which PSTs enact lessons that use strategic grouping to meet gifted students' needs			
Other strategies for meeting gifted students' needs	Instances in which PSTs enact lessons that use other strategies for meeting gifted students' needs			

Appendix K

Theme Chart

Theme: PSTs are confident in their abilities to gather and analyze assessment data in order to categorize students into readiness-level groupings. However, they struggle to determine what instructional steps they should take in order to meet the needs of students who demonstrate advanced readiness levels.		
Explanation of Interpretation: The sources below indicate that the PSTs included in this study feel capable of gathering and analyzing student data in order to determine students' readiness levels for engaging with content. PSTs believe that they can sort students into readiness-based groupings, but report that they are unable to then design instruction that is responsive to the varied levels of need. In particular, they are unable to determine which instructional practices could be used to support the learning of advanced students. This interpretation of data was supported by data collected during Mary's interview.		
Notes on Supporting Data: The supporting data for this theme come from interviews with instructors and PSTs.		
Evidence 1 Source: Mary interview 1, February 4, 2022	Evidence 1 Excerpt: Somebody said 'I gave a pre-assessment and they all got it.' And I was like 'Well, okay, now what does that mean for your future instruction?' And the response was just 'Um nothing. I'm just proud of them now' (Mary interview 1, February 4, 2022).	Evidence 1 Explanation: This quotation from Mary shows that she has experienced a situation in which a PST took the initiative to review pre-assessment data, but that the PST then did not know how to translate those data into an instructional decision.
Evidence 2 Source: Janelle interview 2, February 22, 2022	Evidence 2 Excerpt: There wasn't really a discussion how to do it...it's more like just showing us we are expected to find ways to respond to assessment data and showcase it in our portfolio. So, it wasn't really like how to do it, but more like this is something we should do.	Evidence 2 Explanation: In this quotation, Janelle is describing how in EDIS 6991, she has to show that she can use assessment data to inform her instructional planning. However, she indicates that she does not know how to plan instruction based on data and believes that she has not yet been taught how to do that.
Evidence 3 Source: Marcie interview 2, February 22, 2022	Evidence 3 Excerpt: At this point, I have not done any specific differentiated instruction. I've looked at the data and sort of grouped who I think would be paired well for working on skills – based on what they have or what they don't have. But I don't have any specific instruction or activities or anything	Evidence 3 Explanation: Marcie suggests that she has gotten practice looking at data and sorting students based on their readiness levels. However, she indicates that she does not yet know how to differentiate her instructional practices to meet specific students' needs.

Appendix L

Data Management Plan

This plan describes how I will manage, organize, and securely store the data that I gather during the course of this study.

1. Data Types and Storage

Throughout my inquiry, I will collect data by engaging in document analyses, semi-structured interviews, and observations. The documents I collect and analyze will be saved as Word Documents and PDFs in MAU Box. I will make notes about and record analyses regarding these documents in Microsoft Word; these documents will be saved in MAU Box as well.

The data from the interviews will be collected and saved as audio recordings of the conversations that take place with participants. Each interview will last approximately 30-45 minutes. Following each interview, I will produce transcriptions in Microsoft Word documents that I save to MAU Box. I will use the naming system described below to manage and organize each of the audio files and transcriptions. Similarly, I will utilize MAU Box to store the video recordings of classroom observations and the notes that I take on these observations.

2. Data Organization and Documentation

My plan for organizing and documenting the data I collect entails the following:

- I will name my document files using the following convention:
Document_DocumentName_Year

An example of this naming convention would appear as follows:

Document_EDIS5000Syllabus_2022

Document_CurriculumMap_2021

- I will name my interview files using the following convention:
Interview_ParticipantName_mm.dd.yyyy_InterviewerInitials_Version

Examples of this naming convention would appear as follows:

Interview_JohnDoe_01.20.2022_MH_Version1

Interview_JaneDoe_02.20.2022_MH_FINAL

- I will name my observation files using the following convention:
Observation_FileType_PSTname_Date

An example of this naming convention would appear as follows:

Observation_Video_JohnDoe_01.20.2022

Observation_Notes_JaneDoe_02.20.2022

I will organize the data that I collect using MAU Box, a secure file-hosting platform. The structure of the file storage for interviews and documents, as well as for data analysis, will appear as follows:

- Data → Data Files → Documents
- Data → Data Files → Interviews → Interview Protocol → Interview Audio →
Interview Transcriptions
- Data → Data Files → Observations → Observation Protocol → Observation Videos
→ Observation Notes
- Data Analysis → Coded Documents
- Data Analysis → Coded Interviews
- Data Analysis → Coded Observations
- Data Analysis → Project Codebook

3. Data Access and Intellectual Property

All participants in the study will be assigned pseudonyms and source IDs in order to ensure confidentiality. The source IDs, as well as the personal information about participants (e.g., demographics, ages, etc.), will be listed in a Microsoft Word document that is separate from the interviews. This document will be stored in MAU Box, a secure file-server platform in

which all gathered data will be housed. The data will be controlled by me, as I will operate as the principal investigator for this Capstone. Others will be able to access the data only by receiving express permission from me, in which case, I will be able to share it with them through MAU Box.

4. Data Preserving and Archiving

I will preserve the data for 3-5 years using MAU Box in accordance with the standard protocol at MAU. The Microsoft Word files will be saved in the .docx file format. The Microsoft Excel files will be saved in the .xlsx file format. The Adobe files will be saved in the .pdf format. I will be responsible for maintaining the data until the end of the preservation window.