

International Journal of Learning, Teaching and Educational Research
 Vol. 25, No. 8, pp. 583-614, August 2026
<https://doi.org/10.26803/ijlter.25.8.23>
 Received May 31, 2026; Revised Jul 23, 2026; Accepted Jul 27, 2026

Mapping Differentiated Instruction Research (2016-2025): Trends, Theoretical Frameworks, and Methodological Developments

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Abstract. Despite growing scholarly interest in Differentiated Instruction (DI), existing reviews have not comprehensively synthesized recent developments in its theoretical, methodological, and geographical dimensions. However, research on DI remains geographically dispersed, dominated by particular theoretical frameworks, and characterized by methodological variations that have not been comprehensively mapped. This gap signifies the necessity for a study capable of delivering a holistic overview to synthesise results pertaining to DI. This article aims to provide a comprehensive synthesis of the progression of DI research through a SLR. Accordingly, relevant articles were retrieved from the scopus database using a systemtic literature search covering publications from 2016 to January 18, 2026. The literature search followed PRISMA guidelines and used the Scopus database. This led to 66 publications that met the criteria for further study. The study focused on yearly publication trends, regional distribution, journal categorization, citation patterns, theoretical frameworks, and research methodology employed in previous studies. The findings indicate a significant increase in publications concerning DI from 2022 to 2026, predominantly in Hong Kong, the United States, the Netherlands, China, Germany, Australia, and Indonesia. Tomlinson's DI model is the primary theoretical framework, while supplementary theories such as Self-Determination Theory, Social Cognitive Theory, and the Theory of Planned Behavior are employed to a lesser extent. Qualitative methods, particularly case studies, are the

Citation:
 Wahyudi, S., Joyoatmojo, S., Hindrayani, A., Indriayu, M., Totalia, S. A., Sa'adah, S. R., & Hidayat, R. W. (2026). Mapping Differentiated Instruction Research (2016-2025): Trends, Theoretical Frameworks, and Methodological Developments. *International Journal of Learning, Teaching and Educational Research*, 25(8), 583-614.
<https://doi.org/10.26803/ijlter.25.8.23>

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predominant methodologies employed, followed by quantitative survey-based studies; mixed-methods and longitudinal designs are exceedingly rare. The findings also reveal shortcomings in geographical representation, theoretical diversity, and the integration of broader methodological frameworks. This article offers findings to identify key directions for advancing DI research, support the development of more inclusive, evidence-based, context-sensitive DI in educational practice and suggests future research approaches.

Keywords: Differentiated Instruction; Tomlinson's Model, Systematic Literature Review, PRISMA, Education, Research Trends

1. Introduction

Talking about the quality of education in Indonesia compared to countries in the world, ASIA or even ASEAN still be said to be far behind. This can be seen through the "Education Report" data in 2024 which states that 69.73% of students were only able to achieve minimum literacy competencies, 64.64% of students were only able to achieve minimum numeracy criteria, and 56.26% of students were only able to achieve minimum criteria for character values (Kemendikbudristek, 2024). The following average PISA scores are needed to receive a "good" rating: Reading; 476 points, science; 485 points, and math: 472 points (OECD, 2023). In addition, other data show the average literacy, numeracy and science skills of students in Indonesia. The data results shown by the 2022 Program for International Students Assessment (PISA) and Organisation for Economic Co-operation and Development (OECD), indicate that Indonesia is ranked 66th out of 81 participating countries or in the 15th lowest position.

This is confirmed with the average literacy score of Indonesian students dropping 12 points from 371 in 2018 to 359 in 2022, the numeracy score dropping 13 points from 379 in 2018 to 366 in 2022, and students' science abilities dropping 12 points from 396 in 2018 to 359 in 2022. As a result, from the results of PISA in 2022, it can be seen that only 9% of students in Indonesia were able to reach level 5 (capable of developing strategies using models in complex situations) and level 6 (capable of interpreting, conceptualizing, and reflecting on the results of work based on models in complex situation).

The literacy ability of Indonesian students reaching level 5 (can understand long texts, handle abstract or counterintuitive concepts, and determine the difference between fact and opinion) is only 7%. The science ability of Indonesian students reaching level 5 or 6 (capable of applying creatively and independently the knowledge about science to various situations, including unfamiliar situations) is only 7% (OECD, 2023). One of the most significant factors causing the low PISA scores in Indonesian students is their low critical thinking skills (Weinstein & Preiss, 2017). This is confirmed with data showing that students still experience difficulties formulating everyday problems in formal form, understanding the structure of questions, applying information, evaluating results, and interpreting solutions (Firdaus et al., 2015; Harjo et al., 2019; Samura & Darhim, 2023). An alternative to improving the students' critical thinking skills in terms of literacy,

numeracy, and science is differentiated instruction strategies (Al-Shehri, 2020; Bal, 2023; Barbieri et al., 2020).

Differentiated Instruction offers a pedagogical framework for addressing learners' diverse readiness levels, interests, and learning profiles. Differentiated instruction can be used as an alternative to overcome gaps occurring due to differences in learning styles, learning interests, and different levels of ability of students in the classroom impacting the students' critical thinking skills (Abullah & Nordin, 2024; Goddard & Kim, 2018). The results of previous studies indicated that learning using differentiated strategies was proven to be able to improve the students' literacy, numeracy, and science skills compared with that implemented using traditional (conventional) strategies (Bondie et al., 2019; Indrawatiningsih et al., 2024; Joseph et al., 2013).

Therefore, students' critical thinking skill problems can be addressed through the implementation of differentiated instruction, as this approach has been shown to effectively improve these skills (Al-Shehri, 2020; Melese & Tinoca, 2019; Wan, 2025). Based on these findings, to address the issues related to critical thinking skills currently faced by students, effective learning strategies are needed, one of which is a tailored teaching strategy (Al-Shehri, 2020; Am et al., 2023; Magableh & Abdullah, 2020; Wahyuni et al., 2024).

Many positive impacts result from the application of differentiated instruction strategies in learning. Several studies show the results of the implementation of differentiated instruction strategies but are not accompanied by the use of these strategies in teachers' learning (Tajik et al., 2024). Teachers still rarely apply differentiated instruction strategies to overcome problems with critical thinking skills experienced by students until today. Teachers still feel comfortable using traditional learning methods and rarely use variations in learning (Moon et al., 2002; Smit & Humpert, 2012).

Teachers still rarely use differentiated instruction strategies even though they have many positive impacts because implementing them requires good and thorough preparation, so it takes time and increases the teachers' workload significantly (OECD, 2019). Previous studies have also reported that teachers perceive differentiated instruction as challenging because it requires considerable preparation time, while limited resources, inadequate planning time, and insufficient support further constrain its implementation in everyday classroom practice (Suprayogi et al., 2017; Gibbs, 2023).

Another factor obstructing the implementation of differentiated instruction strategies is the teacher's unpreparedness for providing classroom learning differently according to students' learning needs (Avramidis et al., 2000; Dee, 2011; Gaitas & Martins, 2016; Hamre & Oyster, 2004; Moon et al., 2002). Many positive impacts caused by differentiated instruction strategies are not followed by exemplary implementation in learning affect students' thinking, especially critical thinking skills (Chiner & Cardona, 2013). Critical thinking is characterized as intentional, self-directed judgment that encompasses interpretation, analysis,

assessment, inference, and explanation to arrive at well-founded findings (Facione, 1990). In the context of differentiated instruction, educators are required to adjust material, procedures, products, and the learning environment based on students' readiness, interests, and learning profiles (Tomlinson, 2014). These instructional modifications provide students the chance to engage in learning activities that include reasoning, problem-solving, and reflection processes deemed vital for the cultivation of critical thinking (Halpern, 2014). Despite the well-documented benefits of differentiated instruction, the persistent gap between its theoretical potential and its practical implementation underscores the need for a systematic, critical examination of existing research. Consequently, a comprehensive synthesis of literature is required to understand how differentiated instruction has been conceptualized, studied, and applied, and identify unresolved gaps that hinder its practical implementation in educational practice.

This Systematic Literature Review (SLR) aims to synthesize and provide a comprehensive mapping of research developments on Differentiated Instruction (DI). The first objective of this study is to explore the dynamics of DI research development by analyzing trends in geographical distribution, annual publications, journal classifications, theoretical foundations, and the methodological approaches that have dominated previous DI research. This study is designed to give a clear picture of how DI is studied, developed, and used in different schools and colleges. The second aim of this study is to pinpoint deficiencies and constraints in the literature on DI by means of a critical evaluation and analysis of the prevailing research emphasis and areas that have garnered insufficient attention. This study shows that certain theoretical frameworks are more common than others, that research is not evenly spread across different geographical areas, that there are not many different types of methodological designs, and that past DI studies tended to focus on educational settings.

Accordingly, this study seeks to provide a deeper understanding of the conceptual and empirical limitations that persist in DI research. The third objective of this study is to formulate directions and recommendations for future research relevant to contemporary educational challenges. These recommendations include integrating learning technologies, strengthening inclusive education practices, and developing DI models that are adaptive to the diversity of student characteristics and the ever-changing learning context. Through a systematic, literature-based synthesis, this SLR article not only presents a mapping of existing DI research but also integrates scattered findings to build a more comprehensive, structured, and development-oriented understanding of DI practices and research.

2. Literature Review

2.1 Differentiated Instruction

In the 21st century, a new perspective on learning is critical, differentiated instruction (Hastuti et al., 2024). Learning using a differentiated instruction approach recognizes the students' differences in learning styles, intelligence, and other potential (Tajik et al., 2024). Differentiated instruction aims to teach the

students in the same class by enabling students to learn at their own pace by increasing motivation and interaction between students (Magableh & Abdullah, 2020; Santangelo & Tomlinson, 2009; Tajik, Noor & Golzar, 2024; Tomlinson & Imbeau, 2010; Tomlinson, 2001, 2004, 2014). Differentiated instruction must be carried out using good pedagogical strategies to design the learning according to each student's learning readiness, learning interests, and abilities so that the students will succeed (Hunter et al., 2020; Morgan, 2014; Tomlinson, 1999).

Several studies show that differentiated instruction currently still experiences several obstacles and challenges including massive technological developments, adaptations made by students, teachers' abilities that are still experiencing problems, excessive administrative demands, and prevailing socio-cultural norms (Heng & Song, 2020; Heng & Song, 2020; Tajik, Noor & Golzar, 2024; Zerai, Tekle & Gebre, 2021). Learning using differentiated instruction strategies requires teachers as the directors of learning to proactively meet the students' learning needs by providing learning based on content, products, processes, and a supportive learning environment as a differentiator in the learning carried out by teachers in the classroom (Levy, 2008; Raftery, Lim, Ostor, 2013; Tomlinson, 1999; Wahyudi, Hapsari & Sugiono, 2022).

The results of studies that have been carried out show that the learning using differentiated instruction strategies has some positive impacts: the students' increased learning outcomes, academic success, motivation in learning, grades, and critical thinking skills in learning (Aliakbari & Haghighi, 2014; Hastuti, Arisanty, Basuki, Dharmono & Rachman, 2024; Hernandez-Cherrez, Galora-Moya & Hidalgo-Camacho, 2020; Karadag & Yasar, 2010; Osifo, 2019; Servilio, 2009; Tajik, Noor & Golzar, 2024; Tulbre, 2011; Wahyudi, Hapsari & Sugiono, 2022).

2.2 Tomlinson Model

Differentiated instruction (DI) is an educational strategy that acknowledges the varied academic needs of students as essential in the classroom, placing educators as active architects of learning who adapt to this variability. Among the numerous differentiated instruction conceptual frameworks, the model created by Carol Ann Tomlinson, a professor at the Curry School of Education, University of Virginia, is the most impactful and frequently cited in global literature; her intellectual stature was further recognised as one of the prominent educational theorists in *The Palgrave Handbook of Educational Thinkers* (Kuhr, 2023). This framework was initially presented in ASCD publications (Tomlinson, 2001) and subsequently reinforced both empirically and theoretically in Tomlinson et al. (2003) literature review, which continues to serve as a seminal reference for differentiated instruction, boasting over 2,300 citations in scholarly databases.

Tomlinson et al. (2003) characterise DI as "a pedagogical strategy where educators intentionally adjust curriculum, instructional techniques, materials, learning tasks, and student outputs to cater to the varied requirements of individual learners and small cohorts, thereby optimising the educational experience for every student in the classroom. This definition highlights three essential aspects

of Tomlinson's model: (a) differentiation is intentional and strategic rather than responsive; (b) differentiation focuses on individuals and small groups according to their specific learning requirements; and (c) the primary objective is to enhance each student's educational prospects, rather than merely to differentiate treatment among students (Tomlinson et al., 2003; Gheysens et al., 2023).

2.3 Constructivism

Constructivism is a pedagogical paradigm that fosters meaning making, allowing individuals to cultivate new insights through the interplay of their pre-existing knowledge and beliefs with newly obtained concepts and information (Chand, 2023; Resnick & Glaser, 2016). Constructivism is based on pedagogical approaches that emphasize the analysis of how different activities and lessons promote autonomous learning among students, as well as the kind of tasks educators should design for classroom instruction. Moreover, constructivism offers a modern viewpoint on the information and conflicts that learners face during conventional education. This encourages students' cognitive processes, emphasizing the progressive evolution of new knowledge derived from experience and the reorganization of existing information (Wang, 2022).

Vygotsky's theory posits that human development is chiefly influenced by the interplay of social, cultural-historical, and individual factors (Wibowo, Wangid & Firdaus, 2025; Schunk, 2001). The principle of constructivism in education posits that individuals can leverage their cognitive abilities to enhance learning, memory, and logical reasoning, which are inherently shaped by the societal and cultural contexts surrounding them (Wibowo, Wangid & Firdaus, 2025; Omrod, 2012).

Other things put forward by Vygotsky to support the idea of constructivism learning theory, namely: (1) informal and formal interactions between adults (teachers) and children (students) will provide students with an understanding of how students will develop; (2) every culture has a meaning to improve students' cognitive abilities, and the meaning of culture for students aims to guide children in living a productive and efficient life; (3) the ability to think critically and speak develops in the early years of individual development, Vygotsky's constructivist learning theory relies heavily on the development of critical thinking and language acquisition; (4) the process of critical and complex thinking relies heavily on individual social interactions, when individuals discuss events, objects, and problems with teachers in the classroom or adults in a more knowledgeable living environment, then gradually the results of these discussions will become part of the individual's critical thinking structure; and (5) students will be able to work on challenging tasks if given more challenging tasks by competent teachers (Wibowo, Wangid, & Firdaus, 2025; Schunk, 2001).

2.4 Sociocultural Theory

The connection between sociocultural theory and DI is essentially reciprocal: sociocultural theory articulates the learning strategies that clarify the success of differentiation, while DI, notably Tomlinson's approach, furnishes the classroom design necessary to enact these strategies in varied educational environments. The literature reveals at least six identifiable locations of interaction. Primarily, the

Zone of Proximal Development (ZPD) constitutes the core theoretical underpinning of distinction that is predicated on readiness. In their pivotal review in the *Journal for the Education of the Gifted*, Tomlinson et al. (2003) explicitly connect differentiated instruction to Vygotsky's theories: optimal learning is achieved when tasks are marginally above students' levels of independent mastery, and due to the individual nature of each student's ZPD, a uniform curriculum will inevitably be either too easy for some or too challenging for others. The differentiation of readiness serves as the implementation of the ZPD within academically varied classrooms (Tomlinson et al., 2003).

In addition, scaffolding and the notion of the more informed other furnish a theoretical rationale for responsive pedagogy and flexible collaboration. The scaffolding contingency principle (van de Pol et al., 2010) is in harmony with the DI principle, asserting that instructors must perpetually tailor support depending on discernible learning necessities, while fading clarifies that differential assistance ought to be ephemeral and fluid, rather than a static classification. Tudge's (1992) observation that collaboration among peers of differing capacities fosters development for both individuals offers a sociocultural rationale for the flexible, heterogeneous grouping central to Tomlinson's model.

Third, the notions of mediation and psychological mechanisms (Kozulin et al., 2003) underpin the differentiation of content, process, and product: if cognition is perpetually mediated by cultural instruments (language, symbols, technology, artefacts), then supplying an assortment of tools and representational methods for students with diverse learning profiles is a logical extension of sociocultural theory, not merely a classroom tactic. Fourth, sociocultural theory advocates for differentiation grounded in interests and learning profiles through a funds of knowledge methodology. Moll, Amanti, Neff, and Gonzalez (1992) revealed that students' families and neighbourhoods, particularly those from disadvantaged backgrounds, contain valuable cultural and cognitive resources. Instruction that integrates students' real-world contexts with the school syllabus markedly elevates teaching effectiveness. Within the context of Tomlinson's paradigm, identifying students' cultural capital is a fundamental requirement for appropriately customising instruction according to their interests and learning styles.

Fifth, sociocultural theory reconceptualizes evaluation as a necessary condition for distinction. Allal and Ducrey (2000) suggested a change from assessment inside the ZPD to assessment within the ZPD, positing that formative assessment evolves into a dialogic engagement through which educators diagnose emerging capabilities and simultaneously extend support. This serves as the theoretical analogue to the notion of perpetual assessment and adaptation, central to differentiated classroom management. Sixth, sociocultural theory links differentiated instruction to culturally sensitive educational practices. In 1995, Ladson-Billings introduced a culturally relevant pedagogy focused on students' educational success, cultural awareness, and critical insight; Paris (2012) later expanded this framework into a culturally sustaining pedagogy that views students' cultural practices as worthy of preservation instead of assimilation. In

his integrative research featured in the Teachers College Record, Santamaria (2009) explicitly combines these two traditions through the culturally responsive differentiated instruction (CRDI) model, illustrating that socioculturally based multicultural education principles can elevate CRDI into an instructional approach that benefits all learners while narrowing achievement gaps between groups.

2.5 Motivation Learning Theories

Differentiated instruction (DI) involves more than only structuring the curriculum; it also entails fostering motivation. According to Tomlinson et al. (2003), a key principle of differentiated instruction is that students learn more effectively when tasks are suitably challenging, personally intriguing, and accompanied by emotional support elements that are motivational in nature, not merely cognitive.

In Tomlinson's model, affect and the learning environment are categorized as one of four differentiated factors, indicating that learning motivation theory serves a dual purpose in differentiated instruction: as a foundational requirement (learning must be tailored due to differences in students' readiness, interests, and motivational profiles) and as a projected outcome (effective differentiation fosters intrinsic motivation, self-efficacy, and engagement in learning) (Tomlinson et al., 2003; Wong, Chue, Ali, & Lee, 2023). This analysis explores five key theoretical frameworks of learning motivation: self-determination theory, expectancy-value theory and interest development, achievement goal theory paired with mindset, self-efficacy theory, and flow theory, and charts their relationships with empirical principles of differentiated instruction.

3. Methodology

This study used a Systematic Literature Review (SLR) design, following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure methodological accuracy, transparency, and repeatability of the literature review process (Moher et al., 2009). The PRISMA framework has been widely recognized as an international standard in systematic review reporting because it improves the quality of study selection and synthesis through structured stages, including identification, screening, eligibility, and inclusion (Panic et al., 2013; Siddaway et al., 2019). The complete flow of article selection in this study is visualized in the PRISMA diagram presented in Figure 1.

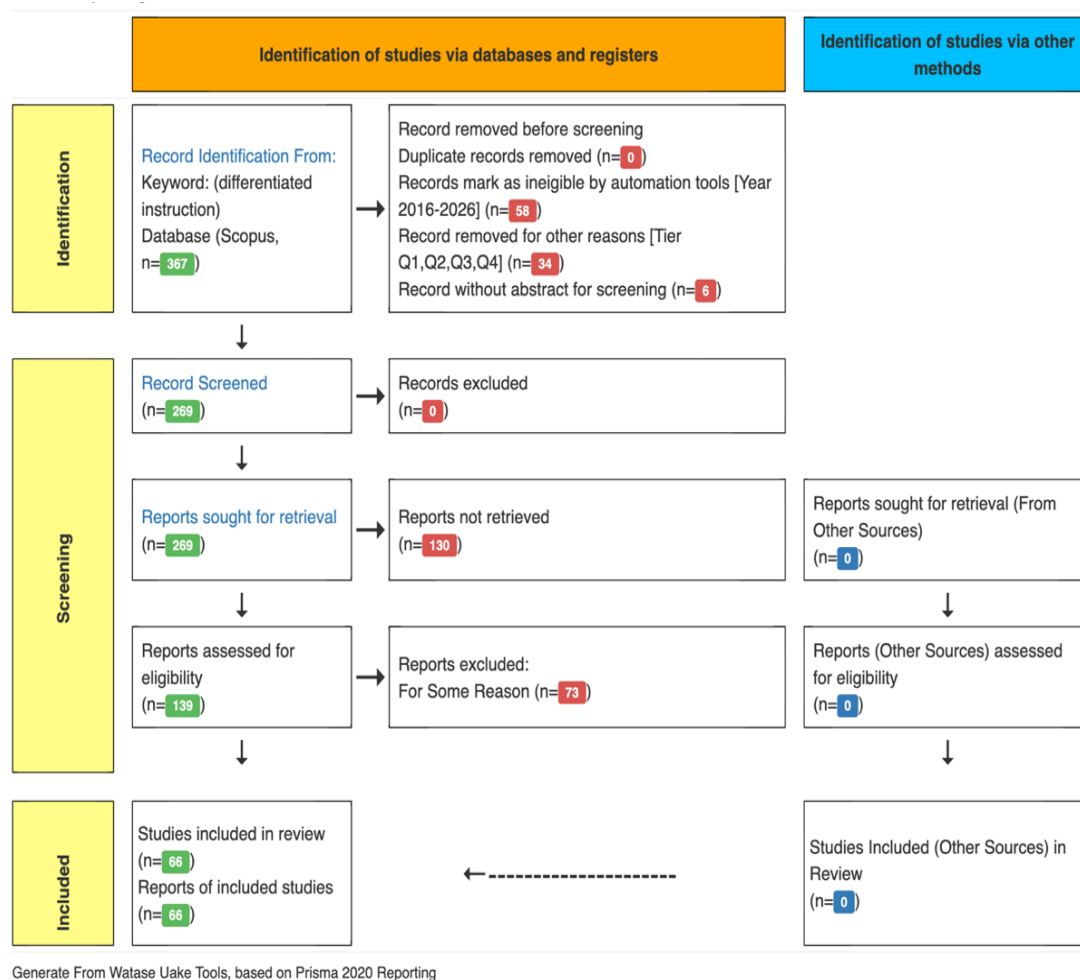


Figure 1: PRISMA

The identification stage began with the formulation of a systematic, focused literature search strategy to identify scientific publications relevant to DI. The keyword “differentiated instruction” was used as the main search term to ensure conceptual accuracy and thematic relevance. The search was conducted in the Scopus database, chosen for its reputation for providing high-quality scientific publications, a rigorous indexing system, structured metadata, and comprehensive filtering mechanisms (Bergman & Bergman, 2012; Rocha, 2020). Compared to open academic search engines such as Google Scholar, Scopus offers advantages in minimizing duplication, limiting publications from predatory journals, and ensuring the validity and credibility of indexed articles (Hariningsih et al., 2024).

On January 18, 2026, a preliminary search was carried out in the Scopus database, spanning publications from 2016 to January 18, 2026, including articles that were available as in-press publications at that time. The search produced 367 records. 58 records that were published outside of the designated time frame, 34 records that were not published in Scopus-indexed journals within the Q1–Q4 quartiles, and 6 records that lacked abstracts were eliminated prior to the screening phase because they did not meet the predefined eligibility criteria. No duplicate records

were found. As a result, 269 papers made it to the screening phase, when titles and abstracts were examined to see how pertinent they were to the study's goals. At this point, no records were excluded because every screened article was deemed theoretically relevant. Nevertheless, 139 articles remained for the eligibility evaluation phase after 130 articles could not be accessible during full-text retrieval due to the unavailability of the complete texts.

The eligibility stage involved an in-depth evaluation of the full texts of 139 articles to assess their substantive suitability, methodological quality, and empirical contribution to the study of differentiated instruction, in line with established inclusion and exclusion criteria. The evaluation results showed that 73 articles had to be excluded for reasons such as research focus not directly addressing differentiated instruction, methodological rigor limitations, or incompatibility with the study's scope. Thus, the inclusion stage yielded 66 articles that met all criteria and were officially included in the systematic review, without any additional studies from other sources.

The entire selection process, from identification to inclusion, was transparently documented in the PRISMA diagram in Figure 1 to ensure the traceability and replicability of the research. The selected articles were then analyzed using a thematic analysis approach to identify patterns, conceptual trends, and dominant themes in the literature. The articles that were selected were analysis via thematic synthesis to uncover patterns, conceptual trends, and predominant themes in the literature. The obtained data were classified in accordance with the theoretical framework, methodological perspective, and research setting. The derived codes were then systematically analysed and organised into broader topics to maintain analytical uniformity. Therefore, the processes of identification and inclusion were essential. As a result, the identification and inclusion stages played a crucial role in ensuring the relevance, validity, and scientific integrity of the study's results and provided a solid methodological foundation for further research on differentiated instruction.

4. Results and Findings

4.1 Country Classification

Based on the synthesis of geographical distribution of research, Differentiated Instruction (DI) studies have expanded across multiple regions; however, research productivity remains concentrated in a relatively small number of countries, indicating an uneven global development of DI scholarship (Figure 2). Country Classification shows the dominance of Hong Kong as the location with the most research, with 7 articles (Dulfer et al., 2025; Tan & Chong, 2025; Wan, 2025), followed by the United States and the Netherlands, which each contributed a relatively high number of studies with 6 articles (Colbert et al., 2023; Compen et al., 2025; Dack, 2019; Godor, 2021).

Other developed countries such as Germany, Australia, and Singapore also appear consistently, suggesting that DI research has been strongly supported by educational systems characterized by well-established inclusive education policies, sustained investment in teacher professional development, and stronger

institutional research capacity (Heng & Song, 2020; Kalinowski et al., 2024; Porta et al., 2024). Outside of this context, developing countries such as Indonesia, Turkey, Ethiopia, and Ghana also contribute, albeit with lower frequency, reflecting the growing attention to DI in educational contexts facing structural and resource constraints (Nketsia et al., 2024; Özdemir et al., 2022; Subban et al., 2025; Zelalem et al., 2022). Although contributions from countries such as Canada, Greece, the Maldives, and Cyprus remain limited, their inclusion demonstrates that scholarly interest in DI is no longer confined to a few regions but has gradually expanded into diverse educational settings. Nevertheless, the unequal distribution of publications indicates that the global evidence base is still predominantly shaped by a limited number of education systems.

Country Classification

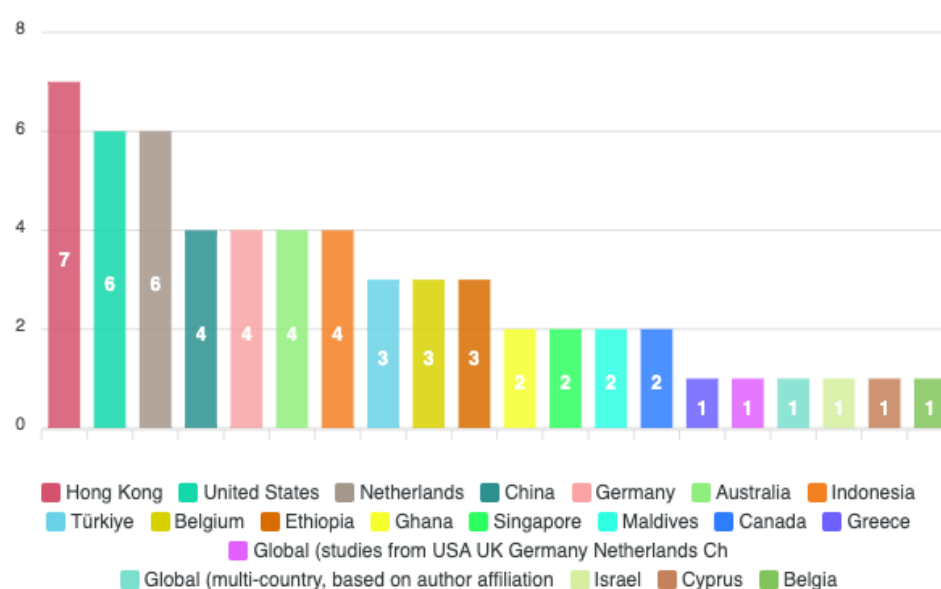


Figure 2: Country Classification

These geographical differences have direct implications for the focus and orientation of DI research. Studies from developed countries generally emphasize integrating DI with learning technology, data-based assessment, and a systematic educational policy framework, as seen in research in the United States and Singapore that highlights pedagogical innovation in high-support school environments (Maeng, 2017; Tan & Chong, 2025). In contrast, research from developing countries raises more issues regarding the implementation of DI in real school conditions, such as limited teacher training, large class sizes, and rigid national curricula, as reported in the contexts of Indonesia, Ethiopia, and Ghana (Jufrianto et al., 2025; Nketsia et al., 2024; Zelalem et al., 2022).

These differences suggest that geographical context not only influences where DI research is conducted but also shapes the educational problems investigated, the priorities of pedagogical innovation, and the contextual challenges addressed by researchers. Thus, this geographical distribution not only reflects the research's location but also confirms that DI is examined through different contextual lenses, thereby enriching the global understanding of how this strategy is adapted and

interpreted across diverse education systems. At the same time, the concentration of evidence in a limited number of countries highlights the need for future research to broaden geographical representation, particularly in underrepresented developing regions, in order to strengthen the external validity and global applicability of DI scholarship.

4.2 Year Article Classification

The publication trend of Differentiated Instruction (DI) research demonstrates a steady evolution from a relatively limited research topic to an increasingly established area of educational scholarship during the period 2016–2025. Based on Figure 3. Year Article Classification, the number of articles in the early phase was relatively limited, with 4 articles published in 2016 and low fluctuations in the 2017–2019 period (Bannister, 2016; Dack, 2019; Guay et al., 2017; Maeng, 2017; Strogilos et al., 2018). Since 2020, publications have gradually increased and have made a more substantial contribution since 2021.

A significant surge was observed in the 2022–2025 period, with 9 articles in 2022 (Roose et al., 2024; Yuen et al., 2022), 7 articles in 2023 (Bi et al., 2023; Wang & Tian, 2023), and reaching its peak in 2025 with 15 articles (Kara & Tekindur, 2025; Ndia et al., 2025; Ndu & Makeleni, 2025). The year 2024 also recorded a very high number of publications, namely 14 articles, confirming that DI is becoming an increasingly popular topic in global education literature (Demirci-Ünal & Öztürk, 2025; Hu, 2024; Porta et al., 2024). This upward trend indicates not only a growing volume of publications but also increasing scholarly recognition of DI as a strategic pedagogical approach for addressing learner diversity in contemporary education.

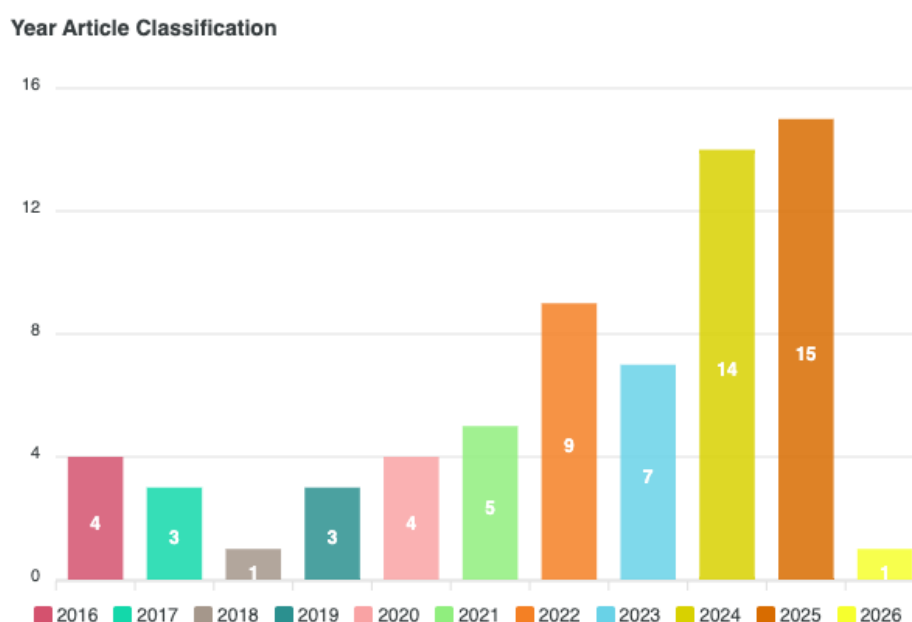


Figure 3: Year Article Classification

This temporal pattern shows that DI research developed gradually, progressing through distinct phases. In the early period of 2016–2019, DI research was still limited. It tended to focus on conceptual exploration and basic practices of differentiated learning in specific classroom contexts, as reflected in the relatively low number of publications (De Neve & Devos, 2016; Smale-Jacobse et al., 2019). Entering the 2020–2022 period, there was a moderate increase that marked the beginning of increased attention to DI in response to the diversity of learning needs and demands for inclusive education, particularly in the context of changes in learning during the pandemic (Smets & Struyven, 2020; Yuen et al., 2022).

The subsequent period until 2025 shows a significant acceleration, marked by a surge in the number of publications and an expansion of the focus of studies to systemic implementation aspects, technology integration, and the effectiveness of DI in various learning modes, including digital and hybrid (Hu, 2024; Porta et al., 2024; Wang et al., 2025; Yuen et al., 2023). This acceleration reflects broader educational transformations, including the expansion of inclusive education policies, rapid digitalization of teaching and learning, and increasing demands for personalized instructional approaches capable of addressing diverse student needs across educational settings. Thus, the development of trends based on year indicates a shift in DI from a relatively specific pedagogical issue to an increasingly established, adaptive, and relevant learning approach in the global education discourse.

Furthermore, the sustained growth of publications in recent years indicates that the focus of DI research has shifted beyond classroom-level implementation toward a more mature field of inquiry that not only examines instructional practices but also addresses educational policy, technology integration, teacher professional development, and evidence-based pedagogical innovation.

4.3 Journal Classification

The distribution of publications across journal quartiles demonstrates that Differentiated Instruction (DI) research has achieved substantial academic visibility, with contributions spanning both high-impact international journals and specialized education journals. Based on the journal classification and citation distribution in Table 1. Journal Classification shows that research on DI during the analyzed period was dominated by reputable journals in tiers Q1 and Q2, reflecting the maturity and academic legitimacy of this topic. Q2 tier journals show the highest publication frequency, particularly *Frontiers in Education* with 6 articles and 29 citations (Dorji & Nima, 2024; Nketsia et al., 2024) and *Cogent Education* with 5 articles and 81 citations (Bi et al., 2024; Hiruy & Melesse, 2022), followed by *Education Sciences* with 4 articles and 8 citations (Ndia et al., 2025; Yuen et al., 2023) and *International Journal of Educational Research* with 3 articles and 21 citations (Chen et al., 2025; Lee & Hung, 2025).

Meanwhile, Q1 tier journals such as *Frontiers in Psychology* had 2 articles with 219 citations (Bi et al., 2023; Smale-Jacobse et al., 2019), *Teachers and Teaching* had 2 articles with 77 citations (De Neve & Devos, 2016; Scarparolo & Subban, 2021), and *Teaching and Teacher Education* has 2 articles with 7 citations (Kalinowski et

al., 2024; Smit & Weingartner, 2026). Although Q1 journals contributed fewer publications, their substantially higher citation counts suggest that studies published in these journals tend to provide broader theoretical, conceptual, and methodological contributions that receive wider recognition across the educational research community. Conversely, the greater publication frequency in Q2 journals indicates that these journals have become important outlets for disseminating empirical studies examining DI implementation across diverse educational contexts. This pattern indicates that although DI publications are widely distributed in Q2 journals, high-impact conceptual and empirical contributions tend to accumulate in Q1 journals, particularly in studies linking DI to educational psychology, teacher pedagogical practices, and evidence-based learning.

Table 1: Journal Classification

Journal	Citation	Count
Frontiers in Education	29	6
Cogent Education	81	5
Education Sciences	8	4
Asia Pacific Education Review	13	3
International Journal of Educational Research	21	3
Education 3-13	10	3
Asia Pacific Journal of Education	49	2
Educational Studies	34	2
Frontiers in Psychology	219	2
Teaching and Teacher Education	7	2
The Asia-Pacific Education Researcher	8	2
The Teacher Educator	56	2
International Journal of Inclusive Education	33	2
Educational Review	40	2
Teachers and Teaching	77	2
Early Childhood Education Journal	4	2
Studies in Educational Evaluation	1	1
Research in Science Education	18	1
Research Papers in Education	8	1
British Educational Research Journal	5	1

Additionally, Q3 and Q4 journals such as Asia Pacific Education Review (Dulfer et al., 2025), Asia Pacific Journal of Education (Özdemir et al., 2022), Educational Studies (Ninković et al., 2024), The Teacher Educator (Godor, 2021), and Education 3–13 (Wan, 2025) play an important role in expanding the geographical context and educational level of DI research, especially in the Asia Pacific region and at the primary to teacher education levels.

Although the number of articles is relatively small, ranging from 2 to 3 articles per journal, the existence of these journals confirms that DI is not only positioned as a global theoretical discourse but also as a contextual and adaptive pedagogical approach to local needs. The distribution of citations across tiers shows that DI research is interdisciplinary and cross-level, with a focus on various implementations, ranging from early childhood education and inclusive

education to higher education (Smale-Jacobse et al., 2019; Tan & Chong, 2025; Zelalem et al., 2022). This publication pattern demonstrates that journals across different quartiles perform complementary roles in advancing DI scholarship. High-impact journals primarily strengthen theoretical development and methodological rigor, whereas specialized education journals contribute rich contextual evidence by documenting DI implementation across diverse educational levels, disciplines, and regional settings. Thus, this journal classification confirms that DI studies are developing systematically through a combination of high-impact and contextual journals, which together form an empirical and practical knowledge base on differentiated learning in global education.

Overall, these findings indicate that the advancement of DI scholarship is supported not only by publications in prestigious international journals but also by the continuous accumulation of context-specific evidence, enabling DI to evolve simultaneously as a robust theoretical framework and a practical pedagogical approach applicable across diverse educational environments.

4.4 Theory Classification

The theoretical foundations of Differentiated Instruction (DI) research demonstrate a clear dominance of Tomlinson's framework while also revealing an increasing integration of complementary educational and psychological theories that enrich the conceptual development of DI. Based on the theory classification in Table 2. In Theory Classification, a consistent pattern emerges: the Differentiated Instruction (DI) framework developed by Tomlinson is the most dominant theoretical basis in DI research. This model is explicitly used in 10 articles, focusing on the differentiation of content, process, product, and learning environment, as shown in cross-context studies and relatively recent publications, ranging from Maeng (Maeng, 2017) to Gibbs (Gibbs, 2025) and Wang et al. (Wang et al., 2025).

The use of Tomlinson's theory is also often combined with the concepts of readiness, interest, learning profiles, and students' cultural backgrounds, as in Demirci-Ünal and Öztürk (Demirci-Ünal & Öztürk, 2025), and contextualized in multigrade teaching (Shareefa, 2021) and reflective teaching practices (Jufrianto et al., 2025). The predominance of Tomlinson's framework reflects its comprehensive conceptualization of differentiated content, process, product, and learning environment, making it the principal reference for both conceptual discussions and empirical investigations of DI. Its flexibility enables researchers to apply the framework across diverse educational levels, subject disciplines, cultural settings, and instructional modalities, explaining why it remains the most influential theoretical foundation in DI scholarship. This dominance confirms Tomlinson's theory as the most established and applicable operational framework for explaining DI practices across levels of education and national contexts, and as the primary reference in empirical studies focused on classroom implementation.

Table 2: Theory Classification

Theory	Total Article	Author
Tomlinson`s model of differentiated instruction (content, process, product, environment)	10	(Adam & Porta, 2025; Colbert et al., 2023; Dulfer et al., 2025; Maeng, 2017; Nketsia et al., 2024; Porta et al., 2024; Strogilos et al., 2018; Tan & Chong, 2025; Wang et al., 2025)
Self-Determination Theory (SDT)	2	(Guay et al., 2017; Xie et al., 2025)
Social Cognitive Theory (SCT)	2	(Scarparolo & Subban, 2021; Zelalem et al., 2022)
Social constructivism	2	(Ankrum et al., 2017 ; Daşcıoğlu & Bümen, 2025)
Sociocultural theory (Vygotsky)	2	(Johler & Krumsvik, 2024; Ndia et al., 2025)
Theory of Planned Behavior (TPB); Social Cognitive Theory (SCT); Tomlinson`s DI Framework	1	(Yuen et al., 2022)
Lundy`s Model of Participation; Voice-Inclusive Practice (Sargeant & Gillett-Swan); Self-Determination Theory; Vygotsky`s Zone of Proximal Development	1	(Scarparolo & MacKinnon, 2022)
Person-object theory of interest (Hidi et al), integrated with Shulman`s (1986) model of professional knowledge	1	(Pozas et al., 2023)
Positioning theory (Davies and Harré 1990); Ecological model of teacher agency (Priestley et al. 2015); Critical Discourse Analysis (Fairclough 2013)	1	(Wan, 2025)
Self-Determination Theory (for teacher enthusiasm); Hofstede`s Cultural Dimensions Theory (for power distance)	1	(Özdemir et al., 2022)
Situated Expectancy-Value Theory of Achievement Motivation (Eccles & Wigfield); Model of Teachers` Professional Competence (Baumert & Kunter)	1	(Kalinowski et al., 2024)
Social Cognitive Theory (SCT) and Job Demands-Resources Theory	1	(Ninković et al., 2024)
Systems theory (educational change as nonlinear and context-dependent); also draws on Tomlinson`s conceptual framework of differentiated instruction and Hall et al.`s model of responsive teaching.	1	(Smets & Struyven, 2020)
Learning Style Theory (Kolb), Socio-cultural Theory (Vygotsky), Multiple Intelligences Theory (Gardner), Universal Design for Learning (UDL	1	(Ndu & Makeleni, 2025)

Theory of Planned Behaviour (TPB)	1	(Subban et al., 2025)
Theory of Planned Behaviour (TPB); Blömeke et al.'s (2015) model linking dispositions, situation-specific abilities (noticing), performance	1	(Smit & Weingartner, 2026)
Tomlinson's model of differentiated instruction (content, process, product, environment), and learning environment based on students' readiness, interests, culture, and learning profiles.	1	(Demirci-Ünal & Öztürk, 2025)
Tomlinson's Differentiated Instruction Model dan konsep Multigrade Teaching (Veenman).	1	(Shareefa, 2021)
Tomlinson's Differentiation Theory, Vygotsky's Sociocultural Theory, Schön's Theory of Reflective Practice	1	(Jufrianto et al., 2025)
Tomlinson's model of differentiated instruction (readiness, interest, learning profile); also references Trigwell & Prosser's Approaches to Teaching Inventory and Norwich's tension between individuality and equality	1	(Godor, 2021)

Beyond Tomlinson's theory, Table 2 also shows the use of various supporting theories, but with a much more limited frequency, generally one to two articles per theory. Motivational and psychosocial theories such as Self-Determination Theory are used to analyze student motivation and teacher enthusiasm (Scarparolo & MacKinnon, 2022), while Social Cognitive Theory is used to explain teachers' beliefs and agency in DI implementation (Ninković et al., 2024; Scarparolo & Subban, 2021; Zelalem et al., 2022). Sociocultural and constructivist perspectives, including Vygotsky's theory (1978), Social Constructivism, and Sociocultural Theory, appear in studies that emphasize social interaction, scaffolding, and learning context (Ankrum et al., 2017; Jöhler & Krumsvik, 2024; Ndia et al., 2025).

Additionally, several studies integrate DI with more complex and multidisciplinary theoretical frameworks, such as the Theory of Planned Behavior (Smit & Weingartner, 2026; Subban et al., 2025; S. Y. Yuen et al., 2022), and approaches using Systems Theory and responsive teaching models (Smets & Struyven, 2020). Teacher agency is further analyzed using the Ecological Model of Teacher Agency and Positioning Theory. In contrast, Critical Discourse Analysis is used to examine how policy and pedagogical discourse shape the implementation of Differentiated Instruction in the classroom (Wan, 2025). The incorporation of these complementary theories indicates that contemporary DI research increasingly seeks to explain not only differentiated instructional practices but also the psychological, social, organizational, and contextual mechanisms that influence the successful implementation of DI across diverse educational environments. This theoretical diversification suggests that DI has

evolved from being viewed primarily as a classroom instructional model into a multidimensional educational framework capable of explaining teacher practices, learner engagement, educational change, and inclusive learning environments. This pattern shows that although DI research is dominated by a single framework, there are limited but significant efforts to enrich theoretical analysis by integrating motivation, sociocultural, and educational change theories that address the complexity of contemporary DI practices. Overall, the combination of Tomlinson's framework with complementary educational and psychological theories demonstrates that DI scholarship has evolved from a predominantly pedagogical model into a mature interdisciplinary field, integrating perspectives from educational psychology, instructional design, teacher education, educational change, and inclusive education to address increasingly diverse and complex learning environments.

4.5 Research Design Classification

The methodological distribution of Differentiated Instruction (DI) research demonstrates a balanced but distinctive preference for qualitative inquiry, reflecting the complex and context-dependent nature of differentiated instructional practices. Based on Figure 4, Research Design Classification shows that research on DI is dominated by qualitative designs (32 articles), followed by quantitative designs (21 articles) and mixed methods (13 articles). This distribution suggests that researchers have primarily sought to understand how DI is implemented within authentic educational settings before attempting broader empirical generalization.

The dominance of qualitative designs indicates that DI studies are more focused on in-depth exploration of the processes, contexts, and dynamics of DI implementation in diverse classrooms. This approach is commonly used in case studies and field research to understand differentiation practices contextually through observation, interviews, and document analysis (Demirci-Ünal & Öztürk, 2025; Porta et al., 2024; Scarparolo & MacKinnon, 2022; Subban et al., 2025). Meanwhile, quantitative research generally utilizes surveys and experimental designs to measure teacher perceptions, implementation readiness, and the relationship between variables related to DI in a broader sample, with the support of advanced statistical analyses such as Structural Equation Modeling and Confirmatory Factor Analysis (Chen et al., 2025; Dorji & Nima, 2024).

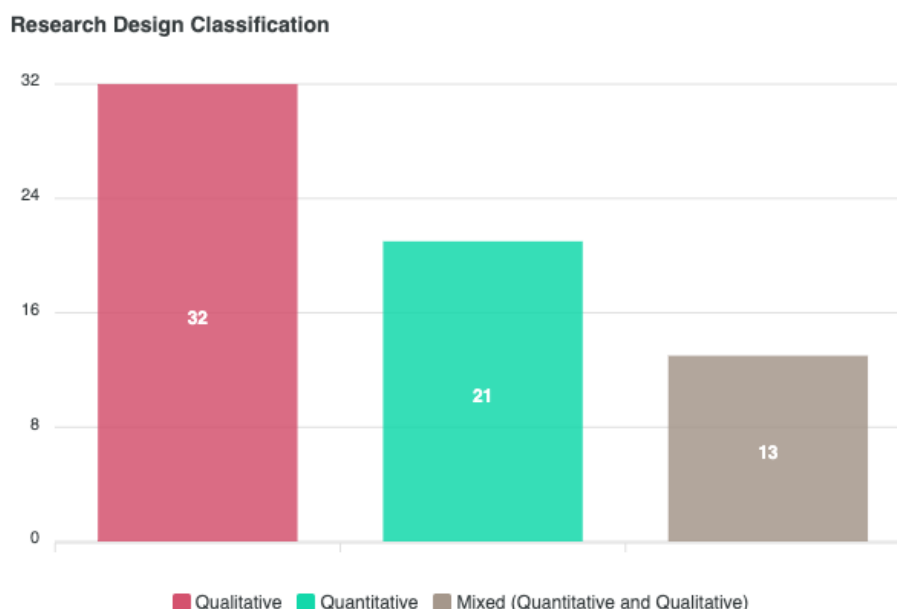


Figure 4: Research Design Classification

Based on Figure 4, the relatively lower proportion of mixed-methods studies indicates that the integration of qualitative and quantitative approaches remains underutilized in DI research despite its considerable potential to generate more comprehensive evidence. Analysis of the reviewed studies shows that mixed methods design primarily combine surveys, experiments, or quasi-experiments with interviews, classroom observations, focus group discussions, document analysis, and thematic analysis using explanatory sequential, exploratory sequential, convergent, and embedded approaches. These combinations are mainly employed to validate quantitative findings, explain statistical results through qualitative evidence, and obtain a deeper understanding of contextual factors influencing DI implementation across different educational settings.

In addition, several studies show that quantitative designs often combine Tomlinson's DI framework with other theories such as the Theory of Planned Behavior or Self-Determination Theory to explain teachers' intentions, motivations, and behaviors in implementing DI (Guay et al., 2017; Yuen et al., 2022). This pattern confirms that the choice of research design is closely related to the study objectives: qualitative research focuses on an in-depth understanding of DI practices in authentic contexts, while quantitative research is oriented towards generalizing findings for evaluation and policy purposes. The distribution of research designs in the figure shows that although the qualitative approach remains the mainstream in DI studies, there are significant methodological opportunities to develop mixed-methods research to produce a more comprehensive and balanced understanding of the balance between contextual depth and the power of generalization.

5. Discussion

This Systematic Literature Review reveals that Differentiated Instruction (DI) has experienced considerable change over the last decade, shifting from a localised instructional approach to a wider pedagogical framework that increasingly promotes inclusive, technology-integrated, and personalised learning across multiple educational environments. The ongoing surge in publications, notably after 2020, suggests that DI has gained prominence as a crucial field of educational research in light of heightened learner diversity, the advancement of inclusive education policies, and the rapid digital transformation in pedagogy. This persistent increase illustrates the development of DI as a well-established scholarly domain focused on both teaching effectiveness and comprehensive educational reform, rather than being a transient research phenomenon.

The findings imply that current DI research has evolved from focusing solely on classroom improvement to facilitating teacher professional growth, curriculum advancement, evidence-based decision-making, and educational policy formulation. The regional spread of DI research further exemplifies how educational institutions mould the advancement of this area. The prevalence of publications in developed regions signifies a heightened research proficiency, established inclusive educational policies, continuous funding for teacher professional growth, and improved access to educational technologies. Thus, these countries have successfully examined differentiated instruction not only as a classroom technique but also as a component of wider educational innovation and structural transformation. On the other hand, investigations carried out in developing nations mostly concentrate on the obstacles of actual implementation, including scarce teaching resources, inadequate teacher preparation, excessive class numbers, and curriculum restrictions. This variation is not to be seen as an indication that DI is of lesser importance in emerging environments.

On the contrary, it emphasises a crucial inequity in the prevailing evidence landscape, where insights into DI are largely produced by educational systems with enhanced institutional resources. Thus, extending research into underrepresented regions would fortify the external validity of differentiated instruction studies, simultaneously yielding a more holistic insight into the adaptation of differentiated learning across multiple socio-cultural and educational landscapes.

Viewed conceptually, the evaluation indicates that despite Tomlinson's Differentiated Instruction Model being the primary theoretical basis, DI research is slowly evolving to incorporate interdisciplinary elements. The ongoing significance of Tomlinson's framework illustrates its extensive and versatile interpretation of diversified content, process, product, and learning environment, facilitating consistent use across diverse educational levels and settings.

Yet, the rising amalgamation of additional ideas, including Self-Determination Theory, Social Cognitive Theory, Sociocultural Theory, and the Theory of Planned Behaviour, reflects a crucial conceptual evolution. Instead of seeing differentiation exclusively as a pedagogical approach, contemporary studies are delving into the psychological, motivational, organisational, and contextual variables that impact

the successful application of DI. This theoretical expansion implies that DI has transformed into a complex educational structure that accounts for teacher choices, learner participation, educational reform, and inclusive instructional practices. As a result, subsequent theoretical progress should maintain the integration of expansive perspectives from educational psychology, teacher professional growth, organisational evolution, and technology-augmented learning to deepen the understanding of the complexities surrounding differentiated teaching in current educational contexts. The findings reveal that DI research is mostly based on qualitative investigation, underscoring the contextual characteristics of differentiated instructional approaches. The application of differentiated instruction within educational settings is largely contingent upon teacher assessment, learner heterogeneity, school environment, and contextual modifications, thus making qualitative strategies particularly fitting for examining this complexity.

However, the growing quantity of quantitative investigations and the progressive rise of mixed-methods study imply that the domain is experiencing a methodological evolution towards yielding more compelling empirical data. Although still restricted, mixed-methods research have valuable chances to amalgamate contextual comprehension with extensive empirical generalisation by utilising classroom observations, interviews, surveys, experiments, and advanced statistical techniques. The integration of methodologies is notably advantageous since effective DI application demands not just evidence of teaching success but also insight into why certain methods excel in various educational environments. Thus, augmenting longitudinal, comparative, and mixed-methods research will greatly fortify the database essential for shaping educational policy, teacher professional development, and the widespread execution of differentiated instruction.

Ultimately, the integration of publishing patterns, spatial distribution, theoretical frameworks, and methodological features reveals that DI research has reached a more sophisticated level of development. The emphasis in the research has transitioned from finding ways for classroom differentiation to exploring the systematic use, theoretical justification, and empirical evaluation of differentiated instruction across a range of educational environments. This progression has substantial ramifications for research and practical implementation. It emphasises the importance of improved theoretical synthesis, methodological pluralism, and expanded geographical representation for scholars. It highlights for educators and policymakers that the successful use of differentiated instruction demands not only teaching proficiency but also institutional endorsement, teacher training, and policies that cater to learner diversity in ever more complex educational contexts.

6. Limitations

Although this SLR provides a comprehensive overview of research trends in Differentiated Instruction, several limitations need to be noted. First, the geographical distribution of research is still dominated by developed countries, so the understanding of DI implementation in developing countries may be less

representative. Second, the dominance of Tomlinson's DI Model suggests a limited range of theories, which may constrain the conceptual development of DI in addressing complex issues such as educational inequality and access gaps. Third, methodologically, the lack of longitudinal and mixed methods studies limits our understanding of the long-term impact of DI and the interaction between learning processes and outcomes.

7. Future Research Directions

These gaps should be filled by intentional theoretical, methodological, and contextual developments in DI research. Theoretically, research should apply organizational and systems theory to comprehend how school leadership and institutional culture facilitate or impede implementation, integrate Universal Learning Design as a complementary, proactive framework, and incorporate critical and culturally sustainable pedagogies to examine DI as an equity-oriented practice rather than just a teaching technique.

In terms of methodology, there is an urgent need to address the lack of longitudinal and mixed-methods designs: experimental studies with strong control conditions are required to establish causal relationships between DI practices and learning outcomes; longitudinal studies tracking DI implementation and student learning outcomes over several academic years are required to understand how effects evolve and whether initial challenges diminish with experience; and mixed-methods designs should become the standard for integrating contextual depth with empirical generalization. While context-specific adaptive DI models for resource-constrained environments should be developed and empirically tested to expand the under-represented evidence base in Sub-Saharan Africa, Latin America, South Asia, and Pacific Island countries, cross-country comparative studies looking at DI across developed and developing country systems will clarify how systemic factors mediate effectiveness.

Research on artificial intelligence and adaptive learning technologies for automated diagnostic tests and tailored content delivery, hybrid and online DI implementation in post-pandemic contexts, and data literacy for real-time instructional decision-making using learning analytics is necessary due to the swift digital transformation of education. With a focus on instructional differentiation for large-group courses, sector-specific research should be extended to higher education disciplines outside of the health professions and teacher education, as well as vocational and technical education and community-based informal learning contexts.

Lastly, research on teacher retention and well-being should look at the relationship between DI workload, burnout, and attrition to ensure the economic sustainability of large-scale implementation; longitudinal studies on the efficacy of professional development should look at which training models are most sustainable in building teachers' DI competencies; and economic analyses of DI training investments should guide resource allocation decisions.

8. Conclusion

This Systematic Literature Review shows that research on Differentiated Instruction (DI) has progressed considerably between 2016 and 2025, evolving from a classroom-based instructional strategy into a broader pedagogical approach that supports inclusive, responsive, and personalized education. The sustained growth of publications, the expansion of research contexts, and the increasing integration of complementary theoretical perspectives suggest that DI has become an increasingly prominent area of educational research for addressing the complexity of learner diversity in contemporary education.

Beyond synthesizing existing evidence, this review contributes to the DI literature by integrating geographical, theoretical, and methodological evidence into a comprehensive synthesis of the field's development over the past decade. The findings indicate that although Tomlinson's framework continues to serve as the dominant conceptual foundation, the growing incorporation of motivational, sociocultural, and educational psychology perspectives reflects an important shift toward a more interdisciplinary understanding of differentiated learning. By bringing these complementary perspectives together, this review provides a clearer foundation for future theoretical development and offers a more comprehensive understanding of the evolution of DI research across diverse educational contexts. The findings further suggest that future theoretical development would benefit from integrating Tomlinson's framework with complementary perspectives that can better explain the contextual, psychological, and institutional factors influencing DI implementation.

From a practical and policy perspective, the findings indicate that effective implementation of DI requires more than teachers' pedagogical competence. Sustainable implementation is supported by coherent educational policies, continuous professional development, institutional commitment, equitable access to instructional resources, and curriculum development that enables teachers to respond effectively to learner diversity. These findings provide practical insights for curriculum developers, teacher education institutions, school leaders, and policymakers seeking to strengthen inclusive education systems across diverse educational contexts, particularly in developing countries such as Indonesia.

This review also highlights important methodological and geographical limitations within the existing body of literature, particularly the dominance of qualitative studies, the limited use of longitudinal and mixed methods designs, and the concentration of research in developed countries. Future DI research should prioritize broader geographical representation, stronger theoretical integration, and more rigorous methodological approaches to generate evidence that is applicable across diverse educational settings. Such efforts may enhance the international relevance of DI by providing insights that can inform research, policy, and educational practice across countries with different cultural, institutional, and resource conditions.

Ultimately, the findings suggest that the continued development of Differentiated Instruction depends not only on improving classroom practices but also on

fostering broader geographical representation, stronger theoretical integration, greater methodological rigor, and closer alignment between educational research, educational policy, teacher professional development, and classroom practice. Such holistic development has the potential to support DI as a sustainable framework for promoting equitable, adaptive, and high-quality education across increasingly diverse educational environments.

9. Implication

The findings suggest that educators should view differentiated instruction not merely as a collection of instructional techniques but as a comprehensive pedagogical approach that responds to students' diverse learning needs, readiness levels, interests, and learning profiles. This requires continuous professional development, adequate instructional resources, and systematic support to enable teachers to implement differentiated instruction effectively in both inclusive and mainstream classrooms.

Conflict of Interest

The authors declare no conflicts of interest.

Funding Information

"This research was supported by Universitas Sebelas Maret with the number of contract 371/UN27.22/PT.01.03/2025."

10. Acknowledgments

We want to thank the Supervisor and Advisor for their guidance so far, and the doctoral study program in economic education and the Sebelas Maret University for giving us this opportunity

11. Use of AI Statement

The authors wish to acknowledge the use of ChatGPT (OpenAI) and Grammarly during the preparation of this manuscript. These tools were used to assist with language editing, grammar correction, and improving the overall clarity of the manuscript. After using these tools, the authors carefully reviewed and edited the manuscript as needed and take full responsibility for its content. The paper remains an accurate representation of the authors' work and intellectual contributions

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