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Beginning Teachers' Perceptions of Preparedness to Differentiate Instruction for Diverse Learners¹

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Abstract

A two-phase, sequential mixed-methods design was used to assess perceptions of Preparedness (28 items, $\alpha = .96$) to differentiate instruction for $N = 36$ graduates from one MAT teacher preparation program. Data were analyzed using descriptive statistics, one-way ANOVA and t-test procedures. A focus group with $N = 10$ purposively selected 2010 graduates and interviews with $N = 2$ graduates each from the 2008 and 2009 classes, and $N = 2$ faculty were conducted. The following areas presented challenges to teachers when attempting differentiation: pre-existing ideas of how to teach which contradict differentiation, misinformation regarding differentiation, and classroom management skills. This resulted in the unintentional implementation of surface-level differentiation, rather than deep-structure differentiation (Brighton, Hertberg, Moon, Tomlinson, & Callahan, 2005).

Beginning Teachers' Perceptions of Preparedness to Differentiate Instruction for Diverse Learners

Purpose

The purpose of this research was to investigate the degree to which beginning teachers perceived their teacher education program had prepared them to work with groups of students of diverse race, culture, and learning needs within one classroom. The literature illustrates the current trend toward the increasing diversity among schoolchildren, but also shows that teachers are ill-equipped to handle such learner variance (Schlechty, 2009; Tomlinson, Brighton, Hertberg, Callahan, Moon, Brimijoin, Conover, & Reynolds, 2003).

Differentiated Instruction is a teaching philosophy based on current brain research, learning styles and types of intelligence, the influence of culture and gender on how we learn, motivation, and how people construct meaning (Heacox, 2009; Tomlinson, 2000a; Wormeli, 2006). Teachers who differentiate instruction proactively plan varied approaches to what students need to learn, how they will learn it, and how they will show what they have learned in order to increase the likelihood that each student will efficiently learn as much as he or she can (Tomlinson, 2003).

Although the needs and benefits for teachers to differentiate instruction are high, Tomlinson claims that many teacher education programs are not preparing future teachers for the inevitable increase in academic and cultural diversity among students, seldom giving instruction in how to differentiate (Holloway, 2000; Tomlinson & Allen, 2000). It is important to assess levels of teacher

preparedness for implementing differentiated instruction strategies to the diverse groups of students with whom they will be expected to teach.

Theoretical Framework

Failure to Consider Student Needs

Despite the fact that academic and cultural diversity has increased in the US and is expected to increase further, traditional school structures, pressures of content coverage for standardized tests and limited budgets for staff development all serve as barriers to true differentiation for students (Erickson, 2008). Sarason (1990) believes that students are calling for a different way to learn since the "...one-size-fits-all delivery system-which mandates that everyone learn the same thing at the same time, no matter what their individual needs - has failed them" (p. 114-115; Tomlinson & Allen, 2000). Wagner agrees that the US system of public education, which was created in a different century for different needs, is now obsolete. The implementation of No Child Left Behind (NCLB) is putting children even further behind in their acquisition of the new "survival skills" for learning, work, and citizenship (Schlechty, 2009; Wagner, 2008). Without these new skills, which are not being taught nor tested in the best schools, children are "at an increased risk of not being able to get and keep a good job, grow as learners, or make positive contributions to their community" (Wagner, 2008, p. 14). Wagner offers the following core set of survival skills that are the "new basic skills" for success in the 21st Century: Critical Thinking and Problem Solving, Collaboration Across Networks and Leading by Influence, Agility and Adaptability, Initiative and Entrepreneurialism, Effective Oral and

Written Communication, Accessing and Analyzing Information, and Curiosity and Imagination (2008, p. 14-38). Research shows that the most essential skill for learning, work, and citizenship in the twenty-first century will require our students to know how to think (Schlechty, 2009; Wagner, 2008). However, Wagner laments the fact that these skills and this kind of knowledge are rarely taught in schools today. Educators need to shift their focus from the acquisition of facts and skills, to the meaning and transfer of those skills (Sergiovanni, 2000; Wiggins & McTighe, 2008). Wiggins and McTighe (2008) recommend that school curricula reflect a central mission of learning for understanding. Although critical-thinking skills have become essential competencies for life in the twenty-first century, our schools, which were never designed to teach every student how to think, have remained unchanged (Robinson, 2009; Schlechty, 2009; Sergiovanni, 2000; Wagner, 2008). Mehlinger (1995) believes that “to customize schooling for individual learners, rather than mass produce students who have been taught the same thing in the same way in the same amount of time...is not a superficial change; it is a deep cultural change” (p. 154; Tomlinson et al., 2003).

Differentiated Instruction

Tomlinson and Allen (2000) define *differentiation* “as a teacher’s reacting responsively to a learner’s needs” (p. 4). Attending to learner variance not only makes sense, but it is based on current brain research, learning styles and types of intelligence, the influence of culture and gender on how we learn, motivation, and how people construct meaning (Heacox, 2009; Tomlinson & Allen; Wormeli, 2006). Many experts agree that students are more successful in school and

more engaged in their learning if their instruction is responsive to their readiness levels, interests, and learning profiles (Csikszentmihalyi, 1990; Sternberg, Torff & Grigorenko, 1998; Vygotsky, 1986). According to Edwards, Carr, and Siegel (2006), effective teachers consider their students' unique academic needs, talents, interests, and learning styles in planning, teaching, and assessing lessons. The more teachers learn about their students, the more they are able to design effective experiences that elicit real learning (Edwards, Carr, & Siegel, 2006). Differentiated instruction enables teachers to create lessons that begin where the students are (Edwards, Carr, & Siegel, 2006). Other features of this approach include the engagement of students through varying modalities, the student's competition with self, flexibility, student-centered lessons with multiple approaches, reliance on qualitative research, and a proactive attitude (Edwards, Carr, & Siegel). The following indicators of the current state of education make a strong case for the need and benefits of adopting differentiated instruction (Heacox, 2009; Tomlinson, 2005):

- The United States is becoming a nation of racial and ethnic minorities, forcing teachers to consider the student's language, economic status, background experience, and world view.
- Most districts now include students receiving special education services and gifted services within the general education classroom.
- Tracking students by ability has proven to lower expectations for all students.
- Tracking reinforces the achievement gap that exists between Caucasian students and many minority groups.
- It is questionable whether pull-out programs succeed in raising achievement levels of its students.

According to Kelly (2001), an essential characteristic of best practice teaching is the ability to understand how to create curriculum and deliver instruction that is differentiated for a wide range of learners and learning styles. Similarly, Gardner (2004) advocates for *understanding* to be the primary goal of the American educational system. Cognitive research documents the fact that students “possess different kinds of minds and therefore learn, remember, perform, and understand in different ways” (Gardner, 2004, p. 11). Gardner’s (2006) multiple intelligences theory posits that students come to know the world through the following seven intelligences: language, logical-mathematical analysis, spatial representation, musical thinking, bodily-kinesthetic, interpersonal, and intrapersonal. Since students perform best when they are taught to their strengths, Gardner believes that “...the insistence on having twenty to fifty students in a classroom seated at desks while the teacher lectures, and moving arbitrarily from one subject to another at preordained timed intervals, makes the achievement of an education for understanding virtually impossible” (2006, p. 134). In an attempt to address this issue, Tomlinson, and Allen (2000) strongly advocate for differentiation to be a focus of school change.

Today’s classrooms are more diverse than ever, but are ill-equipped to deal with the wide range of student needs (Schlechty, 2009; Tomlinson et al., 2003). It is common for one classroom to include students with various learning disabilities, highly advanced learners, students whose first language is not English, students who underachieve, students with diverse cultural and economic backgrounds, students of both genders, students with varying interests and

preferred modes of learning, and motivated and unmotivated students. By the year 2035, students of color will be in the majority in our schools, cultural diversity will continue to expand, and half of all children will live in single parent homes (Tomlinson et al.). These demographic realities, in conjunction with an emphasis on the elimination of tracking, inclusion of students with disabilities, and the intent to reduce segregation of gifted and remedial students, will add to teachers being held responsible for addressing learner variance within the classroom (Schlechty, 2009; Sergiovanni, 2000; Tomlinson et al.; Valli & Buese, 2007). Since learning experiences for teachers have focused primarily on improvement rather than personal growth and exploration of new ideas, cutting edge developments, or new pedagogies, few teachers are prepared to make significant changes in pedagogy.

Methodology

This study examined the degree to which beginning teachers felt their teacher education program prepared them to differentiate instruction. Beginning teacher perceptions of differentiating instruction and their preparedness to differentiate were explored through the following research questions;

1. To what extent do beginning teachers feel their teacher education program has prepared them to differentiate instruction among diverse groups of students?
2. Are there differences among beginning teachers' perceptions of their preparation to differentiate instruction among diverse groups of students with respect to the number of years since graduation from their teacher preparation program?
3. Are there differences between beginning teachers' perceptions of their preparation to differentiate instruction among diverse groups of students with respect to the number of certifications held?

4. What are beginning teachers' perceptions of differentiated instruction?

Instrumentation/Data Collection

Perceptions of Preparedness were assessed using 28 items from the *Survey of Beginning Teachers' Perceived Preparedness and Efficacy for Differentiating Instruction*, Zoomerang survey for $N = 36$ graduates from one MAT teacher preparation program. A focus group with $N = 10$ purposively selected 2010 graduates and interviews with $N = 2$ graduates each from the 2008 and 2009 classes, and $N = 2$ faculty were conducted.

Table 1

Cronbach's Alpha Reliability for the Data from the Survey of Beginning Teachers' Perceived Preparedness for Differentiating Instruction

Dimension	Number of Items	Alpha Reliability α
Preparedness	28	.96

Table 1 lists the alpha internal consistency reliability for the Preparedness dimension data which yielded an acceptable coefficient of .96.

Data Analysis

Descriptive statistics, one-way ANOVAs, and t -tests were used to examine research questions 1, 2, and 3. Research question 4 was analyzed using qualitative focus group and interview data. Document analysis served to triangulate the data and facilitate a more thorough understanding of the findings.

Limitations/Delimitations

This study exhibited limitations, including a low response rate from the sample and the possibility of respondents producing socially desirable responses. The

purposive sample utilized study could limit the ability to generalize findings to the larger population, since it draws a small number of participants from a relatively homogenous demographic. Several other sources of error can be attributed to situational factors. Factors such as participant mood, fatigue or motivation could lead to inaccurate responses. A variation in administration procedures such as different environments, different timeframe, differences in technological skill, unclear instructions, and errors in scoring the responses all could have threatened the validity of the study (Creswell, 2009; Gable & Wolf, 1993). Issues of social desirability and anonymity were addressed by assuring the participants that their responses to the scale were anonymous.

Qualitative data reliability was achieved through the following procedures: The researchers checked the transcripts from the focus groups for obvious errors, a codebook was maintained to prevent shifts in the definition and meaning of the codes during the process of coding, and inter-coder agreement was used to cross-check the accuracy of the codes. The researchers ensured that the consistency of the coding was in agreement at least 80% of the time (Creswell, 2009). Trustworthiness, authenticity, and credibility of the data were achieved through the uses of multiple validity strategies. The researchers triangulated the data from the focus group, interviews, open-ended questions, and document analysis to establish themes. Accuracy of the findings was corroborated through member-checking and peer-debriefing and findings were conveyed through the use of rich, thick descriptions. We clearly defined and controlled for any existing bias by conducting an external audit through a “disinterested expert” and

selecting a neutral party to serve as the focus group moderator (Krueger & Casey, 2000; Patton, 2002, p. 562). Although the intent of the qualitative data was not to generalize the findings to other teacher preparation programs, this type of generalization could occur if additional programs are studied and findings are generalized.

Results/Discussion

Research Question 1

A total of $N = 30$ beginning teachers responded to the 28 survey items on a 5-point Likert-type response scale, rated from “Poorly Prepared” to “Very well prepared”. Scores were ranked according to mean and ranged from a low of 3.21 ($SD = 1.21$) to a high of 4.21 ($SD = .73$). It should be noted that mean ratings for preparedness to differentiate instruction approached the “Well Prepared” to “Very Well Prepared” range. Table 2 contains the differentiation strategies that participants felt the least prepared (“Undecided” to “Prepared”) and most prepared (“Well Prepared” to “Very Well Prepared”) to execute within their classrooms.

Items with the lowest means, shown at the top of Table 2, were preparedness to use compacting ($M = 3.21$), to use learning contracts ($M = 3.41$), to incorporate higher level thinking tasks ($M = 3.52$), to use independent study ($M = 3.52$), to use high level cooperative strategies ($M = 3.52$), and to arrange tasks along the continuum of the equalizer ($M = 3.59$). The highest means, shown at the end of Table 2, were found for preparedness to use varied resources

($M = 4.07$), to use a variety of materials ($M = 4.10$), to assess where students are ($M = 4.14$), to use support mechanisms ($M = 4.17$), to accommodate diversity ($M = 4.17$), and to use formative and summative evaluations ($M = 4.21$).

Table 2

Preparedness - Descriptive Statistics; Frequency, Percentage, Mean, and Standard Deviation

Item		Rating					<i>M</i>	<i>SD</i>
		Poorly Prepared	Somewhat Prepared	Not Sure	Well Prepared	Very Well Prepared		
Compacting	<i>f</i>	4	4	5	14	3	3.21	1.21
	%	13	13	17	47	10		
Learning contracts	<i>f</i>	1	4	7	16	1	3.41	0.91
	%	3	13	24	54	3		
Higher level thinking tasks	<i>f</i>	-	6	5	15	4	3.52	0.95
	%	-	20	17	50	13		
Independent study	<i>f</i>	1	3	6	19	1	3.52	0.87
	%	3	10	20	64	3		
High level cooperative strategies	<i>f</i>	-	4	6	20	-	3.52	0.74
	%	-	13	20	67	-		
Continuum of the equalizer	<i>f</i>	-	4	6	18	2	3.59	0.83
	%	-	13	20	60	7		
Conduct research	<i>f</i>	-	4	5	17	4	3.66	0.87
	%	-	13	17	57	13		
Balance structure/choice	<i>f</i>	-	4	5	17	4	3.66	0.86
	%	-	13	17	57	13		
Product form	<i>f</i>	-	5	1	20	4	3.72	0.88
	%	-	17	3	67	13		
Apply key understandings	<i>f</i>	-	4	2	21	3	3.72	0.80
	%	-	13	7	70	10		

(continued)

Table 2

Preparedness - Descriptive Statistics; Frequency, Percentage, Mean, and Standard Deviation (continued)

Item		Rating					<i>M</i>	<i>SD</i>
		Poorly Prepared	Somewhat Prepared	Not Sure	Well Prepared	Very Well Prepared		
Interest centers/groups	<i>f</i>	-	4	2	22	2	3.72	0.78
	%	-	13	7	73	7		
Critical/Creative thinking	<i>f</i>	-	5	1	19	5	3.76	0.91
	%	-	17	3	63	17		
Differentiate using major concepts	<i>f</i>	-	4	2	20	4	3.79	0.86
	%	-	13	7	67	13		
Application of knowledge	<i>f</i>	1	3	-	22	4	3.79	0.90
	%	3	10	-	74	13		
Tiered activities	<i>f</i>	-	4	2	20	4	3.79	0.86
	%	-	13	7	67	13		
Real problems	<i>f</i>	-	4	1	22	3	3.79	0.82
	%	-	13	3	74	10		
Learning centers/groups	<i>f</i>	-	3	2	22	3	3.83	0.76
	%	-	10	7	73	10		
Varied instructional strategies	<i>f</i>	1	2	5	14	8	3.83	1.00
	%	3	7	17	46	27		
Student interest	<i>f</i>	-	3	1	23	3	3.86	0.74
	%	-	10	3	77	10		
Learner profile	<i>f</i>	-	2	1	24	3	3.93	0.65
	%	-	7	3	80	10		

(continued)

Table 2

Preparedness - Descriptive Statistics; Frequency, Percentage, Mean, and Standard Deviation (continued)

Item		Rating					<i>M</i>	<i>SD</i>
		Poorly Prepared	Somewhat Prepared	Not Sure	Well Prepared	Very Well Prepared		
Range of products	<i>f</i>	-	3	-	23	4	3.93	0.75
	%	-	10	-	77	13		
Differ assignments	<i>f</i>	-	3	1	20	6	3.93	0.80
	%	-	10	3	67	20		
Varied resources	<i>f</i>	-	3	1	16	10	4.07	0.88
	%	-	10	3	53	34		
Variety of materials	<i>f</i>	-	3	1	15	11	4.10	0.90
	%	-	10	3	50	37		
Assess where students are	<i>f</i>	-	2	-	20	8	4.14	0.74
	%	-	7	-	66	27		
Support mechanisms	<i>f</i>	-	2	1	17	10	4.17	0.81
	%	-	6	3	57	34		
Accommodate diversity	<i>f</i>	-	1	-	21	8	4.17	0.60
	%	-	3	-	70	27		
Formative/summative evaluation	<i>f</i>	-	1	2	16	11	4.21	0.73
	%	-	3	7	53	37		

Overall, survey data revealed that graduates' perceptions of *preparedness* approached the "Well Prepared" to "Very Well Prepared" range, with the lowest mean scores approaching the "Undecided" to "Prepared" ratings. Participants reported feeling well to very well prepared by their teacher preparation program to differentiate instruction for diverse learners.

Research Question 2

The ANOVAs evaluated the relationship between the number of years since graduation (i.e., 1-2-3 years out) and perceived preparedness to differentiate instruction for the total Preparedness score and the 28 individual items. While examination of the data indicated no statistically significant differences, it is notable that preparedness was associated with relatively high ratings within all three graduation years, approaching the "Well Prepared" range.

Research Question 3

The *t*-tests examined differences between the number of certifications held (i.e., 2 or 3) with respect to perceptions of Preparedness to differentiate instruction for overall Preparedness and each of the 28 items. An item-level "trend" was detected for the teachers with three certifications to have slightly higher ratings of preparedness. While the comparison for overall Preparedness was not statistically significant ($t = .82, p = .42$), ratings approached the "Well Prepared" range, suggesting that teachers with multiple certifications "tended" to feel more prepared.

Research Question 4

Thorough examination of concepts and themes across a focus group and interviews served to describe teachers' perceptions of differentiated instruction.

The following factors emerged as key findings:

1. A conflict existed between teachers', professors', and cooperating teachers' pre-existing beliefs and the philosophy of differentiated instruction.
2. Beginning teachers did not distinguish between "surface-level differentiation" and "deep structure differentiation".
3. Classroom management skills relate to the level of differentiated instruction.

A conflict exists between teachers', professors', and cooperating teachers' pre-existing beliefs and the philosophy of differentiated instruction. Despite feeling prepared to differentiate instruction, beginning teachers' pre-existing beliefs about teaching and learning presented challenges when attempting differentiation. Participants reported conflicting beliefs regarding differentiated instruction among their prospective cooperating teachers, schools, or communities where traditional teaching approaches continue to remain the norm. A first year teacher explained this contradiction when she revealed, "I think I struggled a bit in my placement because some of my teachers had issues themselves with differentiated instruction." This confusion continued into participants' first teaching experiences where colleagues also held many different views regarding differentiation. Traditional approaches to teaching conflict with differentiated approaches (Brighton et al., 2005). Figure 1 illustrates this difference.

<u>Deep Structure Beliefs</u>	<u>Beliefs Underlying Differentiated Instruction</u>
The teacher is the center of the classroom.	The student is at the center of the classroom.
A single curriculum is appropriate for all learners.	Multiple curricular and instructional approaches are necessary to meet individual student needs.
Discussions of student differences are avoided except as explanations for different levels of achievement.	Student differences are acknowledged in instructional planning and appropriately responded to.
The teacher's responsibility is to direct learning.	The teacher's responsibility is to facilitate learning.
Curriculum and instruction are pre-determined by a curriculum guide, textbook, standards, or established teacher routine.	Curriculum and instruction are responses to demonstrated student need.
Student success or failure depends on how well that student can work within a pre-determined curricular and instructional approach.	Student success or failure depends on how well curriculum and instruction meet that student's needs.
Assessment is summative and used to compare student to student.	Assessment is formative and summative in that it guides instruction and is also used to measure student learning.

(Brighton et al., 2005, p. 305)

Figure 1. Differences between Traditional and Differentiated Teaching

Approaches

In traditional approaches to teaching, students are treated as though they are all the same. Teachers may rely on a pre-determined curriculum and avoid responding to student differences. Within this structure, a student's success is dependent on his or her ability to work within the traditional structure, rather than on the teacher's ability to accommodate the student. In a differentiated classroom, teachers respond to a student's individual needs. A student's success indicates that the provided instruction is appropriately matched to the needs of the learner (Brighton et al., 2005).

Participants in this study reported that it was necessary to differentiate instruction in order to accommodate the diversity inherent in their classrooms.

While both quantitative and qualitative data analyses indicated that participants felt prepared to use differentiation strategies daily, qualitative data further revealed the fact that many aspects of differentiation challenged participants' beliefs about fairness, equity, and how classrooms should be organized to allow students to learn most effectively. For example, a first year teacher reported that, "oftentimes the students are learning when they are with each other versus the teacher lecturing." Differentiation requires beginning teachers to confront their existing beliefs about teaching and learning; beliefs that are reinforced by other teachers, principals, parents, and the community (Brighton et al., 2005). Participants acknowledged that the diverse nature of their classrooms required them to differentiate and that more flexible classroom environments were preferable for their students. Even so, participants reported struggling with traditional beliefs about the way classrooms should be organized. Participants used self-talk to continuously remind themselves that although many people believe fairness is achieved only when all students work on the same tasks, the alternate view of fairness, which involves matching curriculum, instruction, and assessment to the individual student's needs, is more appropriate in their classrooms.

Beginning teachers did not distinguish between "surface-level differentiation" and "deep structure differentiation". Qualitative data analysis revealed factors such as lack of school wide support, lack of resources, lack of time to collaborate with other teachers, and the pressures of high-stakes tests as complicating differentiation in the classroom. Despite these difficulties,

participants voiced the belief that differentiation was a good idea and reported making an effort to add differentiated instruction to their teaching practices. However, the strategies most participants reporting using in their classroom resulted in intermittent “surface level differentiation”, including such strategies as the uses of cooperative learning groups or learning stations, and providing choice, rather than “deep structure differentiation”, which requires teachers to deviate from traditional structures and address issues such as grading, individual differences, and equity (Brighton et al, 2005). For example, participants reported:

I do a lot of different flexible grouping, including on-on-one strategies.

My students are on different grade levels for science and math. I teach whole group but might provide graphic organizers, such as checklists. Sometimes I will have class discussions instead of having my students physically write out a lecture.

I differentiate with homework. The students have to pick between three or four different assignments and then show us that they have mastered the assignment they have picked.

Fewer participants reported using deep structure differentiation, including strategies such as differentiating assignments according to readiness level, assessing students with rubrics, or allowing students to progress at their own pace.

One reason for this could be that many administrators, other teachers, parents, and students expect teachers to conduct their classrooms according to traditional structures. Traditional structures define the way we “do school” for members of society, posing a challenging and risky task for those teachers who wish to deviate from society’s expectations. This finding mirrors the research which states that fewer teachers attempt differentiation according to readiness levels as opposed to providing students with options based on interests or

learning preferences (Brighton et al., 2005). Differentiation according to readiness conflicts with many classroom realities in ways that differentiating for interest and learning profile do not. Differentiating by readiness level challenges teachers' perceptions of fairness, requires teachers to have a deep understanding of their discipline, and forces teachers to confront classroom dialogue regarding academic differences (Brighton et al.). Without such conversations about each student's strengths and weaknesses, however, deep level differentiation cannot exist.

Participants' use of mainly surface-level differentiation could also be attributed to an unclear grasp of what true differentiation is. Participants revealed that faculty from the MAT School of Education, their cooperating teachers, schools, and communities all held different beliefs about the philosophy and practice of differentiated instruction. First year teachers reported:

I think within the program there were some discrepancies on how instructors defined differentiate instruction.

The definition needs to be direct and explicit no matter what class you take. Our instructors need to be on the same page.

Different school systems and different teachers see it differently. Some teachers see differentiating instruction as how you are going to challenge students who are on level.

This confusion may have contributed to participants' lack of awareness on the differences between surface-level differentiation and deep structure differentiation. According to Tomlinson and Allen (2000), upon hearing about differentiation, it is common for teachers to respond, "We already do that" (p. 52). Shulman (1987) believes that while teachers are being honest with their answers, frequently what they are doing is supplementing instruction with the occasional use of choice and coaching or modifying questions based on their perceptions of

student need. For example, teachers may “tailor” their instruction by coaching a student for whom a particular assignment is not working.

What the teacher perceives as differentiation is not proactive or planned in that the teacher does not yet regularly seek to understand student differences and modify instruction based upon analysis of student need. (Tomlinson & Allen, 2000, p. 52)

Tailoring is often not a systematic, regular part of planning (Shulman, 1987).

Adopting a framework for differentiation establishes a common vocabulary, focuses staff development, reinforces teacher collaboration, provides a basis for evaluating differentiation efforts, and reduces misunderstanding (See Appendix A; Tomlinson & Allen, 2000).

According to Johnson (2010), the use of surface-level differentiation enables beginning teachers to add innovative practices to their teaching without making a significant change to the structure of the classroom or confronting traditional beliefs about teaching and learning. Participants in this study reported that surface level attempts at differentiation had a positive impact on their students. Participants noted that the use of flexible groupings and the provision of choices increased student interest and the performance of struggling learners. These positive experiences may give teachers confidence and motivation to continue to use differentiation practices.

Classroom Management Skills Affect Differentiation. Successful implementation of differentiation requires that teachers have an understanding of their content knowledge, a variety of pedagogical approaches, and effective classroom management skills (Johnson, 2010). For participants in this study, classroom management presented the biggest challenge to the full use of differentiation. Participants wished they had a “...a bit more in-depth

understanding of behavior management”, with two first year teachers offering the following suggestions:

...students should observe at the school they are going to student teach at so they can build a relationship with the students and see how they behave on a regular basis.

Continue to mix the student teaching among urban and suburban nets...

A faculty member from the School of Education mirrored these sentiments when she recommended:

Increasing the interactive experiences our candidates have in diverse settings and have a regular seminar/dialogue regarding what they have seen, what’s working, what isn’t working.

The high mobility of differentiated classrooms require teachers to facilitate small and large group work, encourage student independence, and manage several different tasks simultaneously. The literature states that “effective differentiation requires teachers to be capable facilitators of small and large group work, knowledgeable about methods of encouraging greater levels of student independence, and effective at managing several different tasks at once” (Brighton et al., 2005, p. 318). Without effective classroom management skills, teachers’ initial attempts at differentiation will be unsuccessful (Brighton et al.). Qualitative findings suggest that participants may have benefitted from more extensive training and practice in the areas of differentiated instructional techniques and responding to various behavior needs. Participants across the focus group and interviews consistently identified classroom management as presenting the biggest challenge to appropriate use of differentiation.

Conclusions

Differentiating instruction is a complex endeavor. As one participating teacher observed, “Good teachers don’t happen overnight”. Brighton and colleagues (2005) agree that differentiation is not a quick fix.

Most importantly, learning to differentiate requires teachers to see the big picture behind differentiation. Teachers need to realize and understand that differentiation is not a formula for success that can be mechanically applied, but that it is instead a commitment to improvement in teaching practice by developing a deeper understanding of content area, adopting new and different goals for themselves and for students, implementing new strategies, and making connections to students’ lives. It requires time, commitment, trial and error, and the support of the whole school community. (Brighton et al., 2005, p. 324)

When differentiating instruction, teachers must be able to create multiple learning experiences and activities tied to the same concept, facilitate small groups engaged in different tasks, possess a deep understanding of their discipline, balance conflicting curriculum initiatives, and shift their role from front-of-the-room controller to that of facilitator of student learning (Brighton et al., 2005). While the vast majority of participating teachers reported feeling prepared and confident to differentiate instruction, they also revealed that many aspects of differentiation challenged their beliefs about teaching and fairness, ultimately limiting their attempts at differentiation to surface-level.

The research claims that many teachers lack training in ways that ensure all students opportunities to actively participate and profit from classroom instruction (Rock et al., 2008; Tomlinson et al., 2003). Teacher education programs are not preparing future teachers for the inevitable increasing diversity of students, rarely instructing them in how to differentiate instruction (Holloway, 2000).

Beginning teachers felt that differentiated instruction was necessary to address the diversity in their classrooms. Quantitative survey results and

document analysis indicated that the program prepared its' graduates to differentiate instruction. Qualitative findings indicated that participants lacked a universal concept of the differentiated instruction philosophy and, as a result, unknowingly implemented mostly surface-level differentiation strategies. Behavior management was identified as the biggest challenge to further differentiation. Thus, participants reported a need for and interest in differentiation, but lacked the knowledge in how to fully implement it.

Educational Implications

Teacher education is more complex today because teacher educators "...must prepare teachers for schooling as it should be, while enabling them to cope with schooling as it is" (Darling-Hammond, 2006, p. 40). Teacher education programs must address pervasive teacher beliefs, create environments for efficacious learning, and provide opportunities for beginning teachers to practice what and how they are expected to teach (Edwards, Carr, & Siegel, 2006; Johnson, 2010; Tomlinson et al., 2003). Today, teacher preparation programs have the additional responsibility of equipping beginning teachers with the knowledge and strategy base to meet the unique needs of each student while ensuring high levels of achievement. The recommendations derived from this research may serve to inform teacher preparation programs, educational leaders, and teachers how to best meet the needs of all students while overcoming seemingly insurmountable challenges. The findings of this study add to or support the body of literature in the areas of differentiated instruction and effective teacher preparation.

Recommendations for Teacher Preparation Programs

The following recommendations incorporate strategies for the MAT School of Education program to develop a model that might best enable teachers to enter the profession with knowledge and attention to student variance and to continue to develop responsive teaching:

- **Focus on explicit strategies to help students (1) confront their own deep seated beliefs and assumptions about learning and students and (2) learn about the experiences of people different from themselves.** Address and revisit the misperceptions and rationale behind differentiated instruction so that it may be fully internalized and articulated by beginning teachers. Include opportunities for novice teachers to spend time in the communities where their students live and reflect on challenging the habitual practice of one-size-fits-all teaching (Darling-Hammond, 2010).
- **Foster strong relationships, common knowledge, and shared beliefs among university-based faculty regarding differentiated instruction.** Develop a common, clear vision of differentiated instruction that permeates all coursework and clinical experiences. Provide clear expectations for implementing differentiated instruction. Differentiation is *not* simply about providing multiple options or “a series of tricks to use upon a whim”; rather it is a thoughtful response to student need (Brighton et al., 2005, p. 326). Introduce the concept of differentiation according to readiness early on and encourage them to address student differences in readiness through their instruction and assessment. Include a commitment to diversity within each class instead of isolating content to a single class.
- **Ensure that curriculum is grounded in knowledge of child and adolescent development, learning, social contexts, and subject matter pedagogy, taught in the context of practice.** Provide opportunities for teacher candidates to observe teachers who use differentiated instruction in their classrooms and/or videotape lessons and create DVDs that exemplify differentiated instruction. Teaching portfolios can present opportunities for extensive documentation of practice and reflection for beginning teachers in learning to differentiate. Problem-based learning strategies, such as case methods and projects, support reflection and link theory to practice (Tomlinson & Allen, 2000).
- **Consider modeling the principles and practices of differentiated instruction in higher education classrooms.** Current and future

educators are expected to differentiate instruction, yet the lecture format of instruction is not conducive to learning such complex skills. Sands and Barker (2004) believe that modeling and experiential learning are highly effective instructional strategies for adult learners when learning complex skills such as differentiation.

- **Extend clinical experiences (at least one full year) and develop them to support the ideas and practices presented in simultaneous, closely interwoven coursework focusing on classroom management and differentiated instruction. Provide student teaching experiences in varied settings with cooperating teachers who model differentiated instruction.** According to Brighton et al. (2005), teachers who are learning to differentiate require support from knowledgeable individuals who are able to observe and provide constructive feedback. Provide differentiated coaching during the practicum experience and allow time for peer support to plan or reflect on differentiation. Use case methods to provide an opportunity for candidates to observe, interview, examine student work, or analyze data for perspective case studies on students, schools or communities. Candidates can compare, contrast, and reflect on examples of differentiated and traditional variations of teaching and products of student learning.
- **Institute Collaboration between universities and school districts to create coherence between training and practice, as well as establish connections for recruitment, preparation, hiring and induction** (Darling-Hammond, 2010; 2006).
- **Integrate practical behavior/classroom management skills.** Present structured performance tasks for candidates to encounter certain kinds of behavior problems and demonstrate or develop certain skills in response. Include specific courses and field experiences focusing on the needs of exceptional learners. Combine content knowledge about specific student needs and learning disabilities with practical work in diagnosis and teaching strategies so candidates develop the abilities to evaluate classroom environments and understand how to manage behaviors and differentiate. Incorporate classroom management skills into every class instead of isolating content to a single class (Brighton et al, 2005).
- **Keep abreast of policymakers current curricular initiatives and plans for raising student achievement and decipher what is required for teachers to carry out new role expectations.**
- **Demonstrate how to differentiate through the use of a range of technology tools.** Research shows that through the use of technology, teachers can most effectively engage learners at varying levels of

readiness in multiple ways and offer students options for demonstrating their understanding and mastery of material (Smith & Throne, 2007).

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Appendix A

Tomlinson's DI Framework Model

