

Research Article

Equality and Diversity in Learning through Differentiated Instructions

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ORCIDRufus Olanrewaju Adebisi: <https://orcid.org/0000-0003-1108-7431>**Abstract.**

Calls for effective instructional strategies persist to appropriately address the diverse learning needs of learners through differentiated instruction, despite numerous futile attempts to raise teaching and learning standards globally and with the growing zeal towards equality and diversity of all learners in today's classrooms. In order to satisfy the aspirations and requirements of every learner, this presentation will explain the meaning, justification, legislation, and principles of equality and diversity. It will also provide guidance to educators and other stakeholders on utilizing differentiated instructions to promote equality in educational environments. The presentation explores various frameworks, as evident in the literature and global surveys, unanimously acknowledging that each learner learns differently. This recognition gave rise to the theory of differentiated instruction, which considers individual learner differences in modifying the type of content delivered, the assessments conducted, the sequence of content delivery, and/or various other learner characteristics. In order to promote equality among all different types of learners, the presentation clarifies the concept of differentiated teaching and offers suggestions for its implementation in inclusive classroom settings. In conclusion, the presentation underscores current equality or inclusive practices and the roles and solutions that differentiated teaching may play in helping all diverse learners across educational environments.

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1. Introduction

Although many school systems worldwide have created classrooms with varying levels of student ability (tracking or streaming) in response to student diversity [1], the diversity of the student population is significant and steadily growing. According to [2,3], students differ greatly in performance, cultural background, language proficiency, gender-based learning preferences, learning styles, motivation, interest, and other characteristics. The criteria for inclusive education are involved in dealing with student diversity. This claim asserts that teachers must be able to effectively differentiate their education to meet students' unique learning demands.

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In today's schools, dealing with student diversity looks to be vital [4]. Backgrounds, learning styles, motivators, aptitudes, needs, and interests of students are all changing. These students' variety poses a challenge to their academic performance. This necessitates the use of effective instructional strategies. Schools and teachers must accommodate students' diverse learning styles and levels [5,6]. Students from different socioeconomic groups, different family types, students with special needs, students with a variety of interests and abilities, students from different cultural backgrounds, students who speak a variety of languages, students with different learning styles, and students with different school attitudes are all present beneath the surface. There has long been a pattern like this.

The idea that not all children learn the same way is occasionally supported by some studies [7]. According to [8], knowing various learning styles is crucial for identifying differences and fostering student development. Learning style-based educational models have allowed teachers to design curricula and courses corresponding to students' preferred learning preferences. If instruction is personalized for each student's preferred learning methods, their academic performance and attitude toward learning may improve [9,10]. A teacher can maximize students' talents and get familiar with ideas they might find difficult by understanding their preferred learning styles [10]. Test results for Special Education children significantly increased once their preferred learning style was considered [11]. Learning-style-based approaches to education outperformed more conventional teaching methods in terms of improving student achievement. Additionally, because these students felt that their unique skills were being considered, their attitudes about learning dramatically improved [11].

Each learner is different. Based on this understanding, diversified education employs a teaching and learning technique that gives learners various chances to absorb new knowledge and comprehend concepts. Instead of expecting students to adapt to the curriculum, the varied instruction paradigm depends on teachers being flexible in their teaching approach and varying the curriculum and how content is provided to learners. Whole-class, small-group, and individualized instruction are all used during classroom instruction. The foundation of differentiated instruction is the idea that instructional strategies should adjust to the unique needs of each student in a classroom.

According to numerous studies [12,13,14], differentiated instruction (DI) efficiently addresses the needs of varied pupils. Data from the DI research support this claim. For instance, [15] discovered that academic performance was superior among students who received DI from instructors. [16] also discovered that DI boosted students' achievement, particularly their reading fluency and comprehension. Research has mostly focused on

how and how frequently teachers differentiate their regular lessons because teachers are typically responsible for implementing DI properly and efficiently. Empirical study on instructors' claimed usage of DI has shown contradictory results. For instance, [17] found that teachers rarely used DI techniques in regular sessions. [18] found a similar trend in their research, finding that teachers hardly ever employ DI strategies. Additionally, their findings suggest that teachers employ DI strategies with little heterogeneity, given that they significantly discriminate by tiering tasks or using flexible grouping. [19] reported a greater acceptance rate for DI techniques than [20], who reported a small use of the approaches.

For the sake of this discussion, DI is defined as a group of instructional strategies that give teachers the tools they need to cater to the unique learning requirements of each student in a setting that prioritizes diversity and inclusion. In the following parts, a brief analysis of the concept of the DI literature will be offered to understand the conceptualization and guiding principles for this discussion. The differentiation techniques for diverse learners and implications for classroom practice of DI practices will be further addressed, as it serves as the basis for this discussion [21].

2. Theories of Diversity in Learning through Differentiated Instructions

This discussion's foundation was Vygotsky's general theory of cognitive development since it may be applied to contemporary teaching and learning strategies. In modern education, factors including interpersonal relationships, teacher-student contact, the physical setting and organization, purposeful instruction, scaffolding, student aptitude, and engaging subject matter all play a part. Vygotsky's theory views the relationship between students and teachers as collaborative and the learning process evolving toward interchange due to its emphasis on social interaction. The physical layout of the classroom, including the furniture, would be created to encourage interaction [22]. Additionally, the teacher would create the curriculum to build on the students' existing knowledge, challenge them to tackle increasingly difficult material and push them just a little beyond their current developmental level.

Scaffolding might be useful in this case to approach the proximal behavior zone. The instructor would engage students' attention once more and adjust the activities to correspond to their degree of proficiency. The lesson material will also be up-to-date, engage learners' interests, and serve as a foundation for using mediating tools like

language. In order to assist learning, this discussion explores how the differentiated instruction model might be utilized within this framework.

The many intelligences theory, which [23] developed as a result of his research on brain structure and mental aptitude, has profoundly affected how educators view learning. This concept challenged those who believed IQ served as the gold standard for gauging intelligence. Gardner's thesis expanded the evaluation and measurement of intelligence.

"Intelligence" is initially described by [23] as "a biological and psychological potential" that can be increased as a result of an environmental factor. A person's development can be seen because of a variety of factors. Experiential, cultural, and motivational factors are the main types of factors. In other words, according to [24], intelligence is the capacity a person uses to address problems or accomplish objectives. Theorists have suggested that there are up to seven types of intelligence, including spatial, linguistic, bodily-kinesthetic, logical-mathematical, musical, intrapersonal, and interpersonal intelligence. A further one, naturalistic intelligence, was introduced by him a few years later [23]. According to "existential intelligence", [24] mentioned, each person will apply their intellect following their capacity and need.

3. The Concept of Individual Differences

The dimensions of individual differences are numerous. There are individuals of varying ages and intellectual capacities. Based on their IQ, we can categorize individuals as "super-normal" (having an IQ over 120) or less intelligent (having an IQ between 0 and 50). Different views may result from sociocultural disparities, psychological issues, personal challenges, and economic inequalities. People differ widely in their attitudes about others, things, institutions, and authorities. In a similar vein, achievement differences have been acknowledged as being important. The degree of achievement of diverse people has been assessed using achievement tests. When comparing the study of mathematics to the study of languages (including reading and writing), these contrasts are immediately noticeable. These academic achievement variations might be seen among learners with similar IQ scores.

There will always be disparities in people's emotional makeup because they are naturally emotional beings. Different people may respond differently emotionally to the same scenario. Some people are quick to anger and easily offended. Some people can handle pressure while maintaining their composure. People may become so outraged in stressful circumstances that they commit crimes like murder. Someone else could laugh

and leave. In addition, there are variations in terms of general personalities. People have been divided into various categories based on their distinctive personalities. The “individual differences” concept, which holds that both heredity and environment can have an effect, is a fundamental tenet of differentiated instruction.

Today’s students are getting more and more intellectually varied. The increasing breadth of this diversity is demonstrated by including students with impairments, students from non-English speaking families, students with serious emotional problems, and a sizable proportion of bright children [17]. The gender, culture, experiences, aptitudes, interests, and specific teaching methods of each student impact their learning in an inclusive classroom [7,8,14]. According to [17], most learners know that while some are naturally gifted athletes, others may do well in the classroom. Embracing variety inspires learners to try to be the best versions of themselves while also supporting them in experiencing some success, even if it is known that they all have a desire for acceptance, compassion, and respect. It is important to consider each student’s abilities and weaknesses and the obvious distinctions among the kids in a classroom.

According to Tomlinson [17], teachers can differentiate their instruction or teaching in four ways: using varied materials, procedures, products, and learning environments. These could be viewed as components of individualized education in the current situation:

1. Content: The instructor deconstructs the material by assigning each student a unique project that pertains to one of the numerous Bloom’s Taxonomy stages or traits, such as remembering, comprehending, applying, analyzing, or producing [25]. Some differentiated activities that can be utilized to accomplish English learning objectives include matching synonyms and definitions, looking for opposites, responding to text-based comprehension questions, and picturing a hypothetical or real situation, depending on the student’s needs and level. Activities like figuring out an author’s point of view, differentiating fact from opinion, or summarizing a story can also be included.
2. Process: Each child is born with special abilities. Because various people have preferred learning styles, effective differentiation stresses teaching that applies to the three modalities of learning—visual, auditory, and kinesthetic. Every student does not always need the same level of attention from the teacher. Some students, however, might choose to work alone or in small groups to complete their assignments. Teachers can support instruction by offering interventions based on each student’s needs. They can offer audiobooks for auditory learners to listen to,

interactive exercises for kinesthetic learners to undertake offline and online, and textbooks for visual learners to read.

3. Product: The term “product” refers to a lesson’s final output. This can be done using projects, exams, quizzes, and other formative and summative evaluation methods. In order to ensure that their students understand a particular educational idea depending on their preferred learning styles, teachers might use differentiation tactics to engage their students in various activities. A graphic organizer could be created from the narrative for those who learn best visually. While kinesthetic learners may be requested to draw a tale or perform another comparable work, auditory learners may be expected to give an oral presentation based on listening exercises [26].

4. The Principles of Diversity in Learning through Differentiated Instructions

One of the fundamental tenets of differentiated instruction is that a “one-size-fits-all approach” is frequently unworkable. Learners are differentiated depending on preparation, interest, and learning profile [17]. These three qualities are supported by literature. When learning or studying a new subject, a learner is said to be ready when they are, which is right now. Because the student is interested in the subject or his parents have noticed that he is interested in it, they enroll him in school. The learner’s interest enables more significant differentiation at the external level. However, the instructor must continue monitoring the student’s engagement level in the subject. Learning style, thinking style, affective state, cultural differences, prior subject knowledge, and ability are frequently all or portions of the learner’s learning profile. The three pillars of Edward Thorndike’s laws of learning, initially articulated in 1935, are readiness for learning, exercise, and effect. Differentiated instruction must consider each student’s level of preparation for learning. Learning preparation requires prior knowledge of the concepts being taught and a more substantial interest in the subject matter generally [27].

Also, the primary tenet of the principle of exercise in learning is that actions are remembered and retained for more time than those just performed once. This law’s primary hypothesis is supported by biological evidence showing that strengthening brain connections occurs when tasks are repeated. Furthermore, the student’s emotional response establishes the principle of effect. Motivation follows effect immediately. According to the principle of effect, learning is enhanced when it is accompanied by pleasure and decreased when it is accompanied by misery.

For teachers to respond to the equality and diversity of all students in the classroom, they must be aware of the following fundamental DI principles:

1. Regarding the curriculum and subject, the teacher is up-front,
2. The teacher takes into account the distinctions between each unique pupil,
3. Assessment and instruction go hand in hand,
4. The teacher modifies the material, procedure, and outcome based on the students' readiness, interests, and learning profiles.
5. Every student participates fully in class activities,
6. Together, teachers and students are learning new things.
7. Maximizing results and ongoing improvement are crucial DI goals.
8. The foundation of DI is adaptability.

5. Differentiation Techniques for Diverse Learners

For most diverse learners, especially those with special needs, task differentiation will likely be required to make learning objectives simple for them to complete. According to this perspective, the first step would be determining the learning needs and outcomes in a particular setting. It has been emphasized that 'Assessment' is crucial in a classroom where teaching is differentiated. The concept of measuring and assessing has received support from several professionals. Assessment of learning, assessment for learning, and assessment as learning are defined differently by [28,29]. Students with specific needs can benefit greatly from using technology. It is possible to introduce the idea of assistive technology in specialized classes successfully. Learners with access to computers, screen readers, and speech recognition software can more easily fulfill their goals in this area. Speaking word processors and computerized talking dictionaries are educational software that can be utilized in learning activities, notably when teaching pronunciation, spelling, listening, reading, and writing.

It is crucial to remember the importance of assistance. Support for behavior and academics is essential in this case. A teacher should be empathetic to prevent embarrassing such children. Slow learners frequently show their discomfort. Thus, the teacher needs to be aware of this. Instructors can improve academic support by simplifying and condensing the curriculum, making adjustments and content modifications as needed,

routinely assessing students' comprehension levels, frequently offering encouragement, and defining tasks in a progressive, deliberate, and systematic manner. After general and specific disorders/difficulties in students have been identified, appropriate solutions should be developed and put into practice. Maybe one of them is differentiation instruction.

[17] claims that DI is nothing more than a complete process that considers what is taught and how it is learned. The learner's readiness, interests, and preferred learning style are all considered during the DI process. According to [25], differentiation is caused by observed learner differences brought on by various circumstances. Differentiated instruction has been advocated to meet each student's unique learning needs and give them more learning opportunities [30]. Because the concepts of DI are learner-friendly, it can be helpful in all classrooms. The importance of direct instruction in learning is universally acknowledged by academics [18]. Direct instruction may be crucial for promoting students' learning [31] since it "allows the teacher to provide strong instructional support, scaffolding, and feedback" [32].

According to [33], students frequently need instruction individually tailored to them in a multicultural learning environment because of their limited prior knowledge, language proficiency in the target language, or learner profiles. In a different study, maintaining educational equity was the most challenging aspect of changing instructional design for a diverse population of students [20]. "Equity" is a critical element that influences how well learning processes work when instructional design is modified for diverse learners [33].

Interest must also be considered when assessing a student's learning profile [34]. This aids in determining the educational needs of the students. It is significant because learner-centered education is one of the critical elements of culturally responsive teaching [35]. According to [22], the chosen teaching strategy, a method of handling diversity in the classroom, often improves teaching and learning in multicultural situations. A diverse instructional approach is provided by [17], focusing on the three key teaching pillars of student preparedness, interest, and learning profile. [36] go one step further and state that in addition to the preparation and prior knowledge, a learner's "learning profile", possibly even more so, must be considered when developing a lesson plan for a diverse group of students. The varying degrees of language proficiency must also be considered during the learning process because they impact whether or not specialist training is necessary [37]. It is crucial to be aware of the learners' preparation, academic levels, interests, and learning profiles in heterogeneous classroom contexts to comprehend the requirements for individualized instruction properly.

6. Conclusion

It has been discovered that “differentiated instruction” influences the outcomes of all students. [38] focused on “Reading,” but the results align with his findings. [6] argues in favor of increasing improvement opportunities through DI. [39] concentrated on “Reading” since they thought it was a more critical subject and discovered that tiered schooling worked. It was discovered that the two groups of instructors’ views on the significance and effects of differentiated instruction in English classes differed. Teacher development programs may be designed to educate educators with current DI theory and teaching practices (with examples). As a result, it should be more straightforward to accomplish DI’s goals and objectives. Teachers must attest that they consider differentiated instructional principles while planning their lessons. The goals of DI might range from one skill area to another classroom tasks, from exercises to reading and writing assignments. Therefore, teachers should be aware of this fact. DI must consider how students prefer to learn while creating courses, giving exams, and revising strategies. Such activities may have an impact on the content, process, and product of DI. It was demonstrated that teachers used flexible grouping when delivering differentiated instruction. However, it is possible that they do not fully comprehend the driving principles or philosophy behind such a project. Additionally, it was claimed that teachers know how to help students who have problems learning in class. As a result, reaching DI goals is made easy. Additionally, based on the categories of students in the class, teachers assigned students in different ways.

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