

# The Misconception in Differentiated Instruction Practices: A Literature Review

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## Abstract

This paper aims to stimulate reflective discussion about the misconception of differentiated instruction practice in the educational sector. Differentiated instruction gives students a big picture of knowledge instead of isolated knowledge and helps students to find their academic goals. While differentiating, teachers as a facilitator have to implement and arrange a differentiated learning opportunity for students. This idea widens the gap between teachers' perception of how varied teaching should be used in the classroom. Most research encountered misconceptions among teachers not only in the differentiation practice but also due to low self-efficacy and motivation. Teachers need to break this barrier as teachers' deception becomes a significant obstacle in applying differentiated instruction in the classroom. Teachers' awareness of implementing differentiated instruction will affect the outcome for students. The role of teachers is one of the most critical factors in successful DI implementation. Besides, a regular teaching reflection may help teachers to conquer the basics of DI implementation. Teachers need regular professional development to break this misconception. Teacher professional development about differentiation can potentially promote all students' achievement. Anticipating future misunderstandings may allow higher education to include differentiated instruction courses in teacher education. Most importantly, teachers must eradicate their misconceptions about differentiated instruction first to earn benefit from differentiation practice.

## Keywords

Teachers' Misconception, Differentiated Instruction, Learning Variety

## 1. Introduction

Differentiated instruction is a diversity-based approach. Differentiated instruc-

tion may offer a solution for an increasing diversity of the student. Nowadays, many educators see great student diversity in many aspects, such as cultures, learning habits, family support, and academic abilities (Harbott, 2017; Du Plessis, 2019). A teaching approach known as differentiation is based on a genuine respect for students, an understanding of their individual characteristics, and a desire to support all students in achieving academic success (Smale-Jacobse et al., 2019). Differentiation is a term used to describe how teachers respond to students' needs with practical, proactive actions and by combining different teaching methods (Zerai et al., 2021). Differentiation may provide an equitable learning opportunity for all students, including those defined as priority learners through to higher achieving students (Tapper & Horsley, 2019). Furthermore, having high expectations for all children is a crucial issue of differentiated instruction, where teachers cannot leave the students behind, including rapid societal and technological change influence what and how learning takes place (Gregory & Chapman, 2013). It is also more noticeable these days that teachers are responsible for adjusting the curriculum integration and standards while striving to guide each student to meet their highest potential as a learner (O'Meara, 2011). In differentiated education, the instructor offers a variety of options so that each student can learn as thoroughly and fast as feasible (Tomlinson, 1999). According to Heacox (2012), differentiated education entails teachers altering the pace, level, or instruction in response to the characteristics of pupils. Heacox also divides differentiated instruction into four fundamental aspects: rigorous, relevant, flexible and varied, and complex. In addition, teachers should address the challenge to the students, not only adjusting the learning pace to those who need it. This action is preventive for students, so they do not feel defeated (Heacox, 2012). Nunley (2006) mentions that if differentiated instruction is just the way teachers teach differently using a variety of teaching approaches, then most teachers would consider themselves differentiating. However, the definition of differentiated instructions is beyond that perception.

Differentiated instruction aims to help students find their academic goals (Pozas et al., 2021). In order to achieve these goals, teachers as a facilitator must be able to vary their instruction based on students' needs (Nunley, 2006; Gregory & Chapman, 2013). Differentiated instruction gives students a big picture of knowledge instead of isolated knowledge (O'Meara et al., 2010). Generally, there are two steps to differentiate the learning process. First, analyze the challenge and variety in the teacher's instructional plan. Second, teachers must alter, adapt, or create methods of instruction based on the requirements, interests, and learning preferences of students (Heacox, 2012). On the other hand, differentiated instruction means teachers differentiate three learning areas: content, process, and product (Tomlinson, 1999; Nunley, 2006; O'Meara et al., 2011; Gregory & Chapman, 2013; Heacox, 2012). In a differentiated classroom, teachers cannot set the same assignments for students, but it does not mean they need to create a variety of difficulty levels (Nunley, 2006). In addition, Nunley emphasizes that while implementing a differentiated class, it is not appropriate for teachers to give ad-

ditional tasks or assignments to advanced students. While differentiating, it is the responsibility of teachers to facilitate learning by organising pupils for learning, prescribing differentiated learning opportunities, and making flexible use of time (Heacox, 2012). Differentiated instruction may apply to various educational levels, such as early childhood education, primary, and high school (O'Meara et al., 2011; Bredekamp, 2011; Smit & Humpert, 2012; Nunley, 2006). Nunley (2006) defines the aim of a three-tiered education system:

- Reading and writing skills are taught in primary school.
- Secondary school for children who can think while reading and writing.
- Higher for students who can learn independently.

Referring to the objectives of the three-tiered education system, teachers may recognize the initial point of implementing differentiated instruction. In differentiated instruction perception, this definition gives an idea to separate primary education from secondary and tertiary education. Teachers may focus on guiding students to read and write in primary school. At the same time, in secondary and tertiary education, reading and writing facilitate the students to move into a higher level of thinking. Differentiated instruction in primary school has to focus on reading and writing. Besides, implementing differentiated instruction in secondary and higher education seems complicated relative to teaching subjects. Also, this paper argues that the ECE sector is the outer part of three-tiered education to provide a fundamental aspect of learning before primary school. Thus, this paper does not discuss the implementation in higher education. This paper aims to stimulate reflective discussion about the misconception of differentiated instruction practice in the educational sector.

## 2. The Principles of Differentiated Instruction

Reis and Renzulli (2018) argue that DI implementation generally has five principles, while most papers mention only three aspects of differentiation: content, process, and product. Reis and Renzulli characterize the differentiation into more specific aspects. First, teachers can differentiate the curriculum/content for their classroom based on students' academic abilities and interests. Content differentiation is essential for DI practice. Second, instructional strategies. Most papers and materials quote that grouping is suitable for differentiated instruction. However, Reis and Renzulli (2018) suggest that different student has different learning styles. Some students learn best through grouping, others by working independently, others by doing projects, and others by discussion. These instructional strategies reflect children's multiple intelligences and psychology. This suggestion may become a solution for forgotten children, children with learning difficulties in particular subjects (Parker, 1987). Third, teachers can differentiate the learning environment. In this way, students have the opportunity to elaborate on themselves. It seems impossible for the teacher to implement differentiation for twenty-five or more pupils at once (Pye, 1988). Thus, the classroom condition would be ineffective. There should be a consideration for

educational policymakers to set the maximum ratio of teacher-student at school to support DI implementation. Product is the fourth aspect of differentiation. Typically, in DI practice, product stands for assessment. In differentiated instruction, assessment is ongoing and diagnostic (Tomlinson, 1999). This notion indicates that teachers should do formative assessments rather than summative ones. Critically, teachers need to do a pre-assessment to learn the students' initial points. Lastly, the most critical aspect of differentiated instruction is the teacher who facilitates the classroom. Reis and Renzulli (2018) support that the teacher's commitment to differentiate is essential. In summary, the five differentiated instruction principles should be intercorrelated. Content and assessment are the core aspect. While differentiating content, teachers have to create pre-assessment and formative assessments to track the students' development in learning. This assessment type may predict differentiated instruction use (Coubergs et al., 2017). Instructional strategies and learning environment differentiation also support the student's learning styles in a smaller classroom but need more endeavor in a more extensive classroom. The teacher is located at the center of whole aspects to indicate the importance of the teacher in DI practice. In order to implement DI successfully, teachers should be familiar about differentiated instruction (Coubergs et al., 2017). Later, Couberts et al. (2017) introduce the five constructs of DI practice regarding the teacher's perception:

- Teachers who adopt a growth mindset realize the connection between student effort and success.
- The teachers strive to include differentiated education into their curriculum design.
- With differentiated instruction, all students will have the opportunity to learn, and it is crucial to distinguish between teaching and learning strategies that engage pupils.
- The use of differentiated instruction may be predicted by assessment.
- Teachers must respect students' differing learning styles.

### **3. DI Practice in Educational Sector**

#### **3.1. DI Practice in Early Childhood Education**

Teaching in ECE is an exceptional skill. Although ECE is not part of three-tiered education, it gives children a solid foundation to advance their skills before enrolling in primary school. Through direct hands-on experiences with the materials, activities, and peers in the classroom, children independently produce new knowledge. Teachers must observe how individuals interact with the materials: what children do with them, how children use or misuse them, which materials are the favorites, which are neglected, and how to support children in their learning (Beaty, 2014). A teacher is a side-by-side facilitator of learning. This notion supports the view that in ECE, differentiated instruction is the preferable approach for children. Children learn most effectively when they become intensely interested in their learning. The pre-condition for children to reach

their best is trust in themselves (build self-confidence), teacher, peers, and environment (materials in their classroom to be the same as those in their homes). The teacher is responsible for this prerequisite (Beauty, 2014). Furthermore, teachers monitor and record children's assignments, play, behaviors, and interactions to evaluate progress. They use the collected information to prepare and adjust the curriculum and teaching. Children have varied opportunities to engage with the teaching staff who facilitate their social competence (Roopnarine & Johnson, 2013). In addition, teachers' key goal while using differentiated instruction in ECE is maintaining the link with the children's variety of needs (Handayani et al., 2017; Afurobi et al., 2017). DI Practice in the ECE sector is demanding. Handayani et al. (2017) point out that differentiated instruction consist of three steps: planning, implementing, and evaluating. For the purpose of evaluating how effectively teachers have used differentiated teaching in kindergarten, this research involved five teachers as the participants. This study discovered that nearly all teachers view differentiated instruction differently. Only one teacher assumed the variety of students' needs. This finding indicates the need for more understanding of differentiated instruction. There has to be more differentiation of instruction on learning objectives as it appears difficult for teachers to arrange various learning objectives for various academic demands. According to Handayani et al. (2017), a lack of differentiated instruction understanding is the main problem.

Moreover, teachers do the differentiation based on the student's grades, not their needs. So, as there is has no variety in assessment and evaluation, also no differentiated instruction in the lesson planning and teaching process. Overall, the study by Handayani et al. (2017) shows that certain ECE teachers required assistance in order to understand differentiated instruction. However, Handayani et al. (2017) emphasize that this finding may reflect the system or organization's implementation of differentiated instruction. The lack of understanding of students' strengths and limitations can be inferred as the main impediment to adopting differentiated instruction in ECE. Teachers' low self-efficacy, commitment, and willingness to innovate may cause this occurrence. Afurobi et al. (2017) distinguished differentiated teaching from a different perspective typically concerning the elements impacting the practice of differentiated education, such as the ECE location and teachers' experience. No significant disparity between teachers in implementing differentiated instruction, either for ECE location or teachers' experiences in rural and urban areas (Afurobi et al., 2017). This study suggests that teachers' experience is not the most important aspect of DI practise in ECE, but rather teacher self-motivation and willingness.

### 3.2. DI Practice in Primary Education

Primary education is the first three-tiered education where the students learn how to read and write (Nunley, 2006). With this purpose, DI practice in elementary school focuses on literacy and writing ability. DI practice in primary school seems similarly challenging as in early childhood education. In a primary

school classroom, there are often a range of academic achievement levels and student intellectual abilities. Further, differentiated instruction solves this diversity phenomenon (Prast et al., 2018). As the number of students continues to dwindle, DI practice could help to improve teaching and learning strategies for heterogeneous student groups (Smit & Humpert, 2012). This finding indicates that the DI practice may be more suitable for a small number of students. The complexities of DI practice in primary education led to misconceptions in some parts of differentiated instructions, including assessments. Research in primary school by Smit and Humpert (2012) found that teachers have different notions regarding the DI definition. Smit and Humpert (2012) found teacher misconceptions about DI in their research. Some educators still favour a whole-class orientation over a perspective-centered. When teachers differentiate teaching, they frequently assign pupils differentiated activities, change the number of assignments, or extend the time allotted for each activity so that some students can complete it. Rarely do teachers discuss additional assessment methods, such as diagnosing prior knowledge or using formative evaluation. Many educators in the survey focused more on differentiating content than supporting or guiding students' learning (Smit & Humpert, 2012). In order to successfully execute differentiated instruction, teachers should comprehend and understand pupils through pre-assessment data. Pre-assessment data are a strategy that teachers use in order to identify the earlier understanding of students and their gaps. In contrast, teachers tend to utilize summative rather than formative assessment (Yuen et al., 2022; Smit & Humpert, 2012). However, the familiarity of primary school teachers in this regard was low (Melesse, 2015). Many educators claimed that they regularly put the DI's stated strategies into practice (Yuen et al., 2022). Teachers typically use these techniques once each week. In contrast, Yuen et al. (2022) discovered that the teacher chose a teacher-centered classroom rather than a student-centered one because the teacher provided minimal room for students to choose their course materials.

We must look into the advantages of differentiated instruction for children notwithstanding teachers' misunderstandings. In primary school classrooms with varied abilities, Valiandes (2015) examined the impact of instructional methods on students' reading and literacy skills. According to the findings, students will progress more quickly in a classroom where differentiated instruction is used than in a non-differentiated classroom. The quality of differentiated classrooms has an interconnected effect on students' attainment in literacy and reading. This research emphasizes the importance of systematic and well-planned differentiated instruction methods to promote equity, quality, and effective teaching. Thus, teachers' misconceptions must be corrected before implementing differentiated instruction. Teachers' perception and motivation are essential things in the differentiated instruction approach. Research by Melesse (2015) indicates that most teachers reported needing to familiarize themselves with most of the presented instructional strategies of DI. One condition may become one of the factors, lack of professional development. Teacher professional development in

DI may restore teachers' perceptions of implementing differentiated instruction.

### 3.3. DI Practice in Secondary Education

In secondary education (SE), most students are entering their adolescent hood. During this period, students are looking for their identity, which is the biggest challenge in secondary education. An important goal of adolescence is identity development. While forming a sense of who they are and what they want to be, adolescents should be concerned with developing their educational and career goals (Verhoeven et al., 2019). According to this idea, differentiated instruction is appropriate for secondary education's goal of assisting adolescents in discovering who they are. Furthermore, several changes in secondary school have increased the demand for differentiated instruction (Smale-Jacobse et al., 2019). Differentiated instruction may guide students in secondary education to be more self-dependent learners. The zone of proximal development theory of Vygotsky divides pupils in secondary education into formal operational stages where they can exhibit abstract thought, logical reasoning, problem-solving, hypothetical thinking, and adolescent egocentrism (Rabindran & Madanagopa, 2020). In this stage, abstract and hypothetical thinking may give the students an initial figure of learning outcomes and encourage them to use their learning styles, supporting the notion of differentiated instruction. Problem-solving and deductive reasoning develop students' elaboration through content, process, and product. Differentiated instruction also satisfies adolescent ego-centrism by adaptive teaching based on students' needs. Therefore, students need to realize that they do not have to compare themselves to other peers during differentiated classes. According to recent study, the fundamental problems with differentiated instruction in secondary education are educators' beliefs and self-efficacy. Differentiated education should be viewed as a philosophy supported by a set of beliefs rather than a teaching approach (Tapper & Horsley, 2019). Moreover, teachers' misconceptions make the DI process ineffective in most cases. Despite the fact that several teachers said they had little expertise with differentiation, they all thought their differentiated instruction strategies were successful in their classroom (Haelermans, 2022). This gap explains the misconception among secondary school teachers. Teachers may have erroneous beliefs regarding the purpose and use of differentiated teaching (Karst et al., 2022). Despite the fact that their instructional approaches already include some degree of difference, teachers nevertheless need to be more clearly aware of the idea (Zerai et al., 2021). Rarely do teachers who have access to student readiness data use this information to begin differentiated instruction. Additionally, most educators believed that pupils were old enough to participate in differentiated instruction, even though they questioned whether or not the students have the required skills to work with differentiated instruction (Haelermans, 2022). This perception becomes a significant barrier to differentiated instruction implementation.

Differentiated instruction practice could offer many benefits. However, teachers find implementing differentiated instruction less possible due to the scarcity

of materials and resources (Haelermans, 2022; Pozas et al., 2022). Despite the fact that teachers' use of DI may have an impact on students' socio-emotional development, teachers infrequently differentiate their instruction (Pozas et al., 2021). As a result of inconsistency, it is impossible to identify whether all groups of students, including low-achieving students, benefit from DI implementation (Pozas et al., 2021). Contradictive to the previous statement, the gap between low- and high-achieving pupils should narrow as a result of DI practise (Smale-Jacobse et al., 2019). Teachers may encounter it challenging to differentiate the learning (Tapper & Horsley, 2019). Since most teachers reported that there was insufficient material accessible to make them feel capable of providing differentiated education, teachers also need professional training in this area (Haelermans, 2022). Understanding DI will foster teacher collaboration and more focused on professional development in secondary school settings to improve instruction for kids with a variety of learning needs (Porta & Todd, 2022). Even though research and practise have focused heavily on differentiated instruction, more information is still required regarding its benefits for raising secondary school students' achievement levels (Smale-Jacobse et al., 2019), and the root is because of teachers' misconceptions. Regardless of misconception, the teacher may use differentiated instruction to support students to increase educational outcomes (Porta & Todd, 2022).

#### **4. Conclusion**

Teachers need to break the barrier (misconception) as teachers' misconception becomes a significant obstacle in applying differentiated instruction in the classroom. Teachers' awareness of implementing DI will affect the outcome for students. The role of teachers is one of the most critical factors for successful DI implementation. In a reflective process known as differentiated instruction, teachers identify the students' learning needs, establish a learning objective, and then decide which DI strategy is best for their students (Pozas et al., 2022). In general, three key features of differentiated instruction which teachers should understand are content, process and product differentiation (Tomlinson, 1999; Nunley, 2006; O'Meara et al., 2011; Gregory & Chapman, 2013; Heacox, 2012). Teacher perception is essential to their practice in differentiated instruction (Afurobi et al., 2017; Haelermans, 2022). Generally, most cases of misconception are related to unfamiliarity, low self-efficacy, and teachers' motivation (Melesse, 2015; Handayani et al., 2017; Afurobi et al., 2017; Haelermans, 2022; Pozas et al., 2022; Tapper & Horsley, 2019). Later, this misconception may lead to an indistinctive outcome of differentiated instruction compared with other instructions. Moreover, low self-efficacy and motivation of teachers will slightly increase their stress levels while implementing differentiated instruction (Pozas et al., 2022). Besides, a regular teaching reflection may help teachers to conquer the basics of DI implementation. Thus, teachers need regular professional development to break their misconception about DI practice. Teacher professional development about dif-



differentiation can promote the achievement of all students (Prast et al., 2018). Anticipating future misconceptions may allow higher education to include differentiated instruction courses in teacher education. Nevertheless, teachers' misconceptions about differentiated instruction must be eradicated first (Nicolae, 2014). Heacox (2012) emphasizes that every time a teacher meets a student's needs, the teacher differentiates instructions. Heacox challenges teachers to embrace the following ideas while differentiating: each student's brain is as unique as a fingerprint, all students have areas of strength, and all students have areas that need to be strengthened.

### Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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