NATIONAL FORUM OF MULTICULTURAL ISSUES JOURNAL
VOLUME 9, NUMBER 1, 2012

Preservice Middle School Teachers' Concerns About Differentiated Instruction With African American Students: The Intersection of Race and Teacher Self-Efficacy in Review

Mack T. Hines III, EdD
Assistant Professor of Educational Administration
Sam Houston State University
Huntsville, TX

Abstract

Educators and theorists believe that race and teacher self-efficacy are two important factors in determining the success of today's teacher. However, scant research discusses these variables from a preservice point of view. In addition, little research examines the possible relationship between race, self-efficacy, and concerns about adopting an innovative strategy for teaching. Yet, African American students continue to struggle in schools. The main reason is that there is lack of congruence between the mainstream instructional styles and the culturally oriented learning styles of African American students.

This article fills these voids by examining the interactive effects of race and teacher self-efficacy on preservice teachers' concerns about embracing differentiated instruction to effectively teach African American students. At the end of the first phase of student teaching, 74 preservice teachers were asked to participate in staff development workshops for differentiated instruction and teaching African American students. Each teacher completed an assessment that measured their levels of concerns for using differentiated instruction to teach African American students. Findings from a two way ANOVA showed that regardless of teacher self-efficacy, African American teachers were the least concerned about differentiated instruction. In addition, White teachers with both high teacher self-efficacy and low teacher self-efficacy held the most concerns about implementing the innovation into classrooms with high populations of African American students. The overall findings suggest the need to provide White preservice and new inseverice teachers with continuous inservice support for developing differentiated instruction teaching skills that will meet the needs of African American students.

Much research has focused on preservice teachers' concerns about teaching (Fuller, 1969; Hord, Rutherford, Huling-Austin, & Hall, 1987). The implications from this research are to build aspiring teachers' confidence to effectively teach students. Few, if any, studies, however, have focused on the teacher concerns of preservice middle school teachers. In addition, no research has determined if middle level and other preservice teachers are concerned about specific instructional innovations of teaching.

Current literature has indicated that new teachers must be able to use innovative teacher methods to facilitate student achievement. The most prominent literature has focused on the need for teachers to implement differentiated instruction into their classrooms. Tomlinson (1999) defined differentiated instruction as the use of various instructional approaches to meet students' learning interests and needs. According to her, differentiated instruction consists of:

- Evaluating students' learning styles, preferences, and abilities;
- Tiering lessons to accommodate students in accordance to their learning styles, preferences, and abilities; and
- Assisting students with developing agreed upon assessments of their work. These assessments should be indicative of their learning styles, preferences, and abilities.

Tomlinson (1999) posited that teachers can sustained this instructional approach through: (a) gathering information about students; (b) asking questions that promote higher ordering thinking; (d) provide students with flexible grouping and tiered activities; and (d) centering classroom activities on challenge and variety. She continued that the management of this environment is contingent upon effective use of multiple texts, supplementary materials, and interest centers.

Tomlinson (1999) cautioned that novice teachers need extensive training on differentiated instruction. She also suggested that teachers be given ample time to master each of the three steps of this innovative teaching method. At the same time, she maintained that differentiated instruction should be used by all teachers. According to her, differentiated instruction is the mechanism for translating teacher controlled classrooms into environments of student-driven achievement.

Given the preparatory purpose of preservice teaching, teacher education units should prepare preservice teachers for using differentiated instruction in the classrooms. The first step should be to investigate their feelings about differentiated teaching. In addition, research should explore the extent to which their views are related to race and teacher self-efficacy. One reason is that race affects teachers' instructional practices (Fagot, 1981; Hines, 2003).

Another factor is that teacher self-efficacy determines teachers' confidence and abilities to be effective classroom leaders (Bandura, 1977, 1986; Ross, 1994; Tschannen-Moran & Woolfolk-Hoy, 2001). In addition, some male teachers have a higher teaching self-efficacy than female teachers. Therefore, the purpose of this study was investigating the interactive effects of race and teacher self-efficacy on preservice middle school teachers' concerns about differentiated instruction. The major research question for this study was:

1. What are the interactive effects of race and teacher self-efficacy on preservice middle school teachers' concerns about differentiated instruction?

The findings could serve as baseline data for increasing preservice middle level teachers' confidence in and skills to teach students with different modalities.

Relevance of Study

Children enter middle school with a variety of learning styles, modalities, and preferences (Hines, 2003). Consequently, they should experience learning situations that accommodate their learning tendencies. In addition, middle school teachers should be skilled in differentiating instruction to accommodate these students.

Most differentiated instruction training is integrated into inservice teachers' professional development experiences (Tomlinson, 1999). However, this approach is not integrated into preservice middle level teaching experiences. As a former middle school practicum supervisor, I believe that preservice middle school teachers could benefit from differentiated teaching experiences. Differentiated instruction training could develop their understanding of and skills to meet the needs of all students. Preservice middle school teachers could also enter their inservice classrooms with an innovative approach to affecting change in classrooms. Thus, the findings from this study could add another dimension to preparing preservice middle level teachers for effective inservice teaching.

Theoretical Framework

This study is grounded on Bandura's (1977, 1986, 1995, 1997) theories on self-efficacy and teaching self-efficacy. Bandura defined self-efficacy as the belief in the ability to complete a desired course of action. He further explained that this belief system has more influence on desired outcomes than does knowledge and skills.

He also claimed that in comparison to people with low self-efficacy, highly self efficacious individuals cope better with stress and helplessness and set higher goals for achievement. They are also more likely to make a quicker recovery from failure than people with low self-efficacy. Bandura further denoted that efficacious people are more effective at completing tasks than people with low self-efficacy.

After conducting research on teacher self-efficacy, Bandura (1977, 1986, 1995, 1997) found that this variable was indicative of his self-efficacy theory. He defined teacher self- efficacy as a teacher's judgment about the capability to produce desired outcomes in student motivation and student achievement. Second, teaching self-efficacy consists of four variables: mastery experiences, physiological and emotional states, vicarious experiences, and social persuasion.

Mastery experiences are defined as using perception of successful teaching to raise confidence of teaching. In other words, when teachers believe they have displays effective teaching, they are more likely to raise their beliefs about being good teachers. When teachers enter psychological and emotional states, they are either excited or anxious about teaching. Bandura (1977, 1997) argued that whereas excitement raises teaching expectations, anxiety lowers confidence to effectively teach students.

The effectiveness of vicarious experiences is contingent upon the relationship between two teachers. If teachers observe other teachers effectively modeling an instructional skill, they are more likely to increase their confidence to become effective users. If they observe poor modeling of instructional skills, teachers can develop a fear about using the teaching method in their classrooms.

If teachers experience the latter situation, they should receive social persuasion. That is, should receive an extensive amount of feedback on how to overcome their fears for teaching. Examples of informal feedback include "pep talks" and motivational speeches. Examples of formal feedback strategies are teaching evaluations and individualized teacher conferences. Bandura (1977) maintained that the effectiveness of this method is contingent upon the experience and success of the persuader.

Bandura (1977, 1997) theorized that these variables collectively add a cyclical dimension to teaching self-efficacy. From a repetitive perspective, high teaching self-efficacy creates higher confidence for teaching and effective teaching performance. Low teaching self-efficacy creates less effort and poor student outcomes from teaching.

These principles are evidenced in Bandura's (1997, 1986) differential descriptions of highly efficacious teachers and teachers with a low teaching self-efficacy. According to him, teachers with high teaching self-efficacy are more likely to use various instructional methods than teachers with a low sense of self-efficacy. Evidence to this effect is seen in the higher achievement levels of classrooms with highly efficacious teachers than teachers with a low teaching self-efficacy (Ashton-Webb, 1986; Coladarchi, 1992; Gibson & Dembro, 1984; Tschannen-Moran & Woolfolk-Hoy, 2001).

In comparison to teachers with low teaching self-efficacy, highly efficacious teachers are more likely to persist at risk taking and using teaching innovations in their classrooms. Teachers with a high teaching self-efficacy implement open-ended, student directed teaching strategies in their classrooms. Teacher with a low teaching self-efficacy, however, are more likely to relate teaching to teacher controlled learning and achievement. Of these groups, teachers with a high teaching self-efficacy are more likely to overcome instructional setbacks and outcomes that do not match lesson plan objectives. Additionally, teachers with a high teaching self-efficacy are less critical of student errors and struggling students than teachers with a low teaching self-efficacy.

Ross' (1994) study on teaching self-efficacy indicated that highly efficacious teachers are more likely to:

- Exhibit management strategies that facilitate students achievement;
- Place continuous emphasis on differentiated instruction for students;
- Inspire students to develop positive self esteem for learning; and
- Maintain continuous goals for student learning.

Other comparative research has shown that teachers with a high teaching self-efficacy spend more time on planning and organization for teaching. They also display greater enthusiasm for new ideas on methods of instruction. Simply put, teachers with a high teaching self-efficacy have a higher commitment to teaching than teachers with a low teaching self-efficacy.

I believe that Bandura's (1977, 1986, 1995, 1997) has significance relevance to this study. In effect, his theory could explain possible differences between preservice middle level teachers' concerns about using differentiated instruction in the classroom. That is, if the differences are attributable to teacher self-efficacy, they could be indicative of Bandura's theory. Based on Bandura's research, I am proposing the following hypothesis:

1. Preservice middle school teachers with a high teaching self-efficacy will have fewer concerns about differentiated instruction than preservice middle school teachers with a low teaching self-efficacy.

Literature Review

Concerns for Innovation

The Concerns Based Adoption Model (CBAM) is the most widely used research for evaluating for teacher concerns about an innovation (Hall, 1976, 1988; Hall & Hord, 1987; Hall, George, & Rutherford, 1978, 1979, 1986, 1998). This model was developed and validated by numerous researchers (Hall, Wallace, & Dossett, 1973; Hord, Rutherford, Huling-Austin, & Hall, 1987). The CBAM consists of seven stages for evaluating teacher concerns for adopting a new innovation. They are Awareness, Informational, Personal, Management, Consequence, Collaboration, and Refocusing. During the Awareness stage, teachers have little or no concerns about the educational innovation. The Informational stage is characterized by limited Awareness and interest in the educational innovation.

When teachers reach the Personal stage, they are concerned about their personal abilities to accommodate the educational innovation. During the Management stage, teachers are concerned about their abilities to implement the innovation into their classrooms. During the entry into the Consequence stage, teachers are more focused on students' potential feelings about the educational innovation. In particular, teachers consider the extent to which students will accept or respect the innovation.

The Collaboration stage is defined by teachers' concerns about working with other teachers to develop their skills in using the innovation. The Refocusing and final stage relates to teachers' considerations about changing the innovation. In addition, they began to reflect on the innovation's effectiveness in their classrooms.

After conducting additional research on the CBAM, Hall and Hord (1987, 2001) developed specific strategies for progressing through each stage. Listed below is an outline of their recommendations.

Table 1

Intervention Strategies for CBAM Stages

Stage	Strategy
0 Awareness	1. Acknowledge teachers' concerns about the educational innovation. 2. Encourage teachers to discuss their concerns with each other. 3. Reiterate the requirement and benefits of adopting the educational innovation 4. Share experiences with using the educational innovation.
1 Informational	1. Deliver presentations about the educational innovations. 2. Clarify expectations and role responsibilities for adopting the educational innovation. 3. Develop Awareness of the benefits and risks for using the educational innovation. 4. Communicate the aims and goals for using the educational innovation.

2 Personal	1. Provide extensive training opportunities for learning how to adopt the educational innovation. 2. Explain how educational innovation relates to other aspects of teaching.
3 Management	1. Demonstrate how educational innovation can be used to strengthen other teaching practices and activities. 2. Coordinate “How To” workshops on using the educational innovation.
4 Consequence	1. Provide continuous coaching for and encouragement to use the educational innovation. 2. Make arrangements for teachers to attend regional, statewide, and national conferences on using the educational innovation.
5 Collaboration	1. Create continuous opportunities for working with other teachers of the educational innovations. 2. Develop mentoring networks for sharing ideas and strategies for using the educational innovation.

6 Refocusing	1. Help teachers develop additional strategies for monitoring and adjusting their use of the educational innovation. 2. Provide teachers with additional resources for strengthening use of the educational innovation.

A review of the literature indicates that the CBAM model and strategies have been implemented into both public school and higher education settings (Hall & Loucks, 1978; Hord et al., 1987). According to Merz (1996), the underlying premise of this implementation is the teachers who will be influenced by the change. Specifically, the influence of the innovation is contingent upon the characteristics of the teachers. This study determined if preservice middle level teachers' concerns for differentiated instruction are influenced by the characteristics of race and teacher self-efficacy.

Methodology

Participants

This study consisted of 72 preservice middle school teachers from two Arkansas (USA) universities. One half (50%) of preservice middle level teachers attended a research one university. The other half (50%) of the preservice middle level teachers attended a teaching university. Of this same population, 34 (47%) preservice middle level teachers were males. The remaining 38 (53%) preservice middle level teachers were females. Forty (45%) preservice teachers were earning a bachelor's degree in mathematics education. The remaining 32 (45%) preservice teachers were earning a bachelor's degree in English education. This population consisted of 40 (55%) preservice middle level teachers with a high teaching self-efficacy and 32 (45%) preservice teacher with a low teaching self-efficacy. When combining race and teacher self-efficacy, the population revealed that 19 (26%) males and 21 (29%) females held a high teaching self-efficacy. The remaining 15 (21%) males and 17 (24%) females held a low teaching self-efficacy (See Table 2).

Table 2

Demographic Characteristics of Preservice Middle School Teachers

Description	Males (*N*)	Females (*N*)	Total (*N*)
Total Number	34	38	72
High Teaching Self-efficacy	19	21	40
Low Teaching Self-efficacy	15	17	32

Instrumentation

Two instruments were used for this study. The first instrument was Bandura's (1977) teacher self-efficacy scale (Alpha=.92). This 22-item scale measures teacher's beliefs in their abilities to address factors related to student achievement. This instrument consists of a 10-item "Instructional" subscale (Alpha=.87), 6-item "Management" subscale (Alpha=.81), and 6-item "Parent/Community Involvement" subscale (Alpha=.82). The "Instructional" subscale measures teachers' beliefs about their abilities to teach all students. The "Management" subscales measures teacher beliefs regarding the ability to create a safe and orderly environment for learning. The "Parent/Community Involvement" subscale entails items regarding the use of parents and school stakeholders to support the classroom. The Likert scale for this instrument ranges from 1-(Low beliefs in my ability) to 5 (Very high abilities beliefs in my ability).

The second instrument for this study was Hall et al.'s (1973) 35-item Stages of Concerns Questionnaire (SOCQ) (Alpha=.91) (See Appendix A). This questionnaire consists of the seven stages of the Concerns Based Adoption Model (CBAM). Each stage contains five items that measures teachers' level of concerns for adopting an educational innovation. The "Awareness" subscale (Alpha Level = .81) consists of items such as "I don't even know what this is" and "I am not concerned about this innovation." The "Informational" subscale (Alpha Level = .85) consists of items such as "I have very limited knowledge about this innovation." and "I would like to know how this innovation is better than what we have now." The "Personal" subscale (Alpha Level = .79) consists of items such as "I would like to know how my role will change when I am using the differentiated instruction." and "I would like to know who will make the decisions on the use of this innovation in the school."

The "Management" subscale (Alpha Level = .80) consists of items such as items such as "I am concerned about not having enough time to organize myself each day." and "I am concerned about time spent working with non academic problems related to this innovation." The "Consequence" subscale (Alpha Level = .82) consists of items such as "I am concerned about students' attitudes towards this innovation." And "I would like to use feedback from students to change this innovation." The "Collaboration" subscale (Alpha Level = .84) consists of items such as "I would like to know what other faculty are doing in this area." and "I would like to develop working relationships with other faculty and outside faculty who use this innovation." The "Refocusing" subscale (Alpha Level = .89) consists of items such as "I now know of some other approaches that might work better." and "I would like to determine how to supplement, enhance, or replace this innovation."

The Likert Scale for the questionnaire ranges from 0 to (Very low concern) to 6 (Very high concern). I modified the SOCQ in two ways. First, I replaced the word "innovation" with "Differentiated Instruction." I also included the word "Preservice middle level teachers" in most of the survey item sentences. Second, I replace the 6-item Likert scale with a 5-item Likert scale. The scale ranged from 1 (Very low concern) to 5 (Very high concern).

Procedures

At the beginning of the seventh week of the internship, the 72 participants participated in a series of workshops on differentiated instruction. They then participated in a series of workshops on teaching African American students. During the training period, the participants did not work with their cooperating teachers. Instead, they focused solely on developing an understanding about differentiated instruction and African American students.

I started the program with an explanation of the need for the teachers to develop differentiated instructional teaching skills. I then trained the participants on how to evaluate students' learning styles, preferences, and abilities. During the second week, I worked with the participants on tiering lessons. We particularly focused on how to provide different groups of students with the opportunities to complete different learning activities. I further explained how to create learning groups in accordance to learning styles, preferences, and abilities.

During the third week of the workshop, I trained the participants on how to develop agreed upon assessments with their participants. We also discussed strategies for evaluating the assessments' alignment with lesson objectives. The participants spent the final week on completing teacher observations. They were divided into ten 7-member groups. Each group consisted of male and female preservice middle level teachers with a low and high sense of teaching self-efficacy. Each group was then paired with two middle school teachers who use effectively differentiated instruction in their classrooms. The participants observed their mentor teachers implement each method of differentiated instruction into their classrooms. They then asked questions about and received feedback on the teachers' professional experiences with differentiated instruction. I repeated the same procedures for the workshops on African American students.

After spending a week with the mentor teachers, the participants completed the training with me. I brought closure to the training by providing the teachers with additional resources about differentiated instruction. I then administered the Stages of Concerns Questionnaire (SoCQ) (Hall et al., 1973; Hall et al., 1986, 1998) to the participants. Afterwards, the preservice middle level teachers completed the remaining four weeks of their internship. Each week, the preservice middle level teachers implemented differentiated instruction into one of their class sessions. Because their cooperating teachers were not trained on differentiated instruction, I conducted teacher observations of the classrooms. After completing the internship, the participants completed another Stages of Concerns Questionnaire (SoCQ). I then compared results between this questionnaire and the first questionnaire.

Data Analysis

Two-Way Analysis of Variance (ANOVA) procedures were used to measure the interactive effects of race and teaching self-efficacy on the participants' post training and post teaching concerns about differentiated instruction. The Alpha level was set .05.

Results

Post Training Concerns

The post training results showed a statistically significant main effect for race on the Awareness stage $F(1,71)=.127$, $p<05$, partial=.014, and Informational stage $F(1,71)=.103$, $p<.05$, partial=.007, of concerns about differentiated instruction. The findings, however, did show a statistically significant main effect for teaching self-efficacy on the Awareness stage $F(1,71)=27.291$, $p<.05$, partial=.421, and Informational stage $F(1,71)=26.067$, $p<.05$, partial=.479, of concerns about differentiated instruction. The findings also showed statistically significant interactive effects of race and teaching self-efficacy on the Awareness stage $F(1,71)=30.244$, $p<.05$, partial=.510, and Informational stage $F(1,71)=31.067$, $p<.05$, partial=.543, of concerns for differentiated instruction.

At the Awareness stage, White preservice middle school teachers (M=34.40; SD=7.02) were more concerned about differentiated instruction for African American students than were African American preservice middle school teachers with a high teaching self-efficacy (M=26.87; SD=6.01). The findings for the Informational stage showed higher differentiated instructional concerns regarding African American students for White preservice middle school teachers than (M=25.11; SD=4.07) than African American preservice middle school teachers with a high teaching self-efficacy (M=22.09; SD=6.21).

Table 3

Preservice Middle School Teachers Post Training Concerns About Differentiated Instruction

Stage	Category of Preservice middle level teachers W=White H=High Teaching Self-efficacy B=Black L=Low Teaching Self-efficacy			
	White Teachers High Efficacy (*SD*)	White Teacher Low Efficacy (*SD*)	Black Teachers High Efficacy (*SD*)	Black Teachers Low Efficacy (*SD*)
*O Awareness	25. 51 (7.86)	28.23 (6.91)	35.29 (6.17)	39.52 (10.29)
*1 Informational	25.73 (7.16)	22.46 (3.27)	34.27 (7.37)	30.96 (8.28)
2 Personal	16.01 (8.27)	17.29 (6.32)	18.12 (9.27)	19.34 (5.32)
3 Management	14.87 (3.39)	14.00 (2.13)	18.60 (5.16)	17.07 (6.88)
4 Consequence	14.50 (2.68)	14.87 (3.39)	16.42 (6.13)	19.01 (4.59)
5 Collaboration	15.64 (6.07)	11.50 (6.12)	19.24 (8.42)	20.14 (4.32)
6 Refocusing	14.66 (2.62)	14.39 (4.13)	14.13 (5.81)	15.32 (2.13)

* Stage is significant at the $p<.05$ level.

Discussion and Implications

This study revealed two significant findings. First, post training and post teaching findings showed that the preservice middle school teachers were focused on the Awareness and Informational concerns about differentiated instruction. This outcome may be attributed to numerous factors. One factor could be time length. In essence, the preservice middle school teachers experienced a "crash course" on differentiated instruction. They were then asked to practice this instructional method in their preservice classrooms. Given Tomlinson's (1999) caveat about rushing into differentiated instruction, this approach could easily raise preservice middle level teachers concerns about this teaching method.

The limited remaining time of the internship may have also affected their confidence to acquire this innovative teaching skill. In addition, they were probably more concerned with mastering the basic principles of teaching. Thus, the implications from these explanations are twofold. First, preservice middle level teachers need more time to become familiar with differentiated instruction. Based on the findings of this study, I suggest that preservice educators become trained on how to teach this skill to preservice middle level teachers. They should then incorporate this teaching method into the teacher education curriculum and their classrooms. This strategy would allow preservice middle level teachers to develop an extensive and comprehensive understanding of differentiated instruction. Moreover, this strategy could increase their confidence for using differentiated instruction in preservice and inservice classrooms.

The second implication is to pair preservice middle level teachers with cooperating teachers who are skilled in using differentiated teaching methods in their classrooms. This implication points to Bandura's (1977, 1986) integration of vicarious experiences and teaching self-efficacy. He argued that when teachers observe effective modeling of a teaching skill, they experience an increase in the efficacy to perform the same skill. Thus, by observing credible inservice users of differentiated instruction, preservice middle level teachers could develop the teaching self-efficacy for using the same instructional method. Additionally, as a former internship coordinator, I have talked with many preservice middle level teachers about their internship experiences. One recurring theme is a lack of understanding on how to use different teaching methods in the classrooms. In effect, many preservice middle level teachers indicated that they observed the cooperating teacher primarily use one teaching method in the classroom. Thus, if preservice teachers observe master teachers model differentiated teaching methods in the classroom, they may be able to diversify their teaching strategies. In addition, they could gain the practical experience needed to implement this instructional method in their classrooms.

The second significant findings is that both race seemed to highly influence the teachers concerns about using differentiated instruction with African American students. Both outcomes support Bandura's (1977, 1986) theory on teaching self-efficacy.

As indicated by Bandura (1977, 1986), highly efficacious teachers are more likely to adopt educational innovations than teachers with a low teaching self-efficacy. In other words, highly efficacious teachers will have fewer concerns about their abilities to accommodate new teaching innovations than teachers with a low teaching self-efficacy. This study supports the inclusion of differentiated instruction into Bandura's equation of educational innovations.

Overall, the implications for the second findings are to address both differentiated instruction concerns for both groups of preservice middle level teachers. Due to the findings from this study, I am recommending that the initial strategies address Awareness and Informational concerns stages.

Consistent with Hall and Hord's (1987) CBAM recommendations, preservice educators should provide preservice middle level teachers with literature about differentiated instruction. They should also make arrangements for preservice middle level teachers to talk with each other about differentiated instruction. These strategies will create a network of information sharing for preservice middle level teachers.

The informational concerns about differentiated instruction should be addressed through practical presentations about and explanations of this teaching method. Preservice middle level teachers should be trained on the various responsibilities for implementing this teaching method in classrooms. Another suggestion would be for preservice middle level teachers to talk with master inservice teachers about differentiated instruction.

As discussed in this study, preservice middle level teachers should ask the teachers about the successes and failures with this educational innovation. In response, inservice teachers should provide preservice middle level teachers with realistic expectations and outcomes for using this teaching innovation. A recurring theme of these discussions should be the structure and goals of differentiated instruction. I believe that this method will develop preservice middle level teachers' confidence to use differentiated instruction in their classrooms.

The final implication is to continuously monitor preservice middle level teachers' stages of concerns about using differentiated instruction. Monitoring and adjustment procedures could include but not be limited to:

1. Daily observations of preservice middle school teachers' uses of the differentiated instruction in preservice classrooms with African American students;
2. Pre and post classroom observation conferences about differentiated instruction with African American students; and
3. Prompts and scaffolding techniques for directing preservice middle level teachers on mastering the different components of differentiated instruction with African American students.

Equally significant, preservice middle level teacher educators should be aware of the challenges to adjusting to differentiated instruction. Tomlinson (1999) stated that differentiated instruction is a process. Thus, preservice middle level teachers must be given ample time to start the process. Their preservice experiences should solely focus on variety of aspects for accommodating students' learning styles, preferences, and abilities. This approach could develop preservice middle level teachers' preparation for addressing the difference learning characteristics of their preservice and inservice classrooms.

Limitations and Future Research

This study poses several significant limitations for future avenues of research. The first limitation is that the study was conducted with a small population of preservice middle school teachers. In addition, this population was located in one state. Thus, the findings are primarily generalizable to preservice middle school teachers in the particular regions of this state. Therefore, additional studies should focus on preservice middle level teachers in other states. These studies should include ANOVA comparisons of school levels' effects on preservice concerns about differentiated teaching.

Another limitation is that I did not consider the effects of the participants' gender and age on the outcomes of this study. These variables may have explained some of the variance between the participants' concerns for differentiated instruction. A third limitation is that I did not consider the influence of the participants' teacher education program on their responses regarding differentiated instruction. A more in-depth analysis may have revelaed that the characteristics of the teacher education programs accounted for some of the variance in this study. Future studies should include this factor in the analysis of preservice middle level teachers and education innovations.

The fourth limitation is that I did not consider the influence of subject matter on the participants' concerns about differentiated instruction. In other words, some of the variance to the outcomes of this study could be attributed to the different teaching styles for mathematics and English/Language arts. Future researchers should consider the inclusion of this variable in their research on preservice middle level teachers and differentiated instruction.

The fifth equally significant limitation is the pairing of preservice middle level teachers with the mentor teachers. Even though the mentor teachers mastered differentiated instruction, their delivery of this instruction may not have enhanced all of their mentees' understanding about this teaching method. As such, some preservice middle level teachers could have departed their observations with more ambiguity about how to implement this teaching method into their classrooms.

The sixth limitation is that I did not survey preservice middle level teachers at the beginning of the workshop. A pre-differentiated workshop could have shown that the same level of post workshop Awareness and Informational concerns about differentiated instruction. Thus, the implications are to survey preservice middle level teachers before training them on the use of an educational innovation for their classrooms.

The seventh limited consideration is that some aspects must be viewed in accordance to inservice teaching self-efficacy. The reason is that the background research for this study focuses on inservice teacher self-efficacy. Inservice teachers have more teaching experiences than preservice teachers. As such, they would be more likely to have a sustained teaching self-efficacy than would preservice teachers. Therefore, readers should use caution when interpreting the outcomes of this study. In addition, teaching self-efficacy scales for future similar studies should be normed on preservice teachers.

The eighth and final limitation is the lack of focus on the preservice middle level teachers' self-efficacy. That is, this study did not investigate the extent to which their general self-efficacy impacted this study. Bandura (1977, 1986) denoted that self-efficacy and teaching self-efficacy are two different constructs. My research focused on the preservice middle level teachers' teaching self-efficacy. Therefore, readers should not presumably link the preservice middle level teachers' levels of teaching self-efficacy with their self-efficacy. Instead, they should view the outcomes of this study in accordance to the preservice middle level teachers' beliefs about teaching.

In spite of these limitations, this study makes a significant contribution to the field of teaching. The main contribution is that teacher behavior is not always an exclusive indicator of race. As espoused by Bandura (1977, 1986) and other theorists (Ashton & Webb, 1986; Ross, 1994; Tschannen-Moran & Woolfolk-Hoy, 2001), this behavior can also be influenced by beliefs and self perceptions of being an effective

teacher. Most important, the outcome of the interaction between these variables is the confidence to accommodate innovative methods of teaching.

References

Ashton, P., & Webb, R. (1986), Teachers' sense of efficacy, classroom behavior, and student achievement. In P. T. Ashton & R. B. Webb (Eds.), *Teachers' sense of efficacy and student achievement* (pp. 125-144). New York, NY & London, England: Longman.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1995). *Self-efficacy in changing societies.* New York, NY: Cambridge University Press.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: W. H. Freeman & Company.

Coladarchi, T. (1992). Teachers' sense of efficacy and commitment to teaching. *Journal of Experimental Education, 60*, 323-337.

Fuller, F. (1969). Concerns of teachers: A developmental conceptualization. *American Educational Research Journal, 6*, 207–226.

Gibson, S., & Dembo, M. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology, 76*, 569-582.

Hall, B., Wallace., R., & Dossett, W. (1973). *A development conceptualization of the adoption process with educational institutions.* Austin, TX: Research and Development Center for Teacher Education, The University of Texas.

Hall, G. (1976). The study of individual teacher and professor concerns about innovations. *Journal of Teacher Education, 27*(1), 22-23.

Hall, G. (1978). *The study of teachers' concerns and consequent implications for staff development.* Austin, TX: Research and Development Center for Teacher Education, The University of Texas.

Hall, G., George, A., & Rutherford, W. (1978). *Stages of concern about the innovation: The concept, verification, and implications.* Austin, TX: Southwest Educational Development Laboratory.

Hall, G., George, A., & Rutherford, W. (1979). *R & D Report No. 3032.* Austin, TX: Research and Development Center for Teacher Education, The University of Texas.

Hall, G., George, A., & Rutherford, W. (1986). *Measuring stages of concern about the innovation: A manual for use of the SoC questionnaire.* Austin: Southwest Educational Development Laboratory.

Hall, G., George, A., & Rutherford, W. (1998). *Measuring stages of concern about the innovation: A manual for use of the SoC Questionnaire.* Austin, TX: Southwest Educational Development Laboratory.

Hall, G., & Hord, S. (1987). *Change in schools: Facilitating the process.* New York, NY: State University of New York Press.

Hall, G., & Hord, S. (2001). *Implementing change: Patterns, principles, and potholes.* Boston, MA: Allyn and Bacon.

Hall, G., & Loucks, S. (1978). Teacher concerns as a basis for facilitating and personalizing staff development. *Teachers College Record, 80*(1), 36-53.

Hines, M. (2003). *First in flight: Helping kids to soar in middle school.* Indianapolis, IN: 1st Books Publishing Company.

Hord, S., Rutherford, W., Huling-Austin, L., & Hall, G. (1998). *Taking charge of change.* Austin, TX: Southwest Educational Development Laboratory.

Ross, J. (1994). *Beliefs that make a difference: The origins and impacts of teacher efficacy*. Paper presented at the annual meeting of the Canadian Association for Curriculum Studies, Calgary, Canada.

Tomlinson, C. (1999). *The differentiated classroom: Responding to the needs of all learners.* Charlottesville, Virginia: Association for Supervision and Curriculum Development

Tschannen-Moran, M., & Woolfolk-Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*, 783-805.

Appendix

Modified Stages of Concerns (SoCQ) Questionnaire

Dear Preservice Middle School Teacher:

Please circle the number that reflects your concerns about using differentiated instruction in the classroom with African American students.

1=Not Very Concerned 2=Not Really Concerned 3=Somewhat Concerned
4=Concerned 5=Very Concerned

Stage 0 - Awareness

1. I don't even know what this is.	1	2	3	4	5
2. I am not concerned about differentiated instruction.	1	2	3	4	5
3. I am completely occupied with other things.	1	2	3	4	5
4. Although I don't know about differentiated instruction, I am concerned about things in the area.	1	2	3	4	5
5. At this time, I am not interested in learning about differentiated instruction.	1	2	3	4	5

Stage 1 - Informational

6. I have a very limited knowledge about differentiated instruction.	1	2	3	4	5
7. I would like to discuss the possibility of using differentiated instruction.	1	2	3	4	5
8. I would like to know what resources are available if I adopt this differentiated instruction.	1	2	3	4	5
9. I would like to know what the use of the differentiated instruction will require in the immediate future.	1	2	3	4	5
10. I would like to know how differentiated instruction is better than what we have now.	1	2	3	4	5

Stage 2-Personal

11. I would like to know the effect of differentiated instruction on the reorganization on my professional status.	1	2	3	4	5
12. I would like to know who will make the decisions in the new system.	1	2	3	4	5
13. I would like to know how differentiated instruction will change my teaching.	1	2	3	4	5
14. I would like to have more information on time and energy commitments required by differentiated instruction.	1	2	3	4	5
15. I would like to know how my role will change when I am using differentiated instruction.	1	2	3	4	5

Stage 3 - Management

16. I am concerned about not having enough time to organize myself each day.	1	2	3	4	5
17. I am concerned about possible conflict between differentiated instruction and my interests and responsibilities.	1	2	3	4	5
18. I am concerned about my inability to manage all the differentiated instruction requirements.	1	2	3	4	5
19. I am concerned about time spent working with nonacademic problems related to differentiated instruction.	1	2	3	4	5
20. Coordination of tasks and students will take too much of my time.	1	2	3	4	5

Stage 4 - Consequence

21. I am concerned about students' attitudes toward differentiated instruction.	1	2	3	4	5

22. I am concerned about how differentiated instruction affects students.	1	2	3	4	5
23. I am concerned about evaluating differentiated instruction's impact on students.	1	2	3	4	5
24. I would like to excite my students about their participation in differentiated instruction lessons.	1	2	3	4	5
25. I would like to use feedback from students to change the program.	1	2	3	4	5

Stage 5 - Collaboration

26. I would like to help other teachers in their use of differentiated instruction.	1	2	3	4	5
27. I would like to develop working relationships with other teachers on using differentiated instruction in the classroom.	1	2	3	4	5
28. I would like to become familiar with other teachers' progress on implementing differentiated instruction in the classroom.	1	2	3	4	5
29. I would like to coordinate my effort with other teachers to maximize the effect of differentiated instruction on student achievement.	1	2	3	4	5
30. I would like to know what other teachers are doing with differentiated instruction.	1	2	3	4	5

Stage 6 - Refocusing

31. I know of some other approaches that might work better than differentiated instruction.	1	2	3	4	5
32. I am concerned about revising my use of differentiated instruction.	1	2	3	4	5
33. I would like to revise the differentiated instruction approach.	1	2	3	4	5

34. I would like to change my use of the differentiated instruction based on experiences of my students.	1	2	3	4	5
35. I would like to determine how to supplement, enhance, or replace differentiated instruction.	1	2	3	4	5