

Differentiated Instruction Revisited: An Effective Way to respond to the Needs of Gifted and Talented Students

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Abstract – Gifted Education is a promising field that is related to teaching and learning of gifted and talented students. Research has indicated that gifted and talented students need to be taught in a way that develops their talents and responds to their needs. One way of teaching students in gifted programs is implementing differentiated instruction. The present paper discusses the literature surrounding the effectiveness of differentiation in teaching gifted and talented students. Differentiated instruction is a method of teaching that helps teachers address and reflect on the needs of all learners. There are many advantages of differentiated classroom instruction such as increasing students' motivation, addressing their learning needs, and enhancing the learning environment.

Keywords: gifted and talented students, differentiated instruction, gifted education

1. INTRODUCTION

Researchers in gifted education have provided several descriptions of gifted and talented students. These descriptions help in increasing the awareness of the characteristics of these learners. According to Gagne (2003), "Gifted students are those whose potential is distinctly above average in one or more of the following domains of human ability: intellectual, creative, social and physical. Talented students are those whose skills are distinctly above average in one or more areas of human performance" (p.63). Similarly, Hebert (2010) described gifted and talented students as those who perform higher than average in academic and creative filed when compared with other students of the same age, interests, and learning backgrounds.

Gifted and talented students need special kinds of programs that serve their needs and help them improve their talents. Siegle, Davis, and Rimm (2018) defined gifted and talented programs as the programs that are designed to identify and serve small populations of students who show exceptional ability in different areas of performance, including but not limited to academic excellence. Therefore, by establishing programs that serve students with exceptional abilities, schools, and more importantly students, will get a huge amount of academic and social benefits. These benefits can reach not only gifted students but also to the learning environment and the culture of these schools.

Additionally, many researchers indicated that gifted programs have positive effects on students and their learning process (Davis, 2006; Siegle, Davis & Rimm, 2018). Hence, there are many obvious advantages of having gifted and talented programs in regular of special education schools. First, these programs provide academically aligned education for advanced

students and help keep them engaged in schools (Sternberg & Davidson, 2005). It is important for gifted students to be provided with activities that match their talents in order to be motivated to learn and be engaged in the learning process. Moreover, gifted programs are essential since they teach gifted students the skills needed in their careers and lives. These programs help in developing skills such as creative and critical thinking, problem-solving, decision making, evaluating, and deductive reasoning skills (Davis, 2006). Learning these skills is essential for gifted and talented students to maintain their gifts and develop their talents.

Furthermore, Sternberg and Davidson (2005) pointed out that gifted programs assist students to meet their social and emotional needs and to keep them be engaged in school so they do not drop out. Thus, these programs can help in improving students' academic skills, and more importantly, affecting positively the social and emotional needs of gifted students (Bui & Craig, 2012). Bui, Craig, and Imberman (2014) summarized the effects of gifted programs in increasing the academic performance of high achieving students in three points: "First, the peer group will be stronger on average. Second, there may be improvements in instructional resources. Third, the curriculum may be more appropriate for eligible students" (p.32).

2. IDENTIFYING GIFTED AND TALENTED STUDENTS

Identifying gifted and talented students is the first step in serving their learning needs (Bui, Craig & Imberman, 2014). Some educators believe that the ideal system for identifying gifted students has not been developed yet (Siegle, Davis & Rimm, 2018). That is because some instruments concern some aspects of giftedness, such as creativity and intelligence, while other instruments measure different aspects such as learning achievement. For instance, test scores can be determiners to the intellectual ability, but they fail in measuring the creativity of gifted students.

Therefore, instruments have been developed to measure and identify gifted students based on several criteria such as intelligence, creativity, and learning achievement. Fundamentally, teachers' nominations are one of the most common identification methods. Teacher nominations measure several aspects of giftedness such as creativity, learning ability, motivation, and learning skills (Siegle, Moore, Mann, and Wilson, 2010). Teachers have the ability to distinguish between students who have high intellectual and creative abilities. According to Siegle (2001), teachers are able to recognize the intellectual potential in students even though they might not be high-achieving students. Therefore, teachers' nominations can be beneficial instruments in regard to the intellectual abilities.

Another identification instrument is nonverbal intelligence tests. These cognitive tests measure the cognitive abilities in ways that are fair to all students. They assess nonverbal reasoning and help in identifying gifted and talented students from diverse backgrounds who may not be achieving well in school because of socioeconomic disadvantages (Siegle, Moore, Mann, & Wilson, 2010). In general, nonverbal intelligence tests attempt to remove the effect of language barriers in the estimation of nonverbal and mathematical reasoning. However, intelligence tests might not be the ideal instrument to identify gifted and talented students (Merrotsy, 2013). Merrotsy added that these students are gifted students but usually achieve less than their actual abilities. They have very high potential levels of achievement, but they

usually fail to reveal it. This failure might cause these students to struggle socially, educationally, and academically. Ultimately, identifying gifted and talented students is critical in responding to their needs. Research has identified several identification instruments that are used in most of the gifted programs. Each instrument can serve a specific purpose toward knowing gifted students and then responding to what they need in and outside classrooms.

3. DIFFERENTIATED INSTRUCTION IN CLASSROOMS

Teaching gifted and talented students requires teachers to find the best and most effective teaching methods that address their needs. Mulrine (2007) noted that one of the most effective ways is differentiated classroom instruction. Tomlinson and Imbeau (2010) mentioned that differentiating classroom instruction has become a necessity. All learners should have the opportunity to encounter a differentiated curriculum which includes challenging and enriching activities based on their individual needs. Significantly, the idea of “equality of education” should be the center of all learning processes. Students at every level of cognitive development should receive the educational treatment that matches their needs. According to Tomlinson (2014), differentiation is a way of teaching that enhances students’ abilities as well as the teaching practices. A differentiated classroom is a classroom in which a teacher divides time, resources in order to have an effective method for getting the best of all students. Having differentiated classrooms is a way for teachers to ensure that struggling and advanced learners who have different learning abilities, cultural backgrounds, and experiences have the motivation to learn and remain in their strengths areas and work in improving their weaknesses. Tomlinson stated that it is critical for teachers to actively try to meet students’ similarities and differences to confirm that everyone is learning. Likewise, Spencer-Waterman (2014) noted that “differentiation of instruction means tailoring instruction to meet the various needs of students” (p. xi).

Moreover, Thousand, Villa, and Nevin (2014) pointed out that differentiated instruction including changing how teachers taught and how students learn. It is a teaching approach in which teachers focus on students and modify the teaching practices to match their learning needs. Likewise, Buttriss and Callander (2014) mentioned that differentiation “requires teachers to adopt the curriculum to meet the individual learning needs of pupils” (p. 19). This includes allowing for more independent learning, providing more creative and challenging tasks and activities, encouraging critical and complex thinking, and providing more materials and classroom resources to address students’ needs.

Perhaps one of the most comprehensive description of differentiated instruction can be found in Algozzine and Anderson’s (2007) statement:

Differentiation is not at all a new concept. The one-room schoolhouse is a prime example of teachers differentiating to meet the needs of all students. Differentiated instruction stems from beliefs about differences among learners, how students learn, differences in learning preferences, and individual interests. (p. 50)

Furthermore, Tomlinson and Imbeau (2010) asserted that differentiating instruction is a way of thinking about teaching and learning. It is also a collection of different strategies that

help teachers' address and manage various learning needs in the classroom. In other words, it puts students at the center of teaching and learning. It lets their learning needs direct the teacher's instructional planning. However, before working on differentiating the instructions for advanced learners, it is important for teachers to understand that these learners have many characteristics which distinguish them from other learners (Tomlinson, 2014). Understanding these features will help teachers in providing differentiated instruction that helps in meeting students' needs and reaching their highest capabilities. Heacox (2012) noted that differentiated instruction involve modification in three main areas: content, process, and product. Content refers to the curriculum that are taught the learners, while process refers to how the curriculum is taught. Finally, products refer to the results of teaching the curriculum. This includes the learning outcomes that appear as a result of using differentiated instruction.

Moreover, Tomlinson (2014) mentioned some teaching examples and suggestions for teachers to help them meet the students' different needs. For example, teachers should assign students to work in groups, provide them with meaningful activities that match their area of interest, explain new concepts using direct instruction, and offer a variety of options to develop their creativity in finishing the given task. Tomlinson (2014) added that differentiation includes some principles that guide teachers' efforts to implement differentiated classrooms. For example,

- Teachers focus on the essential content to target main concepts, principles, and skills.
- Teachers understand and accept students' differences and use them to guide their instruction.
- Teachers modify content, process, and products based on students' abilities, interests, and learning needs.
- Teachers vary the teaching methods through different activities based on students' needs.
- Assessment should be used to identify ways of teaching and learning and to inform instruction.
- Teachers and students should collaborate and be respectful in learning.
- Teachers and students should work together flexibly.

Similarly, Heacox (2012) pointed out that differentiation is a significant teaching approach that means addressing the learning diversity, affirming that all students have different abilities and skills, increasing the variety of classroom teaching, providing students with flexible and challenging classroom tasks that develop students' talents. Roberts (2008) also noted that differentiated instruction can benefit all students as it works on motivating them to learn. Roberts (2008) added that differentiated instruction has some principles that can be incorporated in classrooms. For instance,

- Differentiated instruction promotes diversity in classrooms
- Differentiated instruction allows teachers to maintain high expectations of their students learning

- Differentiated instruction generates and calls for openness.

In addition, Gregory and Chapman (2012) stated that teachers can effectively differentiate many aspects of the teaching practices. This includes differentiating the teaching content, the assessment tools, performance tasks, and finally the instructional strategies used in classrooms. In terms of differentiating the content, Gregory and Chapman (2012) mentioned that this can be implemented by using different genres and variety of materials that can be accessible to all students to explore, discover, and expand their knowledge. Moreover, teachers can differentiate the assessment tools used during and after the learning to evaluate students' abilities. Assessment involves formal and informal tools that used to asses students' level of undereating after and during differentiated practices. Also, Gregory and Chapman described performance tasks as using a variety of classroom activities that respond to students' various needs. This includes providing students with authentic and challenging learning opportunities that develop their abilities. Finally, teachers can differentiate instructional strategies by addressing students learning differences using instructional methods that fit and address each student's learning preferences.

Tomlinson and Imbeau (2010) pointed out that teachers have to begin to differentiate for the leaners in order to increase learners' motivation and more importantly to achieve "learning fairness". In other words, fairness in education means that every learner in the class should receive what is needed regardless of the diversity of instructions and methods that are used. It is not necessary for teachers to find ways to ensure that everyone receives the same instruction regardless of their strengths and weaknesses. Tomlinson and Imbeau noted that in order for teachers to use differentiated instruction effectively, they must know their learners. Paying more attention to teacher-student relationships will enhance classroom instruction and increase students' eagerness for learning. Teachers have to be aware of their students' conditions, backgrounds, interests, and preferences to build a well-developed learning environment which leads to academic success.

4. CONCLUSION

Students have different abilities and capacities for learning. Students who show high potential in cognitive and intellectual skills need teaching approaches that help them develop their talents and maintain their skills. One of the teaching approaches that assist teachers to respond to the needs of all learners is differentiated classroom instruction. Differentiated instruction is a manageable, creative, useful and practical way to enhanced gifted and talented students' engagement and achievement. Teachers must have a clear understanding of what students should know and be able to do as the result of a lesson or unit. Otherwise, they cannot plan to learn tasks that are engaging and effectively lead students to learn. In other words, differentiation is significant if teachers want to address the needs of all learners. All students should have the opportunity to be challenged and to excel in their classrooms. The idea of differentiated instruction is that each student is different, and teachers have to ensure that each student gets the best education in a motivating and challenging classroom.

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