

Research Article

Pre-Service English Teachers' Perceptions Towards the Implementation of Differentiated Instruction in Teaching Practicum : Challenges and Strategies

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Abstract: This study also highlights the importance of ongoing professional development for pre-service teachers, emphasizing that preparation for handling diverse classroom needs is crucial for effective DI implementation. Pre-service teachers identified the need for more targeted training in understanding students' individual learning styles and needs, especially when dealing with large classrooms and limited resources. The findings also suggest that collaborative learning among educators, through workshops and peer mentoring, plays a significant role in overcoming the challenges of DI. In addition, institutional support was identified as a key factor in facilitating the effective use of DI. Participants reported that a lack of resources, such as teaching aids and time, was a primary barrier to the full implementation of DI. Schools and educational institutions were urged to provide more resources and structured support systems to enable teachers to tailor their teaching methods to accommodate the varying abilities of their students. Furthermore, the integration of technology was highlighted as an effective strategy to differentiate instruction, allowing teachers to cater to diverse learning needs in a more flexible and engaging manner. For instance, digital tools such as learning management systems and interactive applications were utilized by some participants to create personalized learning paths for students, fostering both engagement and motivation. These strategies not only helped overcome some of the limitations faced by the teachers but also allowed students to engage more actively with the learning material. Ultimately, this study emphasizes that the successful implementation of Differentiated Instruction requires a collaborative effort between pre-service teachers, their educational institutions, and ongoing support systems.

Keywords: Challenges; Differentiated Instruction; Perceptions; Strategies; Student Engagement.

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1. Introduction

Differentiated Instruction (DI) has garnered significant attention as an essential pedagogical strategy in global education, owing to its capacity to address students' diverse learning profiles, interests, and readiness levels. Differentiated Instruction (DI) offers adaptable teaching methods that cater to diverse learners, enabling educators to adjust content, processes, products, and learning environments to promote equitable and inclusive education (West & West, 2016). In the Indonesian setting, the implementation of the Merdeka Curriculum enhances the significance of DI by fostering student-centered and individualised learning. This curriculum promotes the adaptation of teaching approaches by teachers according to the specific requirements of pupils, hence enhancing autonomy and critical thinking (Noptario et al., 2024; Ferdaus & Novita, 2023).

Research has delineated four fundamental components for the effective implementation of differentiated instruction (DI): differentiated content, which entails the modification of instructional materials to accommodate diverse readiness levels; differentiated process, incorporating varied pedagogical strategies such as collaborative tasks and visual scaffolding; differentiated product, allowing students to demonstrate comprehension through multiple formats; and differentiated learning environments that take into account seating arrangements, group configurations, and classroom design (Tomlinson & Imbeau, 2023; Moya & Tobar, 2022; Hendel, 2022). Although these components have been well examined in educational literature, their practical use presents difficulties, especially for inexperienced teachers. Research indicates that pre-service teachers frequently encounter challenges due to insufficient teaching experience, absence of mentorship, and difficulties in simultaneously managing heterogeneous learners (John & Joseph, 2015; Adare et al., 2023). The extensive preparation needed to create many course versions and assessments frequently results in cognitive fatigue and a sense of unpreparedness (Soleas, 2015).

While professional development programmes and institutional assistance might mitigate certain hurdles, improper implementation of differentiated instruction may adversely impact students' motivation, engagement, and academic performance (Fredricks et al., 2004; Aranda & Zamora, 2016). Inadequate differentiation may exacerbate educational disparities and impede the social and emotional growth of students, particularly those in need of extra assistance (Muthomi & Mbugua, 2014). These concerns highlight the pressing necessity to examine the use of DI by pre-service teachers, especially during their practicum when pedagogical theories are assessed in authentic classroom environments.

Prior research has investigated DI implementation in several settings, including inclusive classrooms in Nigeria (Onyishi & Sefotho, 2020), gifted education in Tanzania (Milinga et al., 2023), and English instruction in the Philippines (Talin & Mercado, 2023). Although these studies indicated favourable teacher perceptions of differentiated instruction, they also underscored enduring obstacles such as insufficient resources, policy limitations, and administrative challenges. Nevertheless, the majority of the current literature has concentrated on in-service educators or theoretical frameworks, resulting in a considerable void about pre-service teachers' perceptions, particularly within Indonesian educational contexts governed by the Merdeka Curriculum.

This research aims to address the gap in understanding how pre-service English teachers perceive and experience differentiated instruction (DI) during their teaching practicum, a crucial step in teacher development where theoretical knowledge is applied to teaching practices. It seeks to ascertain the obstacles encountered and the methodologies employed to execute differentiated instruction in actual classrooms. This analysis enhances the establishment of more adaptive teacher education programmes and facilitates the incorporation of inclusive pedagogical methods in accordance with national curriculum revisions.

2. Preliminaries or Related Work or Literature Review

Differentiated Instruction (DI) has been a prominent educational strategy to address the growing diversity of students in contemporary classrooms. It enables educators to customise content, processes, products, and learning environments based on students' diverse readiness levels, interests, and learning preferences (Tomlinson & Imbeau, 2023; West & West, 2016). The Merdeka Curriculum in Indonesia underscores the significance of a student-centered learning model that requires teachers to exhibit flexibility and adaptability. The curriculum promotes the creation of individualised learning experiences to enhance student autonomy and critical thinking (Noptario et al., 2024; Ferdaus & Novita, 2023).

In teacher education, the capacity to provide differentiated instruction is especially vital during the teaching practicum, where pre-service teachers are anticipated to integrate pedagogical theories with classroom practices. Research indicates that numerous pre-service teachers face considerable issues in executing differentiated instruction due to insufficient experience, inadequate mentorship, time limitations, and difficulties in addressing varied learning requirements within a single classroom (John & Joseph, 2015; Adare et al., 2023). Creating tailored resources and assessments for kids with diverse learning profiles necessitates comprehensive planning, potentially overwhelming inexperienced educators. Furthermore, their perceptions of DI are frequently influenced by the educational contexts and support systems they experience during their practicum (Soleas, 2015).

Disregarding differentiated instruction can result in diminished student motivation and performance, particularly when teaching does not correspond with the unique needs of learners (Fredricks et al., 2004). The lack of responsive teaching approaches might exacerbate educational inequalities and adversely affect students' academic and socio-emotional growth (Aranda & Zamora, 2016; Muthomi & Mbugua, 2014). Despite the examination of DI in diverse educational settings, previous studies have predominantly concentrated on in-service educators or overarching theoretical frameworks. Research conducted by Onyishi & Sefotho (2020), Milinga et al. (2023), and Talain & Mercado (2023) underscores educators' favourable dispositions towards differentiated instruction while also exposing persistent problems in its implementation, including insufficient resources and policy constraints.

Notwithstanding this corpus of research, there exists a restricted comprehension of how pre-service English educators in Indonesia see and execute differentiated instruction during their practicum. The delay is substantial as the practicum functions as a crucial phase in the formation of teachers' professional identities and competences. This study seeks to investigate the attitudes, challenges, and tactics of pre-service English teachers in executing differentiated instruction during their teaching practicum. This project aims to enhance teacher education programmes to adequately equip future educators for addressing the different needs of learners within the Merdeka Curriculum framework.

3. Proposed Method

This study utilised a mixed-method approach with an explanatory sequential design, wherein quantitative data were first gathered to discern the patterns of pre-service teachers' perceptions of Differentiated Instruction (DI). The findings were subsequently augmented with qualitative data to enhance comprehension (Creswell, 2013). This design facilitates the amalgamation of overarching trends with personal experiences.

This study had 50 pre-service English teachers from Universitas Negeri Surabaya engaged in their teaching practicum. They were chosen by purposive sampling due to their expertise in implementing DI. From this cohort, 10 participants were selected for semi-structured interviews, which continued until data saturation was reached.

The research instruments included closed-ended questionnaires, open-ended questionnaires, and semi-structured interview guides. The closed-ended questionnaire generated quantitative data, which were examined using descriptive statistics (frequency and percentage). The open-ended responses and interview data were examined thematically. The amalgamation of these instruments sought to obtain both comprehensive and nuanced perspectives (Pickard, 2013; De Fina, 2019).

The content validity of the tools was determined by professional evaluation by a university lecturer in English education, who additionally acted as the researcher's thesis adviser. The validation process demonstrated that the instruments were suitable and comprehensible, with only minimal modifications for linguistic clarity. The reliability of the instrument was assessed via a pilot research with comparable participants, demonstrating satisfactory readability and the absence of misconceptions among responses.

Data collection occurred over one month through online questionnaires (utilising Google Forms), succeeded by virtual interviews with chosen respondents based on the questionnaire outcomes.

Quantitative data were studied using descriptive statistics (frequency and percentage), whilst qualitative data were assessed by theme analysis in accordance with Braun and Clarke's (2006) six-step method, ranging from data familiarisation to report composition. Preliminary codes were developed and classified into principal themes, including perspectives, obstacles, and strategies. Additionally, data triangulation was performed by juxtaposing results from open-ended surveys and interviews to establish consistency and enhance the validity of the findings.

4. Results and Discussion

This section delineates the findings of an explanatory sequential mixed-method study involving 50 pre-service English teachers who employed Differentiated Instruction (DI) during their teaching practicum. Data were collected via questionnaires and semi-structured interviews from May to June 2025 at Universitas Negeri Surabaya. The findings are organised topically according to three study enquiries: views of DI, experienced problems, and adopted methods. The analysis incorporates quantitative data (frequencies and percentages) alongside qualitative insights, bolstered by direct quotations.

4.1 Pre-service English Teachers' Perceptions of Implementing Differentiated Instruction During Their Teaching Practicum

Pre-service teachers predominantly maintained favourable opinions of differentiated instruction, acknowledging its significance in enhancing student engagement, fostering inclusion, and improving learning outcomes.

Table 1 Pre-service English teacher's perceptions percentage

| Aspects of perception | Percentage | Number |
|-----------------------|------------|--------|
| Satisfaction | 52% | 26 |
| Happy | 26% | 13 |
| Challenged | 18% | 9 |
| Neutral | 4% | 2 |

Table 1 reveals that 52% of participants reported satisfaction, 26% experienced enjoyment, 18% felt challenged, and 4% maintained neutrality. Satisfaction was frequently associated with students' improved understanding and pleasure. P8 remarked, "I felt gratified as the students appeared at ease with the lesson and demonstrated improved comprehension," whilst P3 expressed, "It was fulfilling to observe them assimilate the material at their own pace." Happiness derived from witnessing heightened student motivation and engagement, as articulated by P28: "I was happy because my students were excited and eager to participate," and P31: "They enjoyed the learning process more when I employed diverse activities."

Conversely, numerous responders recognised the arduous nature of DI. P13 acknowledged, "It was initially overwhelming due to the necessity of preparing various materials," while P9 remarked, "Differentiating tasks required additional time and effort." This paradox aligns with Tomlinson's (2001) perspective that although differentiated instruction (DI) is beneficial, it is also cognitively and logistically challenging. These insights corroborate Blaz's (2023) assertion that differentiated classrooms foster motivation and autonomy, while also validating Soleas's (2015) observation that pre-service teachers frequently encounter cognitive overload when first applying differentiated instruction.

4.2 Pre-Service English Teachers' Challenges in Implementing Differentiated Instruction During Their Teaching Practicum

Notwithstanding favourable dispositions, participants faced significant obstacles in implementing DI.

Table 2 Pre-service English teacher's challenges percentage

| Challenges | Percentage | Number |
|---|------------|--------|
| Maintaining students' engagement and motivation | 35% | 18 |
| Manage multiple learning strategies in one class | 30% | 15 |
| Adjust learning time to suit students' different learning rhythms | 20% | 10 |
| Difficulty in monitoring | 15% | 7 |

| | | |
|----------------------------|--|--|
| individual progress | | |
|----------------------------|--|--|

Table 2 delineates the four primary challenges: sustaining student engagement (35%), administering diverse learning methodologies within a single class (30%), adapting instruction to students’ learning paces (20%), and monitoring individual progress (15%). The concerns were classified into DI’s four domains: content, process, product, and learning environment.

Challenges in student engagement arose from classroom management issues, student tiredness, and a deficiency in drive. P3 stated, “At times, they appeared disinterested due to the activities not aligning with their interests,” whilst P31 remarked, “Sustaining their attention during prolonged tasks proved challenging.” Logistical obstacles arose in the simultaneous implementation of diverse tactics, as P18 remarked, “It was perplexing to coordinate various groups undertaking distinct tasks concurrently,” and P28 noted, “I found it challenging to manage the class when each student required individualised instructions.” Time limitations exacerbated the challenges of instructional pacing. P26 stated, “I lacked sufficient time to prepare and present varied materials,” while P34 remarked, “The timetable appeared excessively constrained to effectively execute differentiated activities.” Assessing individual development proved to be as problematic, as P42 said, “Some students advanced rapidly, while others lagged, and I was unable to monitor everyone uniformly,” while P43 expressed, “I encountered challenges in providing personalised feedback due to the class size and time constraints.”

These problems align with Hattie’s (2009) conclusions regarding the effects of substantial class sizes and inadequate resources. Participants indicated a discord between differentiated instruction principles and school settings that continued to prioritise conventional teaching methods, corroborating Adare et al.’s (2023) assertion that novice educators require systematic support frameworks to execute differentiated instruction proficiently.

4.3 Pre-Service English Teachers’ Strategies to Overcome Challenges in Implementing Differentiated Instruction During Their Teaching Practicum

To overcome these challenges, pre-service teachers employed adaptive solutions based on student-centered pedagogy.

Table 3 Pre-service English teacher’s strategies percentage

| Strategies | Percentage | Number |
|--|-------------------|---------------|
| Innovative media utilization | 32% | 16 |
| Adaptable lesson planning | 28% | 14 |
| Adaptable grouping strategies | 22% | 11 |
| Monitor the progress of individual students | 18% | 9 |

Table 3 delineates the predominant methodologies employed: digital media usage (32%), adjustable lesson preparation (28%), adaptable grouping (22%), and individual advancement monitoring (18%).

Digital platforms such as Kahoot, Quizziz, and Google Classroom were employed to deliver content in an engaging and accessible manner. P13 remarked, “I utilized Quizziz and YouTube videos to enhance student engagement and comprehension,” whereas P28 noted, “Google Classroom significantly facilitated the distribution of diverse materials for various

students.” Educators implemented flexible scheduling and collaborative planning to create adaptive classes. P1 stated, “I developed adaptable lesson plans to accommodate my students’ proficiency levels,” while P13 highlighted, “Collaborating with my colleagues facilitated the modification of materials for each group.” P50 stated, “I modified the activity according to the students’ mood or energy levels.”

Teachers utilized varied grouping to customize peer interactions. P1 stated, “I organized students according to their strengths to facilitate mutual assistance,” whereas P34 observed, “Upon altering the groups, their engagement and confidence increased.” Teachers performed informal interviews or assessments for progress monitoring. P5 stated, “I inquired personally about the students’ feelings regarding the tasks,” but P18 remarked, “I administered a brief diagnostic quiz prior to the lesson to modify my approach.”

The findings underscore Tomlinson and Imbeau’s (2023a) focus on adaptive planning and diagnostic teaching, and correspond with Santangelo and Tomlinson’s (2012) promotion of flexible, inclusive methodologies. These efforts strategically demonstrate an increasing level of professional maturity, autonomy, and inventiveness among pre-service teachers. Their capacity to include low-preparation resources, utilize technology wisely, and evaluate classroom methodologies demonstrates a pragmatic assimilation of differentiated instruction principles (Blaz, 2023; Deunk et al., 2015). Nevertheless, successful execution is significantly dependent on mentorship, institutional backing, and access to contextually relevant resources.

5. Conclusions

This study shows that pre-service English teachers predominantly possess favourable perceptions of Differentiated Instruction (DI) throughout their teaching practicum, as it enables them to accommodate varied learner requirements through flexible material, instructional strategies, assessments, and learning environments. Their practicum experiences augment their conceptual comprehension of differentiated instruction, illustrating the significance of experiential learning in teacher preparation.

Nonetheless, despite positive attitudes, they encounter significant obstacles including constrained time, extensive class sizes, inadequate resources, and poor institutional support, which frequently impede the comprehensive execution of differentiated instruction methodologies. These limits indicate that the effective implementation of DI is affected by both individual preparedness and the overarching structural factors of the educational setting.

In addressing these problems, pre-service teachers utilized adaptive tactics like collaborative planning, reflective practice, and the use of digital media. These findings underscore the significance of incorporating experiential training, contextualized curriculum design, and adaptive evaluation in teacher education programs. Moreover, organized mentorship and institutional cooperation are crucial for cultivating diversity and inclusion readiness and assurance. The study enhances the dialogue on inclusive pedagogy by demonstrating how rookie educators use differentiated teaching in actual classroom settings and advocates for additional research on the long-term effects of differentiated instruction on teacher development.

The results possess multiple implications. Teacher education courses should incorporate additional practice-oriented modules focused on differentiated instruction. Secondly, policymakers must provide sufficient institutional support, encompassing time, mentorship, and educational resources, to assist pre-service teachers in converting theory into reality. Third, curricular reforms must emphasize flexibility and student-centered learning, in accordance with national frameworks like the Merdeka Curriculum. Finally, subsequent research should investigate the impact of differentiated instruction on student achievement over time and assess the effectiveness of institutional support mechanisms in maintaining differentiated instruction practices after the practicum.

This study, while contributory, is constrained by its limited and institution-specific sample, the omission of mentor and student views, and the lack of observational data. These considerations limit generalizability and offer merely a limited representation of DI’s actual application. Future study ought to incorporate various institutions and stakeholders, including mentors and learners, to enhance comprehension and substantiate findings. Longitudinal studies are particularly advocated to monitor the progression of differentiated instruction approaches from pre-service to in-service teaching. Comprehensive comparative study including Universal Design for Learning (UDL) or blended learning frameworks may facilitate the identification of effective solutions for assisting various learners in Indonesian classrooms.

This study advocates for the establishment of a responsive and sustainable teacher education system that aids pre-service educators in both understanding and implementing differentiated teaching within genuine, inclusive learning contexts.

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