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Preservice Teacher Preparation in Meeting the Needs of Gifted and Other Academically Diverse Students

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Preservice Teacher Preparation in Meeting the Needs of Gifted and Other
Academically Diverse Students

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Honors Thesis in Education
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Storrs, Connecticut
May 2006

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Abstract

The issue of how to respond to the diverse academic needs of students is one of the central challenges of teaching. For my Honors Thesis, I conducted a project to study how preservice teachers develop an awareness of the needs of academically diverse learners and how they intend to implement and/or modify instruction to meet those needs. Participants all came from one university. As part of the design of the study, the participants were surveyed to investigate (a) their attitudes and beliefs towards academically diverse learners; (b) the teaching practices they would utilize in response to academic diversity in their classrooms; and (c) the confidence they have in their abilities to identify and address these various needs in their classrooms. Several strategies including activities to enhance creativity, cooperative learning, individual instruction, problem-solving activities, and projects were considered noteworthy for the ratings by the preservice teachers as appropriate for all students. Small differences were found based on the preservice teachers' year of placement in the School of Education, indicating that as students progress through this program, they may learn more about different techniques and when and for whom they are appropriate; however, differences across groups were not statistically significant. Results also indicated that across the different years in the program, preservice teachers did not have very high or very low confidence in addressing these issues in their own classrooms. Each grouping fell around the middle level of confidence.

Chapter 1: Introduction

Research suggests that identifying student differences and providing instruction to accommodate those differences are among the most frequently cited problems of beginning teachers (Tomlinson et al., 1994). Various models have been developed to describe the stages through which individuals pass as they learn to teach (Berliner, 1994; Kagan, 1992). The model proposed by Berliner states that it takes about three to five years to proceed from the novice stage of development to the advanced beginner stage to the competent stage of development. At the novice stage (used in this study to denote preservice teachers in different years of a preservice program), many teachers begin with a focus on themselves and their images of themselves as teachers. Only later, as they gain experience, do they focus more sharply on the learners in their classes.

Research has shown that preservice teachers enter and leave teacher preparation programs with a relatively unchanged set of beliefs about schooling (Tomlinson et al., 1994). Studies of preservice teachers indicate that candidates enter their professional training with well-established beliefs about students, teachings, and classrooms (Florio-Ruane, 1989; Mcdiarmid, 1990). Koehler (1985) suggested that the key problem is that teacher education programs promote teaching skills and attitudes which the preservice teachers do not yet see as relevant or necessary. According to Tomlinson et al. (1994), one reason for there being such a small change is because preservice teachers have spent so many hours as students during their own schooling developing models and images of what schools look like and what goes on in a classroom that the resulting beliefs are simply too strong to be completely reshaped. Preservice teachers bring with them mental imprints of what teaching and learning are like, images gained not from their professional programs, but from years as students. Another explanation is that preservice

teachers may have learned and changed their attitudes during their preservice programs, but the everyday experience in schools washes out whatever changes came about and they return to their own mental imprints.

One might hypothesize that addressing the needs of diverse learners may be a refinement that comes with time and the development of expertise; experience and expertise are not the same thing. In fact, time may solidify patterns of teaching that minimize attention to differentiated practices as teachers rely on their personal beliefs and experiences and those of their fellow teachers to solve instructional problems once they are in the field (Kagan, 1992). Due to this, one cannot assume that beginning teachers will just develop the skills needed to differentiate. In order for these skills to be acquired more attention needs to be focused on academic diversity and strategies to address student differences during preservice preparation. This may be critical to breaking the cycle that overlooks strategies for differentiating instruction.

As summarized by Tomlinson et al. (1995), preexisting beliefs and past school experiences are powerful in shaping prospective teachers' ideas about teaching and learners. Although teacher education programs attempt to change preservice teachers' notions of teaching and learners, the preservice instruction is unable to break down all of those beliefs. On top of that challenge, preservice and beginning teachers are presented with many different responsibilities and concerns that could divert their attention from differentiating instruction. Prospective teachers really need to be taught to reflect on their beliefs about learning and be provided with opportunities to practice differentiating under guidance and support from a mentor or professional. Tomlinson and her colleagues concluded that this is the only way for prospective teachers to develop the skills needed to address academically diverse learners. Research by Anderson (1989) also suggested that programs encouraging prospective teachers to

examine their fundamental beliefs are needed to challenge long-standing beliefs, and even direct instructional interventions have been shown to enhance preservice teachers' awareness of elements of instruction (Saunders & Morine-Dersheimer, 1990).

Moon, Callahan, and Tomlinson (1999) found that preservice teachers were in agreement about practices related to differentiation. Most preservice teachers expressed beliefs that individual student differences should be recognized and accommodations should be made to meet students' varied needs; the ability to focus on student needs is an important step in teacher development. Attempts to understand and meet needs of diverse learners complicate issues of planning and management and require subtle understandings and applications of both content and pedagogy. Interventions, such as a workshop, can serve as a starting point for focusing novices' attentions on the varied needs of academically diverse learners and shaping novices' thinking about the learning environment. Preservice programs can also address the topic of differentiation and provide opportunities for preservice teachers to develop these skills.

The purpose of this study was to examine the attitudes and practices of novices in a preservice program regarding academic diversity and how they intend to implement and/or modify instruction to meet those diverse needs.

Study Overview

This study replicated a part of the Preservice Teacher Preparation Project, a three-year study directed by The National Research Center on the Gifted and Talented (NRC/GT) at the University of Virginia. The present study was designed to gain a better understanding of how students in one preservice teaching program feel about the needs of academically diverse

learners¹ in their classes and how they would implement and/or modify instruction to meet those needs. Participants all came from one university, but varied in their year in the program, as well as in their teaching level concentration and/or subject.

Quantitative methods, such as ANOVAs and descriptive statistics, were used to analyze a survey of (a) attitudes and beliefs of preservice teachers related to academically diverse learners, (b) teaching practices that preservice teachers would employ in response to the academic diversity in their classroom, and (c) the confidence they have in their abilities to identify and address these various needs in their classrooms. The study was designed to examine beliefs of preservice teachers in different stages of a preservice program about gifted, remedial, and special education learners. The research questions for the study were as follows:

1. What are the attitudes of preservice teachers toward various instructional approaches for differentiating curriculum and instruction?
2. How does one's year in a preservice program relate to confidence towards identifying/addressing the needs of diverse learners?
3. How does one's year in a preservice program relate to attitudes and/or practices of preservice teachers?

¹ Diverse learners are defined as gifted and talented, remedial, and special education or learning disabled students.

Chapter 2: Review of Literature

Topics to be addressed in this section include research on differentiation, assessing students, preservice teacher education programs, teacher differentiation practices, and self-efficacy. These areas help provide an overview for the present research project. In understanding what the present research says, the researcher can better understand the preservice teachers' attitudes towards and confidence in differentiation reported in the study survey.

Differentiation

Tomlinson (1995) defined differentiated instruction as “the consistent use of a variety of instructional approaches to modify content, process, and/or products in response to the learning readiness and interest of academically diverse students” (p. 79). In order to differentiate, classroom teachers come up with a variety of different approaches so that they are able to reach every student in the classroom. This can be both time-consuming and difficult to accomplish. According to Tomlinson, her research following the journey of one middle school trying to incorporate differentiation indicated that regular classroom teachers make very few modifications in their instruction for gifted learners or for low performers. This could be due to being overwhelmed with the work they already have, not knowing how to differentiate, or not having any models of differentiation present in their school (Tomlinson, 1995). Archambault, Westberg, Brown, Hallmark, Emmons, and Zhang (1993) conducted a survey of 7,300 third and fourth grade teachers and found that 61% of the responding teachers had received no staff development in the area of gifted education. The researchers concluded that this may explain, in part, why classroom teachers did so little to provide different options for gifted students.

There is a strong emphasis in classroom settings on inclusion. Heterogeneous classes include students with an array of abilities, interests, learning styles, motivational levels, personality types, and cultural heritages. This means that there are many levels of ability in the classroom at once, which causes some challenges for teachers and has led to the incorporation of different teaching practices and strategies in the classroom (Troxclair, 2000).

Differentiation enables a teacher to modify content, process, and product according to a student's readiness, interest, and learning style. According to VanTassel-Baska and Stambaugh (2006), to modify content, teachers look at the information they want the students to learn and the mechanisms through which that is accomplished. To modify process, teachers pay attention to the thought processes that are involved in learning. Teachers design activities to ensure that students use key skills to make sense out of essential ideas and information. For modification of product, teachers encourage students to use alternative means other than tests or reports to demonstrate and extend what they have learned. In order to do this effectively, teachers teach the students how to prepare these alternative products and show them how different media are more or less effective for demonstrating their knowledge (Nevitt, 2000).

According to Tomlinson, careful, ongoing assessment is critical for teachers to find out the levels at which each student in their class is functioning and plan lessons that reach out to those levels. She also suggested that teachers be instructed on what to differentiate, how to differentiate, and why to differentiate. Teachers also make sure that the one version of an activity does not appear more preferable or than another when differentiating. Teachers also are encouraged to understand where each student started, monitor their progress, and continue to differentiate to meet that student's needs (Tomlinson, 1999).

In order to use differentiation successfully, teachers' organization and willingness to put time into planning their lessons are essential. The task of differentiating each lesson requires accessing additional resources, planning for small-group interaction, and perhaps even modifying lessons during delivery. Teachers plan their instruction with a myriad of learners and learning styles as their focus (Nevitt, 2000). Differentiation requires knowing the various levels of the students and each individual's learning styles. All students benefit from differentiated instruction, but it takes a lot of time and effort. Differentiated instruction also requires that teachers modify the environment of their classroom. Many teachers teach deductively, whereas differentiation requires that teachers use inductive methods. The classroom that results from this gives each student an opportunity to teach himself or herself with the guidance of the teacher. The classroom moves from practice-oriented to question-oriented. All of these aspects of differentiation may cause many teachers to stay away from it and teach to the middle of the classroom instead (Heacox, 2002).

Research indicates that teachers may try to reach out to every student's needs and abilities, but find that it requires a lot of work and is very difficult to accomplish. As a result, many teachers try to teach to the middle of the class because it is easier than trying to reach all of the children's needs. In an attempt to fit the majority of the students with material of appropriate complexity for their own level of development and achievement, some students' needs may go unmet. This lack of challenge in the curriculum is "clearly not something desired by teachers, but rather an unintended consequence of their attempts to meet the needs of a diverse student population" (Coleman, Gallagher, & Harradine, 1997).

According to Purcell and Reis (1993), "a dumbing down of textbooks" also has occurred, resulting in content repetition in textbooks. This further aggravates the situation for a diverse

classroom of learners. A steady diet of traditional, textbook-centered learning experiences as is found in many regular education classes is inappropriate for learners, because “many teachers depend on textbooks and other traditional activities because they lack knowledge of strategies which provide appropriate educational experiences for such a wide array of students, especially those at higher levels of functioning” (Troclair, 2000).

Assessing Students

Assessment is key for a successful differentiation program. Teachers have to know what a student already knows, struggles with, and does not know before planning any units or lessons. Teachers must also assess how students learn best. The information gained through these assessments helps the teacher to modify instruction to focus on each and every individual student.

Before placing disabled students into any educational program, schools must evaluate each student’s skills and special needs. This helps the schools and teachers to know the strengths and weaknesses of each child and where accommodations and modifications needed to be made (Office for Civil Rights, 1998), but these assessments are not confined to students with special needs.

There are a variety of levels in each classroom; this means that teachers need to assess everyone’s abilities in order to effectively teach to the whole. The teacher needs to figure out how he/she is going to differentiate to meet the needs of every individual. Identifying student differences and providing instruction to accommodate those differences are problems frequently mentioned by beginning teachers (Tomlinson et al., 1994).

In order to accommodate for differences, teachers pre-assess each student in each subject. When approaching the start of a new unit, the teacher assesses what students already know so that he/she can cater instruction to what each student needs, instead of just doing the same lesson with every student. One way to accomplish this goal is through curriculum-based assessments. These could be done for every content area because a student may be a strong reader, but when they read about a topic that is hard or challenging for them, atoms in science for example, their understanding of the concept is much lower than someone who may have a harder time reading, but yet love the atoms topic.

The term “content reading” is used to discriminate between basal reading and “learning to read” in books with controlled vocabulary and skills and “reading to learn” in subjects such as science, social studies, and mathematics (Jones, 2001). One way of determining the levels in state textbooks is through curriculum-based assessment (CBA). Curriculum-based assessments can be an approach using direct observation and recording of students’ performances as the basis for instructional decisions (Mercer & Mercer, 2001), but they can also be criterion-referenced tests constructed by a teacher to reflect curriculum content (Idol, 1996).

According to Jones (2001), a teacher can assess students’ skills in math by creating mathematics graded word lists, mathematics vocabulary CBAs, and mathematics reading comprehension CBAs. The primary use of graded word lists is to provide an estimate of the grade level of the math vocabulary to administer first. The vocabulary CBAs can be used to assess what level the students are on. If students do not know what the words mean, then they probably would not know which mathematical operation they needed to use if it appeared in a word problem. Mathematics comprehension CBAs assess the students’ abilities to tell you how to solve the problem, which information is relevant in a word problem, and which mathematical

operation would be needed to solve the problem. The whole goal of this assessment is not to have students solve problems, but to see if they are able to set up the problem for solving.

These types of assessments with some revision could be used with any content-area. Measuring each student's instructional levels lets the teacher know where to remediate instruction for some students, stay on level for others, and advance instruction for those above grade-level. In other words, pre-assessing students can help the teacher to know exactly what is needed to differentiate for students.

Another important part of assessment is monitoring students' progress. Periodic evaluations are required for students with special needs (Office for Civil Rights, 1998), but all students should be reevaluated throughout the school year. It is very important for teachers to know for every subject where students began the year, where they have progressed to and where instruction needs to be in the future.

As stated by Tomlinson et al. (1994), identifying student differences and providing instruction to accommodate those differences is a problem experienced frequently by beginning teachers. While there is a lot of research and information on what a teacher should do and the ways they can go about it, beginning teachers have other issues on their mind. Beginning teachers worry about having class control, being liked by students, and the opinions and evaluations of supervisors, which together can be overwhelming. Evaluating each and every student's learning styles, interests, and levels in each unit so that teachers can then differentiate that unit for each child could just elevate that stress, but preservice training and experience in this area can make a person more confident and less overwhelmed.

Differentiation in Preservice Teacher Education Programs

Moon, Callahan and Tomlinson (1999) studied preservice teachers from seven universities. They focused on how preservice teachers develop an awareness of the needs of academically diverse learners and then implement or modify instruction to meet those needs. They found that preservice teachers expressed less favorable beliefs regarding differentiation at the end of their student teaching than they had at the beginning of it, although the preservice teachers paired with curriculum coaches experienced less of a decline in attitudes toward differentiation. Exposure to a workshop along with continued work with a coach may have provided preservice teachers with a clearer picture of the complexity involved in appropriate differentiation and more comfort from increased exposure to effective strategies. Their research concluded that the academic diversity of classrooms calls for changes in practice that should be recognized as a priority from preservice training through professional development. They suggested that a teacher's ability to differentiate instruction will develop over time, but this process needs to be set in motion during one's preservice education. Berliner (1994) also acknowledged that pedagogical skills are gained slowly. In order to set the process in motion, preservice teachers should be afforded the most nurturing environments, adequate practice, and small numbers of students.

Cook (2002) surveyed 181 undergraduate preservice students in general education on attitudes toward inclusion according to various categories of disability. The students were enrolled in one of four seminars in which issues related to special education were integrated. The results of the survey showed that the students perceived their ability to teach students with learning disabilities as higher than the other disability categories, but the students also questioned whether or not this seminar had prepared them for dealing with these disabilities within an

inclusive setting. This reflects Berliner's (1994) comment regarding the developmental process of understanding pedagogical skills.

In order to explore further the question of preservice preparation, Brownell and Pajares (1996) randomly selected 200 second grade teachers from a large Southeastern county school district. All participants were given a survey that addressed the quality of preservice preparation, the quality of inservice preparation, efficacy beliefs, reported success, administrator support, special education support, and collegiality with general and special education. The study found that the more teachers perceived their preservice teacher education as useful in helping them manage students with disabilities, the more likely they were to experience success with such students. Useful information that these teachers received from their preservice programs included the needs of students with disabilities, curricular and instructional adaptations for students, and behavior management techniques for students with disabilities.

While it is important for these items to be addressed in preservice programs, Brownell and Pajares' research concluded that preservice teachers need hands-on experience with special education students in order to really improve their efficacy in dealing with such issues in their classrooms. In order to accomplish this, they suggested that preservice programs should redesign their programs in instruction and curriculum to include course work and/or experience in special education.

Bender and Ikechukwu (1989) also researched teachers' experiences and educational backgrounds, along with their attitudes toward teaching effectiveness and their mainstream classes. They found that general education teachers who took more special education courses in their preservice programs were more likely than their peers who took less course work to indicate using effective strategies and to have higher efficacy beliefs. Furthermore, teachers who

participated in training in which they worked with students with disabilities during their preservice program were more likely to feel satisfied with working with such students in their own classroom, as opposed to teachers with no prior experience in the field (Lobosco & Newman, 1992). The teachers had direct and explicit support to develop the skills and dispositions to practice differentiated instruction (Tomlinson et al., 1997). The teachers who felt satisfied had received training in this field and had been given the opportunities to apply that training during their sessions in which they worked with students with disabilities.

In a study designed to consider how novice teachers develop an understanding of and ability to respond to the needs of academically diverse learners, Tomlinson et al. (1997) found that novice teachers perceive themselves to be already overwhelmed with advice, so it is difficult for them to integrate yet more information on how to differentiate. Taylor and Sobel (2001) did a study of teacher beliefs among 129 preservice teachers. The participants indicated that they believed it to be very important to provide equitable education for all students and to hold high expectations for achievement across ability levels. However, these participants also felt as if they did not know how to adapt instruction or promote learning across many different learning styles and abilities.

Preservice teachers do believe students differ in learning profile and need and they desire to address those needs, but inexperience often frustrates their attempts to do so (McDiarmid, 1990; Paine, 1990). In a study of 70 preservice teachers, Tomlinson et al. (1994) found that preservice teachers focus mainly on surviving – having class control, being liked by students, and opinions and evaluations of supervisors. Preservice teachers were observed three times – once at the beginning of their student teaching, once in the middle, and again at the end. Being praised and failing tended to dominate the preservice teachers' thoughts in the early stages of

teaching. These considerations along with the early pressures that surround teaching, brought about a shift. In order to survive, preservice teachers shifted from the idealistic view of differentiating to meet the needs of all students to a more controlling and custodial one. The preservice teachers became more negative, rigid and authoritarian. Throughout their preservice placement, the preservice teachers held on to the belief that students differ in their needs, but there was a clear sense among virtually all student teachers that addressing those needs is a near impossibility. Having students learn from different materials, at different rates, or in different ways appeared too risky to the preservice teachers. On one level, it is easy to suggest that preservice teachers may not be ready to meet the needs of those gifted, remedial, or special education learners. On the other hand, there is no better time to attempt differentiating instruction than when you have the support of another teacher in the classroom and a supervisor to guide you along the way.

Teacher Differentiation Practices

The application of inclusion is “often impractical” for the real world classroom (Benson, Cramond, & Martin, 2002). It may not be realistic to expect one teacher to meet the needs of such a diverse group, but there are methods teachers may use to help them to reach every student in the classroom. The key element in every method is the teacher. The more knowledge teachers have about differentiation methods and strategies, the more they will be able to address all of their students' needs adequately (Coleman, Gallagher, & Harradine, 1997; Nevitt, 2000).

Reis and Westberg (1994) conducted a study to examine the effects that different levels of staff development had on elementary teachers' implementation of curriculum compacting, which is a technique designed to modify the regular curriculum for students in regular

classrooms. The research dealt with the challenge level of regular curricular materials and teachers' willingness and ability to modify curriculum and instruction for the gifted and talented. Their results found that 181 of the 251 teachers across the entire study had a positive response to curriculum compacting and said that they would use it again next year. The teachers who held negative views (14) or were unsure (56) about compacting felt that way due to concerns about available planning time, a need to know more about compacting, students' independent study skills, large class sizes, and a preference for their own method of meeting students' needs.

Research conducted by The National Research Center on the Gifted and Talented indicated that the instructional and curricular practices provided to gifted students in the regular classroom are almost identical to those provided to average-ability students. The results of a survey administered to over 7,000 third and fourth grade classrooms throughout the country revealed that classroom teachers make only minor modifications in the regular classroom to meet the needs of gifted students. Results also revealed that only an extremely small number of teachers who did make modifications attempted to eliminate material students had already mastered, provide opportunities for students to do more advanced work, or expose students to higher level thinking activities (Archambault, Westberg, Brown, Hallmark, Emmons, & Zhang, 1993). The survey also indicated that 60.8% of public school teachers and 53.3% of private school teachers reported that they had never had any training in teaching gifted students. Reis and Westberg's (1994) observations in third or fourth grade classrooms found that gifted students received no differentiated experiences in 84% of the instructional activities in which they were involved. This might be brought about because most classroom teachers have had

little, if any, professional preparation for adapting instruction to meet the needs of capable students and for managing the classroom in which students learn (Archambault et al., 1993).

Research on effective staff development found that traditional, single meeting inservice sessions teaching new approaches were not sufficient to change practices in classrooms (Guskey, 2003). Instead Guskey found that staff development efforts are not influenced by teachers' beliefs and attitudes; rather, attitudes and beliefs are a result of teachers' implementation of new practices and the observation of changes in students' learning outcomes. According to research done by Showers and Joyce (1996), the best way to study new techniques or reforms is to form small peer coaching groups that help to share the learning process. Reis and Westberg's (1994) research supported the findings of all three of these researchers. They found that teachers who experienced positive outcomes as the result of using curriculum compacting, a procedure for streamlining the regular curriculum and replacing it with material that is at an appropriate challenge level for students, were apt to use it more and therefore adapt this new technique into their classroom. The support that teachers had in peer coaching groups also allowed teachers to see the positive effects compacting had in every other classroom, which helped them to see that the technique works with all different groups of students, not just the ones in his/her classroom.

Brimijoin, Alouf, and Chandler (2002) evaluated a school-college partnership that combined mentors and novices in reform-based professional development for building expertise in mentoring and differentiating curriculum and instruction. The move to have a partnership between inservice teachers and preservice teachers resulted from experiences of interview teams. During interviews only one out of ten candidates for teaching positions could define differentiation with any confidence when asked how they varied instruction for a range of

learning needs. For the researchers, this seemed like something that should be known before one starts student teaching or becomes a teacher candidate. After pairing up inservice teachers with preservice teachers to work cooperatively on differentiation, the researchers concluded that clinical faculty/mentor teachers would be more effective in supporting preservice, intern, and beginning teachers if they are able to model effective differentiation. It also helps when mentors, novices, and differentiation are combined into a professional development mix because preservice teachers are then forced to mature when faced with meeting individual needs in increasingly diverse classrooms. The practice of combining preservice with inservice teachers in this study is similar to Showers and Joyce's (1996) conclusion that small peer coaching groups are the best way to learn.

According to a multi-site case study by Westberg and Archambault (1997), teachers try to match instruction to students' similarities; but truly effective teachers modify instruction to students' differences as well as their similarities. The case studies shed some light on how effective teachers and schools accomplish this challenging task. The ten elementary schools that were chosen for this study all had a reputation for implementing differentiated practices to meet the need of high ability students. Some of the schools used flexible grouping practices or provided opportunities for advanced level projects to accommodate students' differing academic needs. At other schools, teachers collaborated with other teachers at their grade level or with district curriculum specialists to provide more academic challenge for talented students. There were some situations in which principals had a large impact on teachers' instructional practices. Westberg and Archambault found six themes that emerged across sites: teachers' advanced knowledge and training, teachers' willingness and readiness to embrace change, collaboration,

teachers' beliefs and strategies for differentiating the curriculum, leadership, and autonomy and support.

In a video and guidebook for teachers (Association for Supervision and Curriculum Development, 1994), Tomlinson presented several specific instructional and management strategies for providing differentiating experiences that are appropriate for gifted learners: curriculum compacting, independent projects, interest center or interest groups, tiered assignments, flexible skills grouping, high-level questions, and learning centers. Tomlinson et al. (1995) also found that preservice teachers indicated that certain strategies were appropriate for all learners, including cooperative learning, activities to enhance creativity, learning centers, and individualized instruction. Within each of these strategies there is room for minor modifications geared to the individual learner. They concluded that these positive attitudes towards these strategies do not necessarily translate into more classroom differentiation, but may be very important in leading young teachers to persist in determination to differentiate instruction for academic diversity as the novices progress through the demanding stages of developing and applying the skills of differentiation. This allows teachers to improve their skills with differentiation and learn how it can work in classrooms, which helps to build their self-efficacy in this area.

Teacher Beliefs

Bandura (1997) defined personal self-efficacy as “judgments about how well one can organize and execute courses of action required to deal with perspective situations that contain many ambiguous, unpredictable, and often stressful elements” (pg. 201). An efficacy expectation is the conviction that one can successfully execute the behavior required to produce

the outcomes. Bandura (1995) postulated that ‘self-efficacy beliefs influence the course of action people choose to pursue, how much effort they put forth in given endeavors, how long they would persevere in the face of obstacles and failures, their resilience to adversity, whether their thought patterns are self-hindering or self-aiding, how much stress and depression they experience in coping with taxing environmental demands, and the level of accomplishments they realize’ (p. 3).

Bandura (1977, 1986) suggested that there are four sources of self-efficacy information – actual experiences, vicarious experiences, verbal persuasion, and emotional arousal. If the perception is that a performance has been successful in the classroom, then self-efficacy rises, but if failure is perceived then self-efficacy drops. Observing other teachers also leads to impressions about whether or not one believes him/herself capable. Listening to and interacting with cooperating teachers also influences preservice teachers’ efficacy beliefs. The level of arousal a person experiences in a teaching situation also adds to self-perceptions of teaching competence.

Li and Zhang (2000) investigated the effects of early field experiences on preservice teachers’ self-efficacy beliefs. Their research involved 52 sophomore undergraduate students majoring in Elementary Education and Early Childhood Education at a university. Li and Zhang found that preservice teachers’ general teaching efficacy, teachers’ expectations that their teaching can influence student learning, was significantly lower whereas their personal teaching efficacy, individuals’ assessment of their own teaching competency, was slightly higher after early field experiences. Results also showed that students who perceived their cooperating teacher has having higher general teaching efficacy had higher general teaching efficacy themselves. Based on their findings, Li and Zhang suggested that preservice teachers be

provided with field experiences as early as possible in order to build a bridge between theory and practice, ideology and reality.

Educators and researchers have asserted that teachers' beliefs, especially in their perceptions of their own teaching abilities, may be the prominent predictors of teaching practices (Ashton & Webb, 1986; Brownell & Pajares, 1999). In particular, classroom teachers who believe that they are able to successfully instruct students with learning and behavior problems are more likely to differentiate instruction to include these students in their classroom than teachers who believe themselves incapable to instruct or motivate these students. It appears that teachers' beliefs about their ability to work with students with disabilities can be influenced by their views about the quality of their preservice program.

Brownell and Pajares (1999) conducted a teacher efficacy study based on a survey of 200 second-grade teachers in a school district in which students with disabilities typically were integrated at that grade level. In this study, self-efficacy was defined as a context-specific judgment of capability in a particular instructional endeavor. They found that high levels of teacher efficacy were related to perceived success in working with the targeted population. Teachers who felt their preservice education had prepared them to work with students with disabilities also showed higher levels of efficacy.

Along with teachers' beliefs about their own abilities to perform, teachers also form expectations for their students. Arabsolghar and Elkins (2001) researched teachers' expectations about students' ability to use reading strategies. Participants were 45 teachers of either third, fifth, or seventh grade students. The participants completed a four part questionnaire consisting of demographic information and their expectations of their students' use of reading knowledge, strategies, and behaviors based on three ability levels (high, medium and low). Their results

showed that teachers generally expect students to vary systematically with ability level in reference to the three components (strategies, knowledge and behavior). Researchers concluded that an attribution bias may have occurred in which teachers had a tendency to expect much for high-ability students and very little for low-ability students. The self-efficacy of the students can be greatly affected by these self-fulfilling prophecies.

Differentiating instruction is not a strategy that comes easily for experiences of novice teachers. Coaching has been found to be effective at both preservice and inservice levels. Teachers are more likely to use new strategies and concepts if they receive coaching while they are implementing the changes in their classes (Showers & Joyce, 1996). Benefits have been reported for students of coached teachers (Showers, 1987) and for the mentors themselves (Fessler & Burke, 1983). If absent such reflective practice, a broad repertoire of teaching strategies, and persistent support as the strategies develop through and beyond the novice stage of teaching, it appears likely that novice teachers are simply set upon a course which will lead them to become career teachers lacking the skill and/or will to address the needs of academically diverse learners robustly and effectively in their classrooms (Tomlinson et al., 1995).

Chapter 3: Method

Quantitative methods were used to examine (a) attitudes and beliefs of preservice teachers related to academically diverse learners; (b) teaching practices that preservice teachers will employ in response to the academic diversity in the classroom; and (c) the impact placement in a preservice program has on one's attitudes towards academically diverse learners, their needs, and strategies for meeting those needs. Specifically, data collection was designed to address the following research questions:

1. What are the attitudes of preservice teachers toward various instructional approaches for differentiating curriculum and instruction?
2. How does one's year in a preservice program relate to confidence towards identifying/addressing the needs of diverse learners?
3. How does one's year in a preservice program relate to attitudes and/or practices of preservice teachers?

Participants

The individuals that participated in this study were first, second, and third year students in a preservice teacher education program at a large university in the Northeast. Students are accepted into the program at the end of their sophomore year, so first year students are juniors, second year students are seniors, and third year students are Master's students. Most students fall in an age range of between 19 and 23, but there are a few older adults in the program. Age of participants was not asked in order to protect the anonymity of such individuals' survey data.

A total of 242 students completed the survey. Participants included 85 first year students, 71 second year students, and 86 third year students. Forty (17%) of the participants were male and the other 202 were female. Students were also asked to provide their major area of study within education; 39 participants were Special Education majors (16%), 89 were Elementary Education majors (37%), and 114 were Secondary Education majors (47%). Participants included 2 Native Americans, 5 Asians or Pacific Islanders, 9 Latino/a or Hispanics, 6 African Americans, and 210 White Non-Hispanic. Three individuals fell within the “Other” category and seven decided not to reveal ethnicity.

Instruments

The Survey of Practices with Students of Varying Needs (SOP) was developed by the National Research Center on the Gifted and Talented (NRC/GT) at the University of Virginia to assess attitudes and beliefs about academically diverse learners and differentiated instruction appropriate for meeting their needs (Tomlinson et al., 1995).

The SOP was developed specifically for the University of Virginia’s 1995 study entitled, “Preservice Teacher Preparation in Meeting the Needs of Gifted and Other Academically Diverse Learners.” Items were designed to reflect the best practices for meeting the needs of academically diverse learners. Upon adapting the survey for the present study, this researcher only changed information collected in the demographics section. No other changes to the survey were made.

The 25 questions in Part I addressed attitudes teachers hold about differentiation and gifted and remedial students. The participants responded to each question using a 5-item Likert-type scale ranging from strongly agree to strongly disagree. Three scales were formed from the

25 items in Part I, which assessed attitudes towards (a) advanced (gifted) learners; (b) struggling (remedial/at-risk) learners; and (c) differentiation of classroom practices to meet the needs of academically diverse learners.

Part II of the SOP provided an opportunity for respondents to reflect on the amount of time and attention given to special education students, average students, and gifted students by asking them to rank each group accordingly.

In Part III, respondents were asked to rate their confidence on a five-point Likert-type scale ranging from no confidence to very confident regarding their abilities to adapt instruction for the needs of academically diverse learners.

For Part IV, respondents were asked to indicate if they would use particular instructional strategies with gifted students, average students, or special education students.

The SOP appears in Appendix A.

Procedures

Students completed the 15 minute survey during the beginning or end of a class session in a large lecture course. Participants were assured of confidentiality. All surveys from each section were collected and stored in a locked room, and all data entered from these surveys were stored in a secure computer.

Data Analysis

Analysis of the SOP followed the procedures of Tomlinson et al. (1995) in the original study. The only difference was that this was a cross-sectional analysis instead of a longitudinal analysis. Each of the four parts of the SOP was analyzed separately.

In order to determine if differences existed among the three groups in their reported attitudes in Part I, three separate univariate analyses of variance (ANOVA) were run, in which the dependent variables were attitudes toward advanced learners, attitudes toward struggling learners, and attitudes towards differentiation, respectively. For parts II, III, and IV, only descriptive statistics for each group were computed for comparison.

Limitations

One limitation of this study was low reliability for the factors in Part I of the study. The original study reduced the number of items as part of the piloting process, but still had low reliability overall. This same pattern of limited internal consistency occurred in the present study.

Another limitation of this study was the use of a convenience sample, including students from only one university. My sample only reflects attitudes expressed by students at one university, who are all taught in the same fashion and in many cases by the same faculty members for relevant courses.

This study was also conducted in a confined amount of time and therefore it measured different cohorts and not changes over time. This cross-sectional analysis gives the researcher an idea of what may happen to attitudes over time, but it does not directly measure changes in attitudes over time.

Chapter 4: Findings

Items on the SOP provided a quantitative means of assessing attitudes and reported practices of preservice teachers in the various groups (first year, second year, and third year education students).

Part I

Means and standard deviations for each group according to the three subscales related to the attitudes toward academically diverse learners are presented in Table 1. Respondents indicated their agreement or disagreement with each item on a Likert scale, with higher scores indicating a more positive attitude. Possible ranges for the three subscales were 0 to 4 per item, with 9 items for the advanced learner (AL) scale, 4 items for the struggling learner (SL) scale, and 12 items for the differentiation (D) scale. Most of the means fell right in the middle of the scale with a slight lean toward agreeing.

Table 1

Mean Attitudes Towards Issues of Gifted Education, Remedial Education, and Differentiation as Measured by Part I of the Survey of Practices With Students of Varying Needs (SOP)

Item Set	First Year		Second Year		Third Year	
	M	SD	M	SD	M	SD
Advanced	1.96	.52	2.04	.36	2.95	.42
Struggling	2.15	.53	2.29	.46	2.20	.50
Differentiation	2.24	.35	2.26	.31	2.18	.34

^aAdvanced Item Set: 3, 7, 16, 18, 20, 24, 27, 30, 33

^bStruggling Item Set: 1, 4, 9, 29

^cDifferentiation Item Set: 5, 6, 8, 11, 12, 13, 22, 25, 28, 31, 32, 35

Means and standard deviations were also calculated for each individual question. Table 2 shows those results.

Table 2

Mean Attitudes Towards Issues of Gifted Education, Remedial Education, and Differentiation as Measured by Each Question in Part I of the Survey of Practices With Students of Varying Needs (SOP)

Question Number and Question	M	SD
1. A student who is learning disabled will usually be a low achiever in most subjects.	1.8	0.8
3. Gifted students can make it on their own without teacher direction.	1.7	0.7
4. Remedial students find it difficult to work on their own without teacher direction.	2.4	1.0
5. It is important to assess students' knowledge about the topic before beginning a new unit.	3.3	0.7
6. If tests indicate that a student has acquired basic skills, the teacher should omit the regular assignments and modify the curriculum for that student.	2.2	1.1
7. Gifted students will take their regular assignments and make them more challenging on their own.	1.7	0.7
8. If students have already mastered some of the material before starting a unit, they should be given alternative assignments.	2.6	1.0
9. Remedial students may need additional time to practice to master basic skills.	3.0	0.7
11. In the classroom, content should be varied to match students' interests and abilities.	3.2	0.8

Table 2 continued

Mean Attitudes Towards Issues of Gifted Education, Remedial Education, and Differentiation as Measured by Each Question in Part I of the Survey of Practices With Students of Varying Needs (SOP)

12. To assure that all students have the same knowledge base, it is appropriate to present curriculum information to all students in the same way.	1.6	0.8
13. Allowing gifted students to work on assignments that are different from the rest of the students is playing favorites and fostering elitism.	1.7	0.8
16. Gifted students need longer assignments since they work faster.	1.7	0.7
18. Working too hard in school leads to burn-out in gifted students.	1.8	0.9
20. Learning disabled students who are gifted will need to concentrate their study to remediate their weaknesses so they can go on to use their areas of strength.	1.8	1.3
22. Work that is too easy or boring frustrates a gifted child just as work that is too difficult frustrates an average learner.	3.0	1.0
24. Gifted students should be encouraged to direct their own learning.	2.5	1.1
25. Having some students work on different assignments results in unfair grading.	1.7	0.8
27. Some underachievers are actually gifted children.	3.1	1.0
28. While it is appropriate for students to work on different assignments commensurate with their ability levels, the means of assessment should be the same for all students.	2.0	1.1

Table 2 continued

Mean Attitudes Towards Issues of Gifted Education, Remedial Education, and Differentiation as Measured by Each Question in Part I of the Survey of Practices With Students of Varying Needs (SOP)

29. Remedial students have difficulty grasping concepts and need a more fact-based curriculum.	1.6	0.9
30. If a gifted student is doing poorly in spelling, it is necessary to deal with the weakness in spelling before presenting more advanced content in other areas.	2.0	1.0
31. All students in the class should take the same test to show mastery of the material in a unit.	2.0	1.0
32. Removing special education and gifted students from the classroom for special classes is disruptive to the class schedule.	2.0	0.9
33. In teaching gifted students, teachers should modify the content only, since all students need to use the same processes and can generate the same projects.	1.6	1.0
35. Grouping students is more detrimental than beneficial.	1.5	1.0

To determine if significant differences existed across year in program on each of the three scales, three separate univariate ANOVAs were conducted. Results from the first analysis, in which the dependent variable was attitude towards advanced learners, indicated no statistically significant differences between groups, $F(2, 242)=1.07, p=.344$. In other words, all three groups' attitudes towards advanced learners were similar. Results from the second analysis, in which the dependent variable was attitudes towards struggling learners, again indicated no statistically significant differences, $F(2, 242)=1.46, p=.234$. This again was an indication that the three groups' attitudes toward struggling learners were similar. Results from the third analysis, in which the dependent variable was attitudes towards differentiation, once again showed no statistically significant differences, $F(2, 242)=1.35, p=.261$. Once again, this was an indication that the three groups' attitudes towards differentiation were similar.

Part II

The remaining sections of the SOP contained items relating to respondents' reported practices. In Part II, respondents were asked to rank the relative amount of time and attention they given to each of the following groups of students in their future classes: special education students, average students, and gifted students. For each group, gifted students were consistently rated as the group receiving the least amount of attention (see Table 3).

Table 3

Mean Rankings of the Relative Amount of Time Preservice Teachers Would Spend with Academically Diverse Learners as Measures by Part II of the Survey of Practices with Students of Varying Needs (SOP)

	Special Education		Average		Gifted Students	
	Students		Students			
	M	SD	M	SD	M	SD
First-Year Students						
n=83	1.07	0.09	1.31	0.11	1.85	0.14
Second-Year Students						
n=71	1.34	0.10	1.31	0.11	2.18	0.14
Third-Year Students						
n=83	1.20	0.10	1.28	0.10	1.98	0.13

Note: Rankings ranged from “Most Amount of Time” (1 point) to “Least Amount of Time” (3 points).

Part III

In Part III of the SOP, respondents were asked to indicate how confident they felt about activities related to differentiation. Response choices ranged from 1 (no confidence) to 5 (very confident). Mean responses were calculated for each item by group (see Table 4). As can be seen by the table, every category except identifying gifted students followed the same pattern. In every other category, first-year education students had the least amount of confidence. The levels of confidence then gradually increased with second-year students and then third-year students. In the category for identifying gifted students, second-year students had the least

amount of confidence, followed by first-year students and then third-year students. However, overall there was not much difference among the groups. Their responses tended to be very middling no matter what year in the program.

Table 4

Mean Ratings of Confidence with Classroom Differentiation as Measured by Part III of the Survey of Practices with Students of Varying Needs (SOP)

Skill/Group	M*	SD	n
Adapting my lessons to meet the needs of gifted learners			
First-Year Education Students	3.20	0.10	85
Second-Year Education Students	3.35	0.11	69
Third-Year Education Students	3.48	0.10	82
Adapting my lessons to meet the needs of remedial learners			
First-Year Education Students	3.20	0.11	83
Second-Year Education Students	3.59	0.11	69
Third-Year Education Students	3.76	0.10	83
Accommodating varying levels of ability in my class			
First-Year Education Students	3.29	0.10	85
Second-Year Education Students	3.54	0.11	68
Third-Year Education Students	3.67	0.09	83
Assessing where students are and designing appropriate lessons			
First-Year Education Students	3.22	0.09	85
Second-Year Education Students	3.48	0.10	69
Third-Year Education Students	3.78	0.10	82

Table 4 continued

Mean Ratings of Confidence with Classroom Differentiation as Measured by Part III of the Survey of Practices with Students of Varying Needs (SOP)

Individualizing instruction to meet the needs of gifted learners

First-Year Education Students	3.14	0.09	85
Second-Year Education Students	3.32	0.12	69
Third-Year Education Students	3.39	0.10	83

Individualizing instruction to meet the needs of gifted learners

First-Year Education Students	3.11	0.10	83
Second-Year Education Students	3.29	0.12	69
Third-Year Education Students	3.68	0.10	83

Identifying gifted students

First-Year Education Students	3.18	0.10	85
Second-Year Education Students	2.99	0.11	69
Third-Year Education Students	3.35	0.11	81

Identifying remedial students

First-Year Education Students	3.31	0.10	84
Second-Year Education Students	3.51	0.12	69
Third-Year Education Students	3.74	0.09	80

*Responses ranged from “No Confidence” (1 point) to “Very Confident” (5 points).

Part IV

Respondents were asked to indicate which of 14 given techniques, activities, or instructional strategies they thought they would use with advanced students, average students, and special education students. Responses to the items provide information about teaching practices in general as well as about attitudes toward diverse learners and their needs (see Table 5). Several strategies are noteworthy for the ratings by the preservice teachers as appropriate for all students. Respondents from all three years indicated that the following strategies were reported as likely strategies to be used with all types of learners:² activities to enhance creativity, cooperative learning, individual instruction, problem-solving activities, and projects.

For first-year students in the school of education, results also indicated that using workbook exercises for all types of learners was a strategy likely to be used. Second-year students in the school of education also reported the following strategies as likely strategies to be used with all three types of learners: ability grouping, interdisciplinary activities, learning centers, and values training. Third-year students reported ability grouping, higher-level thinking activities, interdisciplinary activities, learning centers, and values training as strategies useful for all three types of learners. Respondents from all three groups were unlikely to use curriculum compacting with average and special education students, drill and practice with gifted students, and independent study projects with special education students.

²At least 50% of the respondents indicated a willingness to use strategy.

Table 5

Percentage of Respondents Indicating That They Would Use Various Instructional Strategies with Academically Diverse Learners as Measured by Part IV of the Survey of Practices with Students of Varying Needs (SOP)

Strategy/Learner type	First Year Education Students n=85	Second Year Education Students n=71	Third Year Education Students n=86
Ability grouping for -			
Gifted Students	58%	82%	66%
Average Students	47%	70%	63%
Special Education Students	47%	62%	58%
Activities to enhance creativity for -			
Gifted Students	85%	93%	80%
Average Students	87%	77%	74%
Special Education Students	75%	59%	73%
Cooperative learning for -			
Gifted Students	66%	69%	80%
Average Students	66%	82%	83%
Special Education Students	62%	70%	79%
Curriculum Compacting for -			
Gifted Students	19%	82%	64%
Average Students	14%	31%	34%
Special Education Students	5%	24%	26%
Drill and Practice for -			
Gifted Students	35%	18%	23%
Average Students	59%	54%	55%
Special Education Students	60%	68%	63%

Table 5 continued

Percentage of Respondents Indicating That They Would Use Various Instructional Strategies with Academically Diverse Learners as Measured by Part IV of the Survey of Practices with Students of Varying Needs (SOP)

Higher Level Thinking Activities for -

Gifted Students	86%	94%	84%
Average Students	59%	72%	78%
Special Education Students	34%	45%	62%

Independent Study for -

Gifted Students	89%	94%	85%
Average Students	36%	44%	52%
Special Education Students	21%	23%	41%

Individual Instruction for -

Gifted Students	58%	65%	73%
Average Students	54%	56%	70%
Special Education Students	86%	86%	81%

Interdisciplinary Activities for -

Gifted Students	52%	77%	72%
Average Students	59%	70%	73%
Special Education Students	49%	66%	64%

Learning Centers for -

Gifted Students	52%	69%	74%
Average Students	51%	73%	78%
Special Education Students	74%	77%	74%

Problem-Solving Activities for -

Gifted Students	85%	85%	80%
Average Students	82%	89%	79%
Special Education Students	75%	70%	72%

Table 5 continued
Percentage of Respondents Indicating That They Would Use Various Instructional Strategies with Academically Diverse Learners as Measured by Part IV of the Survey of Practices with Students of Varying Needs (SOP)

Projects for -

Gifted Students	86%	89%	85%
Average Students	85%	89%	87%
Special Education Students	68%	77%	80%

Values Training for -

Gifted Students	41%	56%	62%
Average Students	46%	62%	63%
Special Education Students	47%	65%	63%

Workbook Exercises for -

Gifted Students	64%	28%	35%
Average Students	84%	61%	50%
Special Education Students	72%	61%	53%

Chapter 5: Discussion

Little is known about how beginning teachers learn to meet the needs of the full range of students in heterogeneous classrooms. To better understand how preservice teachers learn and recognize the academic diversity of their students, this study examined the attitudes and practices of preservice teachers during three different years in a preservice program (their first, second, and third years).

Confidence regarding identifying/addressing the needs of diverse learners

Prior to completing this study, this researcher expected that students in their last year of the preservice program would have the highest confidence towards identifying/addressing the needs of diverse learners, because these students would have already completed all of their undergraduate coursework along with student teaching. These students had “survived” student teaching, and therefore one might presume that their confidence would be higher because they had already had to deal with some of the areas questioned on the survey.

Conversely, one might have predicted that students in their first year of the preservice program would have very low confidence because their actual experiences in the classroom working with students were very limited. Learning all the various techniques and information through coursework would also help to build one’s confidence in dealing with such issues in the classrooms. Therefore, this researcher predicted that students would have low confidence because they had only completed one course before completing the survey.

In every category but one, first-year education students had the least amount of confidence. The levels of confidence then gradually increased with second-year students and then third-year students. These results supported the hypotheses about confidence levels,

although it was expected that the averages would have been much further apart among the different years in the program. It was surprising that students in their first year reported such high confidence, given their limited pedagogical knowledge and experiences in the classroom.

According to Bullough (1989), preservice teachers have spent so many hours as students during their own schooling developing models and images of school that the resulting beliefs are very strong. Bullough's findings can help explain why first year students in the preservice program had such high confidence. It is very possible that these students felt as if they already knew everything that happened in the classroom and how to handle every situation because of their own experiences watching teachers of their classes. Their experiences with their teachers may have led them to believe that it is easy to differentiate, accommodate, adapt, or assess students or varying needs. This could have led to a sense of over-confidence.

On the other hand, third year students had a much lower average confidence rating than was expected. The researcher previously thought that students would have the highest confidence rating at this point in the preservice program due to their extended experiences. Due to the nature of the program, students at this point have already been in three different placements for a semester each, along with student teaching for an entire semester. The researcher expected that these experiences on top of finishing all prerequisite courses would have led students to be more confident about themselves as teachers.

Upon reflection, the researcher found that students may have been less confident due to the fact that they realized how much work is really involved in being a teacher. Their pre-established notions of what it is like to be a teacher were possibly altered during their student teaching experiences. These students were placed in a situation in which they actually had to differentiate, modify, adapt, and assess and they found it to be more work than previously

expected. Due to this, their confidence rating stayed around average as they realized that there is a lot more to be learned.

Attitudes towards various instructional approaches for differentiating

Respondents from all three years indicated that the following strategies were likely to be used with all types of learners: activities to enhance creativity, cooperative learning, individual instruction, problem-solving activities, and projects. On top of the other strategies, it was important that students in each year saw individual instruction as a strategy that should be used with all learners, given the linkage to principles of differentiation. On Part II of the SOP survey, on average all three years in the preservice program consistently rated themselves as giving gifted students the least amount of time and attention in the classroom. So for respondents to note on Part IV that individual attention is important to all groups, including gifted students, was encouraging.

It was not surprising that first-year students in the school of education indicated that using workbook exercises for all types of learners was a strategy likely to be used. At this point in the preservice program, students have yet to be introduced to all the other strategies available to teachers. Students might remember some other strategies from their own experiences, but a majority of them remember completing worksheet after worksheet. It is for this reason that students may believe that worksheets are a positive strategy to be used for all learners. There is a large drop in the belief in worksheets from students in the first year and those in their second and third years in the program. This is due to the coursework that is received during the end of one's first year in the program, where strategies are introduced and discussed. The statistics help to

show that students do seem to learn when worksheets are appropriate and when they are just “busy work.”

First year students were reluctant to choose curriculum compacting and values training for all ability students. First-year students also doubted that special education students could participate in independent studies or higher level thinking activities. This also may be due to first year students’ lack of familiarity with the material. Students had not yet learned exactly what these strategies entailed and for whom they can be modified.

Second-year students have more familiarity with the various instructional approaches and strategies due to more hands-on experiences in classrooms and coursework. Second-year students reported the following strategies as likely to be used with all three types of learners: ability grouping, interdisciplinary activities, learning centers, and values training. These strategies were presented by Tomlinson as appropriate for providing differentiated experiences for students (Association for Supervision and Curriculum Development, 1994). Coursework during the end of the first year and beginning of the second year in the program allowed for more in-depth study in these areas.

Third-year students reported all of the same strategies as the second-year students as usual for all abilities, but these students also reported higher-order thinking activities as appropriate for all three ability levels. Student teaching experiences could be an explanation as to why students in the third year felt this approach to be appropriate. During student teaching experiences students are faced with students with multiple ability levels, strengths, and weaknesses. Students who are weak in some areas may be extraordinary in another. Some special education students can surprise you in the way they can figure out a higher-order thinking

activities. These activities are not just for the “smart” students, but instead every student is able to participate in these activities.

Somewhat surprising in this section of the SOP survey was the fact that respondents from all three groups were unlikely to use independent study projects for students with special education needs. Independent study projects should be used for students with special education needs. If a student has an interest in a topic and wants to further study it, why should a teacher stop him or her just because they have special needs? Further investigation into a topic helps all students to really understand and appreciate what they are learning; so to allow a student who has special needs to do an independent study project will only strengthen that students’ love of knowledge and learning. This success and motivation allows them to push through the hard times where they struggle, so that they are able to do find another interest that they possibly want to research.

Limitations & Future Research

One limitation of this study was the use of a convenience sample. More diversity might have been seen if the study was expanded to include other preservice programs. Due to the small size of the education program at this school, diversity is limited. Expanding the study might have closed the gender and ethnicity gaps a little more. The study then might be able to measure differences in attitudes among different races and genders. Students in this preservice program also generally have the same teaching staff, so expanding the study would allow for different teaching pedagogies and philosophies of education. Student responses would therefore more likely vary.

Another limitation of the study was that it was a cross-sectional analysis. If there was more time to conduct the study, it would have been preferable to have measured students' attitudes as they continued throughout the program, so as to see how one's attitudes really are affected by the preservice program. This would allow a researcher to see more precisely how the program may influence individual beliefs and practices. Such a study would also be beneficial to the preservice program coordinators in evaluating the programs and experiences offered. After surveying students' attitudes throughout the three years in the program, it would also be interesting to have students self-report what they feel their development has been over the program, as well as indicate future practices they feel they will employ.

Implications

As stated by Tomlinson et al. (1995) "the role of a novice teacher is a confounding one at best" (pg. 73). Attempts to understand and meet the needs of diverse learners require understanding and applications of both content and pedagogy. While preservice teaching experiences help students to develop basic pedagogical skills, the task of teaching them to create classrooms appropriate for the needs of academic outliers such as gifted, special education, or remedial learners can be better developed.

Novice teachers appear to enter teaching with images of classrooms that perpetuate teacher-centered or deductive teaching. This only helps perpetuate the cycle of teaching to the middle of the classroom. Deductive teaching is a practice that closes off many opportunities to use a variety of strategies that would better help to address the needs of gifted, remedial, and special education students. In order to truly inform students about the needs of diverse learners,

preservice programs need to address inductive teaching methods. These methods need to be taught and students need to be able to practice them with students.

In order for students to truly practice these new methods and strategies outside support is needed. While the preservice program provides clinical experiences, students are often not required to use the more diverse strategies addressed in their courses and therefore never become fully confident in using them. Support is needed in order to truly change the mental imprints preservice teachers have entering preservice programs. Inductive methods and strategies will not be adapted into teaching practices if support and positive experiences are not had by preservice teachers.

Preservice teachers need the support to develop a repertoire of teaching skills that can facilitate meeting varied needs. Like other forms of expert performance, the ability to differentiate instruction will develop over time; however, the process must be set in motion (Tomlinson et al., 2005). In order to start this process, preservice programs should provide nurturing environments, adequate practice, small numbers of students, and lots of support.

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Appendix A

Survey of Practices With Students of Varying Needs (SOP)

Survey of Practices With Students of Varying Needs

This instrument is designed to help us understand teacher attitudes about classrooms, students, and teaching practices. The instrument will take about 15 minutes to complete. Do not put your name on the paper. Please be sure that you see every question on the front and back of both sheets. Thank you for taking time to participate in this study.

Please indicate the following demographic information about yourself.

Gender: Male Female

Status: 1st yr. Education student 2nd yr. Education student 3rd yr. Education student
Other

Teaching Area: Elementary Education Special Education Art/Music Education
Secondary Education (Subject: _____)

Ethnicity: Asian or Pacific Islander Native American Other
Latino/a or Hispanic White Non-Hispanic
African American or Black (Caribbean, West African, etc.)

Part I:

Read each statement and circle the response that best describes your feelings about the statement. Circle SA if you strongly agree, A if you agree, D if you disagree, SD if you strongly disagree, and DK if you don't know how you feel about the statement.

A student who is learning disabled will usually be a low achiever in most subjects.

SA A D SD DK

The regular curriculum will challenge all students if the teacher is interesting and exciting.

SA A D SD DK

Gifted students can make it on their own without teacher direction.

SA A D SD DK

Remedial students find it difficult to work on their own without teacher direction.

SA A D SD DK

It is important to assess students' knowledge about the topic before beginning a new unit.

SA A D SD DK

If tests indicate that a student has acquired basic skills, the teacher should omit the regular assignments and modify the curriculum for that student.

SA A D SD DK

Gifted students will take their regular assignments and make them more challenging on their own.

SA A D SD DK

If students have already mastered some of the material before starting a unit, they should be given alternative assignments.

SA A D SD DK

Remedial students may need additional time to practice to master basic skills.

SA A D SD DK

An effective way to identify gifted students is to look for students with the highest grades.

SA A D SD DK

In the classroom, content should be varied to match students' interests and abilities.

SA A D SD DK

To assure that all students have the same knowledge base, it is appropriate to present curriculum information to all students in the same way.

SA A D SD DK

Allowing gifted students to work on assignments that are different from the rest of the students is playing favorites and fostering elitism.

SA A D SD DK

Students who are learning disabled are usually poor readers.

SA A D SD DK

Average students need to spend most of their time working in teacher-directed activities.

SA A D SD DK

Gifted students need longer assignments since they work faster.

SA A D SD DK

It is important for all students to do workbook exercises, review pages, and textbook assignments because these activities are an integral part of the curriculum.

SA A D SD DK

Working too hard in school leads to burn-out in gifted students.

SA A D SD DK

Remedial students do not do well in most subjects.

SA A D SD DK

Learning disabled students who are gifted will need to concentrate their study to remediate their weaknesses so they can go on to use their areas of strength.

SA A D SD DK

Gifted students are easy to identify in the classroom.

SA A D SD DK

Work that is too easy or boring frustrates a gifted child just as work that is too difficult frustrates an average learner.

SA A D SD DK

Assignment length and homework assignments are usually designed to meet the needs of the average learner.

SA A D SD DK

Gifted students should be encouraged to direct their own learning.

SA A D SD DK

Having some students work on different assignments results in unfair grading.

SA A D SD DK

Students who differ markedly in ability level from the average learner should be taught in special classes to fully meet their needs

SA A D SD DK

Some underachievers are actually gifted children.

While it is appropriate for students to work on different assignments commensurate with their ability levels, the means of assessment should be the same for all students.

Remedial students have difficulty grasping concepts and need a more fact-based curriculum.

If a gifted student is doing poorly in spelling, it is necessary to deal with the weakness in spelling before presenting more advanced content in other areas.

All students in the class should take the same test to show mastery of the material in a unit.

Removing special education and gifted students from the classroom for special classes is disruptive to the class schedule.

In teaching gifted students, teachers should modify the content only, since all students need to use the same processes and can generate the same projects.

Having gifted students work on individual projects or assignments isolates them from the rest of the class.

Grouping students is more detrimental than beneficial.

SA	A	D	SD	DK
SA	A	D	SD	DK
SA	A	D	SD	DK
SA	A	D	SD	DK
SA	A	D	SD	DK
SA	A	D	SD	DK
SA	A	D	SD	DK
SA	A	D	SD	DK
SA	A	D	SD	DK

Part II:

In thinking about students in the classroom, please rank the following three groups according to the amount of time and attention each one receives. Place a 1 beside the group receiving the most of your attention. Place a 2 besides the next group. Place a 3 beside the group receiving the least amount of attention. If you feel you give equal time to all groups, place an E in each blank.

Special education students _____

Average students _____

Gifted students _____

Part III:

How confident do you feel about the following? Rate from 1 (no confidence) to 5 (very confident) by circling the response that best describes your feelings:

Adapting my lessons to meet the needs of gifted learners	1	2	3	4	5
Adapting my lessons to meet the needs of remedial learners	1	2	3	4	5
Accommodating varying levels of ability in my class	1	2	3	4	5
Assessing where students are and designing appropriate lessons	1	2	3	4	5
Individualizing instruction to meet the needs of gifted learners	1	2	3	4	5
Individualizing instruction to meet the needs of remedial learners	1	2	3	4	5
Identifying gifted students	1	2	3	4	5
Identifying remedial students	1	2	3	4	5

Part IV:

Which specific techniques, activities, or instructional strategies do you think you would use with each of the following learners in the classroom? Place a check in the appropriate column. Do not check strategies unfamiliar to you.

	Gifted Students	Average Students	Special Education Students
Ability grouping			
Activities to enhance creativity			
Cooperative learning			
Curriculum compacting			
Drill and practice			
Higher level thinking activities			
Independent study			
Individual instruction			
Interdisciplinary activities			
Learning centers			
Problem-solving activities			
Projects			
Values training			
Workbook exercises			