

CHALLENGES IN IMPLEMENTING DIFFERENTIATED INSTRUCTION WITH A DEEP LEARNING APPROACH: EVIDENCE FROM VOCATIONAL HIGH SCHOOLS IN INDONESIA

Israyani Masyita¹, Muhammad Tahir², Nur Aeni³
Makassar State of University, Makassar, Indonesia

muhammadtahir@unm.ac.id

ABSTRACT

The study aimed to find out the teachers' challenges in implementing differentiated instruction and deep learning approach in vocational EFL classrooms. This research used a qualitative method design where consist of 5 teachers selected through purposive sampling technique. Data collection involved the classroom observations and teacher's interview while researcher recorded their answer to get more detailed information about the phenomenon being studied. The data was analyzed by using the reflexive Thematic Analysis (TA) criteria which consists of some steps, begin from familiarization with data, coding, generating initial themes, developing and reviewing themes until presenting a detailed teacher's reflexive journals. The findings revealed that teachers still lack of experience in implementing differentiated instruction through deep learning approach in their classrooms. Not only that, some teachers also still confused on how to accommodate a diverse array of student needs, interests, and ability levels which were the most important thing in differentiated instruction implementation and also deep learning where both of those approaches can encourage students to explore content deeply, think critically, and apply their learning in meaningful contexts which is necessity for preparing learners for the challenges of the future. However, successful implementation requires sustained effort, investment in technology, and continuous professional development. Practically, this research will help educators, teachers, authorized bodies, students, and researchers to know the challenges that hinder successful implementation of differentiated instruction especially for English subject in vocational high school.

Keywords: Deep Learning, Differentiated Instruction, Teacher's Challenges, Vocational High School

INTRODUCTION

Differentiated instruction entails a proactive approach for planning and adapting pedagogical approaches and educational tasks, and assessment strategies to address the unique needs and preferences of each student (Jager, 2022). Therefore, it requires differentiated instructional strategies to maximize their academic potential (Smale-

Jacobse et al., 2019). In the context of Vocational High Schools, where students often exhibit varied backgrounds, interests, and learning preferences, the implementation of differentiated instruction presents both opportunities and challenges. The implementation of differentiated instruction (DI) in Vocational High Schools faces several key challenges, which are from teacher challenges such as lack of adequate knowledge and training, time constraints for planning and preparation, teacher belief and resistance to change until their difficulty in assessing diverse their students. Consequently, the teachers are required to combine teaching strategies into a new meaningful combination to meet each student's different learning needs (Salar & Turgut, 2021).

Differential instruction (DI) has surfaced as a pedagogical approach that considers students' learning styles, readiness levels, interests, needs, and language proficiency in the design of instructional methods and materials (Sapan & Mede, 2022). In particular, Differentiated Instruction (DI) views individual student differences within the same class as contrary to a one-size-fits-all approach. As highlighted in the theory of the zone of proximal development, the primary objective of differentiated instruction is to establish a setting in which learners can address challenges with the support of educators or more proficient peers (Bal, A. P, 2023). Teacher's effectiveness is a key driver of student success. Understanding the challenges teachers face in implementing DI is crucial for developing targeted professional development and support systems that can improve their practice and ultimately benefit students. One of the key obstacles in the implementation of differentiated instruction in vocational high schools is the lack of flexibility in the curriculum and the limited time available to accommodate diverse learning needs.

Deep learning represents a methodology that prioritizes profound comprehension, active participation, and the practical application of knowledge in real-world scenarios (Mystakidis, 2021). Extensive research on deep learning has been carried out across multiple disciplines, such as general education and cognitive science. Nevertheless, its implementation in language learning remains relatively scarce. Certain scholars argue that deep learning enhances students' capacity to grasp material in a comprehensive manner, rather than merely at a superficial level (Kovač et al., 2023). In the context of EFL, this approach can help students to develop their linguistic identity, which is important in foreign language learning (Rahimi & Sevilla-Pavón, 2024; Jiang, 2022; Kim, 2020). Deep learning includes not only the mastery of vocabulary or grammar but also the ability of students to critically understand the meaning of a language, relate it to their life experiences, and use the language in authentic communicative situations. Thus, deep learning involves a process of self-reflection, collaboration, and knowledge transfer, all of which are relevant to language learning (Kovač et al., 2023; Rahimi & Sevilla-Pavón, 2024).

In previous study about the implementation of differentiated instructions, Adare and Gebresilase (2023) found that some teachers prefer individualized instruction over differentiated instruction. The results also highlight the difficulties posed by large class sizes, the need for stakeholder engagement, and insufficient professional

development, all of which impede the implementation of differentiated instruction in educational settings. Not only that, research about deep learning also has found that students with a high level of awareness of the learning process tend to be more successful in mastering foreign languages (Getie 2020); (van den Broek et al. 2022). In addition, previous studies have also shown that mindfulness-based learning strategies can help reduce language anxiety, which is often an obstacle in EFL learning (Skelly & Estrada-Chichon, 2021). Another studies about the complexity of differentiated instruction were used in the classroom by Van Geel (2019) indicates that providing differentiated instruction is regarded as a significant yet intricate pedagogical skill that numerous teachers have not fully acquired and often feel ill-equipped to handle. Consequently, the teachers are required to combine teaching strategies into a new meaningful combination to meet each student's differentiable. Furthermore the implementation of Differentiated Instruction in vocational high school are conducted by Risnada and Triana (2024). They discussed the examination of the approach's implementation within the classroom revealed that teachers tailored the content to accommodate varying student ability levels and learning style.

This research is significant in language education, especially in the context of vocational EFL classrooms. First, this research provides new insights into how differentiated learning and deep learning approaches can improve the quality of language learning more meaningfully and humanely. Second, this study highlights the importance of integrating deep learning into differentiated instruction especially for vocational school students. Third, this research can be the basis for developing a more adaptive and inclusive learning model that pays attention to the needs and characteristics of students at the vocational school level. Theoretically, this article contributes to developing a conceptual model that connects deep learning theory with humanistic educational philosophy, particularly in the field of vocational EFL classrooms. A critical analysis of implementation challenges is also expected to discuss further the need to re contextualize global education theory into a local setting. This study's findings can guide teachers in designing project-based assignments, critical reflection, and authentic communicative context simulations. In addition, the resulting recommendations can encourage school policies to adopt a more holistic assessment system, accommodating affective and social aspects of language learning. Thus, this research seeks to advance the quality of vocational EFL teaching in their classrooms and strengthen the role of language education in forming resilient, creative, and globally competitive learners.

METHODS

The intention of this research is to examine some teachers challenges in implementing differentiated instruction through deep learning approach. This research used a qualitative methods where the researcher collects data through observation and interviews to better understand the phenomenon being studied. The data is analyzed using techniques such as thematic analysis of teacher and teacher interviews to understand they challenges in implemented differentiated instruction

through deep learning approach in the classroom. In this study, purposive sampling technique was selected by considering the characteristics of the research subjects that align with the research objectives. The respondents of this research were consist of five representatives' teachers from each Vocational High School in Gowa. All those schools were chosen for some criterion, such as SMK-PK (Sekolah Menengah Kejuruan-Pusat Keunggulan), which had already implemented Merdeka curriculum in their school. In this case, differentiated learning is used, registered as certified English teacher in their school, had experience ever attended curriculum training or teacher workshop about curriculum and registered as an active member in MGMP English Gowa (English teacher's community). Qualitative data was analyzed by using the Reflexive Thematic Analysis (TA) criteria. It provided for conducting other forms of qualitative analysis. In qualitative research, trustworthiness is crucial in guaranteeing the validity, dependability, and applicability of the results and conclusions. It includes several essential elements: Veracity, adaptability, stability, and reliability. Therefore, the researcher used member checking.

For the collection data procedures was began with gathering the data. After getting the data from observation, interview, and documentation the researcher conducted the following procedures, consist of preparing member checking by identifying the key validation point and selecting participants, communicating with the teacher and students as selected participants to inform the purpose of member checking and the importance of ensuring the accuracy and reliability of the research findings. Next is presenting the data by providing clear summaries of observation and interview data, then collecting feedback to clarify the data by checking with teachers, after that reporting the member-checking process based on the data and the last procedure was given a teachers' feedback.

Data from interviews and observations were analyzed using thematic analysis following Braun & Clarke's (2021) framework. To ensure trustworthiness, the study employed data triangulation across the three methods and conducted member checking, where participants reviewed and confirmed the accuracy of synthesized findings. Thick description and audit trails were maintained to support dependability and confirmability. Ethical clearance was obtained from the Ethics Committee of Universitas Negeri Makassar. Participants signed informed consent forms and were assured of confidentiality, anonymity, and their right to withdraw from the study at any stage.

RESULTS

The Teacher's Challenges in Implementing Differentiated Instruction

Based on the questionnaire and the in-depth interview results, teachers also faced many challenges in implementing differentiated learning instruction in their classroom. These challenges include limited learning time (stated at excerpt 31), lack of technical training on differentiation strategies (stated at excerpt 34 & excerpt 35), limited resources and learning media (stated at excerpt 32), and the complexities of

diverse classroom management (stated at excerpt 33). Several teachers also stated that not all students are equally prepared for independent learning, requiring more attention in supporting them. Furthermore, the high administrative burden often reduces teachers' time for comprehensive reflection and adjustment of learning strategies. Here are the interview's result:

Excerpt 31: "Actually for each meeting, we just two hours and 45 minutes it is too short if we want to implemented differentiated instruction for students." (T1/ F/SS/SMKN1/ August 28th 2025).

Excerpt 32: "For me, differentiated instruction is really challenge for me as a teacher in implementing in my classroom. Begin from lack of teaching aids, lack of students' motivation, lack of teacher's preparation and many more." (T2/F/SR/SMKN2/Sept 9th 2025)

Excerpt 33: "Actually for me, differentiated instruction is interesting, but sometimes student's grouping based on their ability make them feel them discriminate and not. So, the strategy is we take one from high level and mix to middle and low level students as their pair tutor." (T3/RA/SMKN3/August 11th 2025)

Excerpt 34: "The strategy is we take one from high level and mix to middle and low level students as their pair tutor. (T4/F/IN/SMKN4/August18th 2025)

Excerpt 35: "If we have thirty students, so we have to know them all. But, I think it is good to apply differentiated learning, because it can help the students to improve their skills, their ability in English while pay attention to their styles." (T5/F/NI/SMKN 5/Sept 15th 2025).

Several teachers also stated that implementation of differentiated instruction gives them challenge to be creative teacher as stated in excerpt below:

Excerpt 36 : "For me as teacher, it gives me challenge to be a creative teacher to find appropriate media and learning source for their differentiation, in this case their learning style, learning needs and interest." (T5/F/NI/SMKN 5/Sept 15th 2025)

Excerpt 37: "The impact for me as the teacher, I have to be more creative to find out references, not only references about materials or topic." (T4/F/IN/SMKN4/August18th 2025)



Figure 1. Teacher's challenge in implementing deep learning differentiation

DISCUSSION

The Implementation of Differentiated Instruction in Vocational High School

Globally, differentiated instruction (DI) has predominantly been examined within the realms of primary and general secondary education. In the context of vocational education, there exists significant heterogeneity among students, a considerable proportion of whom are disadvantaged or vulnerable, alongside notable student dropout rates (Cerdeña-Navarro et al. 2011).

Consequently, it becomes increasingly imperative for teachers to adapt their instructional methods to accommodate the diverse needs of their students (Onderwijsraad, 2011). Although prior studies have investigated aspects of inclusive teaching in vocational education, including teachers' perceptions of inclusive education (Muthmainnah, 2023) and practices related to inclusive assessment (Mudau, 2018).

In conclusion, while the research on DI in vocational high schools is still developing, it underscores the importance of tailoring instruction to meet the diverse needs of students in these specialized educational environments. Addressing the identified research gaps will be crucial for providing vocational teachers with the knowledge and tools necessary to effectively implement DI and ultimately enhance student learning and career readiness.

The Deep Learning Approach in Vocational School

Deep Learning requires that students become actively engaged with content. This involves not only processing information at higher cognitive level but also reflecting on

and applying what they learn in varying contexts. The deep learning approach is particularly effective when it emphasizes inquiry-based task, interdisciplinary connections, and opportunities for authentic application. In this way, deep learning empowers students to take ownership of their learning, while also preparing them for complex real-world challenges.

Moreover, a deep learning environment is largely student-centered. When students are given the autonomy to explore topics in ways that resonate with their prior experiences and interests, their engagement and ultimately, their understanding is significantly enhanced. This paradigm aligns with the principles of differentiated instruction, which also emphasize personalization and relevance in teaching.

Integrating Differentiated Instruction with Deep Learning Strategies

The integration of differentiated instruction with deep learning approaches creates an educational model that is both flexible and rigorously supportive of student understanding. By aligning the two approaches, educators can ensure that each student not only learns the curriculum at a level suited to their needs but also engages with the material in a profound, transformative manner. The following framework illustrates a simplified process flow for integrating differentiated instruction with deep learning strategies:

The Teacher's Challenges in Implementing Differentiated Instruction

The results of the study indicated that differentiated learning within English language classes at Vocational High Schools (SMKN) in Gowa has been integrated at the design, implementation, and assessment phases; however, it continues to encounter challenges in learning management.

The findings from the observations indicated that the classroom arrangement and instructional design at Vocational High School (SMKN) in Gowa were purposefully crafted to accommodate a diverse array of student needs, interests, and ability levels. This approach is in strong alignment with the viewpoint of Tomlinson and Imbeau (2023), which asserts that differentiated instruction (DI) should adapt the "content" of lessons to meet the varying readiness, interests, and learning styles of students.

Additionally, the students exhibited a strong motivation to engage in group work, driven by the teacher's intention to maintain a consistent seating arrangement, which underscored the importance of the team members involved. Furthermore, the independent zone within the differentiated instruction (DI) environment serves as a space where students can work independently on tasks that are customized to their individual learning styles, readiness levels, or interests. This approach fosters self-directed learning, accountability, and skill mastery by providing opportunities for personal study and individualized feedback. This underscores the importance of establishing an independent zone in the context of teaching writing through differentiated instruction.

Furthermore, the use of scaffolding techniques and the assignment of writing tasks tailored to various ability levels supports the assertion that differentiated

instruction (DI) benefits struggling students while simultaneously offering challenges to high-achieving individuals (Umedilloevna, 2023). Scaffolding plays a crucial role in writing education, as it breaks down intricate tasks into manageable steps, enabling students to develop their skills incrementally. Clearly articulated classroom roles, behavioral expectations, and routines were intentionally showcased to improve classroom management, ensuring that each student comprehended the standards established for them.

Consequently, it is essential to implement systematic procedures for delivering materials, and the significance of effective classroom management cannot be emphasized enough. This fosters a learning environment that enables students to remain focused and engaged. Furthermore, the framework proposed by Chung et al. (2021) advocates for the use of visual schedules and clearly articulated behavioral expectations, which highlight the importance of predictable classroom structures in reducing anxiety and supporting all students, particularly those with additional learning requirements.

The teachers established a structured yet inclusive atmosphere that facilitates learning. This methodology further emphasizes the importance of gradual guidance to empower struggling learners while also providing challenges for high achievers (Moswane et al., 2021). Ultimately, strong management practices lead to improved student outcomes and a more satisfying educational experience for everyone involved. By implementing smooth strategies, teachers can significantly reduce disruptions, enabling students to concentrate and remain engaged strongly aligning with (Smale-Jacobse et al., 2019) emphasize that effective classroom management in the context of DI requires teachers to be both adaptable and intentional, creating a strong sense of autonomy and belonging among students.

Moreover, certain educators have emphasized that combining whole-class instruction with small-group teaching effectively addresses the varied needs of all students, highlighting the importance of diverse instructional methods, including group work, to foster an inclusive learning atmosphere (Suprayogi et al., 2022). Additionally, the effective pacing of lessons aligns with Morgan's (2014) principles for maintaining student engagement through dynamic lesson structuring. Collectively, these insights highlight the importance of strategic planning and adaptability in the successful implementation of DI by implementing varied teaching techniques and strategies to ensure that every student deserves the chance to thrive, as it specifically customizes teaching methods, curriculum, and assessments to meet the varied learning needs of all individuals.

Furthermore, the findings from the second observation revealed that the activities and teaching resources utilized in the classroom were executed with great care. Additionally, the incorporation of technology, including mobile phones and laptops, greatly improves writing abilities and meets the needs of 21st-century learners, often referred to as Gen-Z (Pozas et al., 2020). These digital instruments encourage personalized learning, stimulate creativity, and enhance student

involvement. Ultimately, compliance with educational policies guarantees that differentiated assessments are fair and inclusive.

Moreover, all evaluations complied with pertinent educational policies, guaranteeing exclusivity and equity for every learner. The alignment with Vaughn and Bos (2021) highlights the critical necessity for academic institutions to synchronize their policies with inclusive and differentiated teaching methodologies. Nevertheless, the results indicated that the educational policy at the Vocational High School (SMK) level is intentionally crafted to enable graduates to succeed as prosperous entrepreneurs, a finding that had been previously established in earlier research (Suprayogi et al., 2017).

This initiative requires students to cultivate vital skills tailored to the ever-evolving business and industrial landscapes, all fostered through innovative and interactive teaching approaches. Differentiated Instruction (DI) has been thoroughly investigated, demonstrating its efficacy in addressing the varied needs of students across different educational contexts. Furthermore, Sapan & Mede (2022) highlighted that DI plays a significant role in promoting student-centered learning environments, thereby enhancing the realization of each individual's potential.

Futhermore, this research underscores the considerable influence of DI on students' views regarding the acquisition of writing skills. Iqbal et al. (2020) underscore the significance of students' perceptions of their educational settings, as well as the impact of teacher interactions and instructional methods in promoting confidence and academic achievement. Positive perceptions are essential for achieving effective learning results. Participants appreciated the teacher's clear presentation of material, which supports Thompson et al. (2010) claim that clarity aligns with students' cognitive readiness, thereby improving understanding and fostering inquiries, as also observed by Hattie (2009).

Moreover, the research highlights the significance of interactions between teachers and students in fostering confidence. Students valued the chances to ask questions and receive comprehensive explanations. Qiong (2017) emphasized that a teacher who is easy to approach cultivates a nurturing environment. Both students and educators acknowledged the necessity for varied learning styles to establish meaningful connections with the material, which influences cognitive aspects such as perception and problem-solving, as observed by Yang (2006). This collaboration allows students to effectively manage their expectations and experiences.

In evaluating students' perceptions of classes based on Differentiated Instruction (DI), behavioral engagement emerged as a prominent factor. The interviews highlighted three primary themes: feeling appreciated, enjoying teamwork, and recognizing individual differences. A nurturing and inclusive atmosphere enhanced students' confidence and led to improved outcomes, corroborating findings from Qiong (2017). The motivational elements were noteworthy, as students identified collaboration and critical thinking as the main catalysts for their engagement. Group activities fostered support and the exchange of ideas, which is consistent with Ryan's and Deci's (2020) Self-Determination Theory. Collaborative efforts improved critical

thinking and problem-solving skills, illustrating the advantages of well-structured activities (Bonyadi, 2021).

Ultimately, differentiated instruction (DI) reinforced peer connections and encouraged independence. Collaborative initiatives enabled students to utilize their strengths, thereby improving teamwork and mutual respect. The participants acknowledged the advantages of roles aligned with their skills for effective collaboration, consistent with the DI principles outlined by Tomlinson (2017). Furthermore, the promotion of autonomy facilitated the development of industry-specific expertise, as participants expressed that assignments stimulated pertinent critical thinking and creativity. This congruence with academic objectives guarantees profound engagement with tasks, fostering enhanced results and innovation.

This study further emphasizes that DI is not merely a theoretical concept; it is a practical and adaptable framework specifically designed to meet the unique needs of vocational school students. DI prepares students for a successful transition into the workforce. Theoretically, this research will lead to better learning results for students in Vocational high schools. Practically, this research will help educators, teachers, authorized bodies, students, and researchers to know the challenges that hinder successful implementation of differentiated instruction especially for English subject in Vocational high school.

CONCLUSION

As proven by earlier studies, teaching these core skills necessitates implementing many strategies and procedures, such as project based learning, working in groups, and performing written and oral tasks. This research highlighted and clarified the major components of differentiated instruction which improved students' academic learning, accomplishment, and satisfaction inside and outside the classroom especially in differentiated product as the student's formative assessment during learning process. The findings of this study might be considered of importance to other researcher in the future to observe more about how differentiation of content and process will be implement by the teachers in the class as fundamental approach to suit students' diversity in the classroom.

The extensive application of Differentiated Instruction (DI) in Vocational High Schools is crucial for meeting the diverse learning needs of students and fostering equitable, engaging educational environments. To implement DI effectively, teachers must participate in specialized professional development, which encompasses training in diagnostic tools, scaffolding methods, and the seamless integration of technology.

Teachers should prioritize funding for standardized physiological diagnostic evaluations, which aid in identifying students' distinct learning preferences and readiness levels. Continuous improvements in lesson planning, flexible grouping strategies, and technology incorporation will not only sustain student engagement but also ensure that individual needs are sufficiently addressed.

The creation of independent learning spaces and the utilization of effective classroom management techniques, such as clear schedules and defined roles, will

significantly enhance the overall educational experience. Furthermore, DI strategies should be aligned with vocational objectives, equipping students for future entrepreneurial ventures and professional challenges. Ongoing feedback systems and proactive policy advocacy are essential to ensure the sustained success and widespread implementation of DI within our educational systems.

Differentiated Instruction (DI) is meticulously designed to cater to the varied needs, interests, and capabilities of students. Additionally, the independent zone fosters self-directed learning, enabling students to take control of their educational journey. Scaffolding methods are adeptly incorporated to facilitate intricate writing assignments, guaranteeing that each student, irrespective of their skill level, can achieve success. The strategies for classroom management, which encompass visual schedules and well-defined roles, establish a structured and nurturing atmosphere that improves learning results.

Students have the opportunity to demonstrate their comprehension via essays, video presentations, or oral explanations, as well as through manual books, thus offering various means of expression. The incorporation of mobile phones and laptops enhances the writing abilities of Generation Z learners, fostering creativity and tailored learning experiences. Moreover, adherence to educational policies guarantees that this DI remains equitable and inclusive. It allows students to showcase their talents through projects, portfolios, or presentations related to Vocational High school purposes, whenever the graduate students will be entrepreneurs based on their competence.

Collectively, these strategies guarantee that each student is afforded the chance to excel in their educational endeavors. Additionally, the adept educator facilitates student engagement, encouraging inclusivity and facilitating seamless transitions. Adaptive grouping caters to a range of abilities and interests, nurturing teamwork while honoring personal preferences. Instructional plans are meticulously crafted to incorporate varied activities, cutting-edge technology, and diverse assessments, all customized to suit distinct learning modalities.

ACKNOWLEDGMENT

I would like to express my sincere gratitude to all my advisors: Mr. Muhammad Tahir and Mrs. Nur Aeni for their insightful guidance, mentor ship, and critical feedback throughout this research with the title "Teacher's Challenges on Implementing Deep Learning Differentiated in Vocational High School (SMKN) Gowa, and for all English teachers of Vocational High School in Gowa for their cooperation, openness, and time in sharing experiences and data. I am also grateful to Makassar State University for their support this research so that this research can be conducted well.

The findings of this research have positive learning impact, both of theoretically and practically. Theoretically, this research will lead to better learning results for students in Vocational high schools. Practically, this research will help educators, teachers, authorized bodies, students, and researchers to know the challenges that hinder successful implementation of differentiated instruction especially for English subject in Vocational high school.

Finally, I'm deeply grateful to my family and friends for their encouragement throughout this research and hopefully this research can bring benefits and advantages especially for all teachers in implementing deep learning approach and differentiated instruction in Vocational EFL classrooms.

REFERENCES

- Adare, A. A., Li, Y., & Gebresilase, B. M. (2023). Assessing Practices and Challenges in Implementing Differentiated Instruction in Mingde Primary School. *Open Journal of Social Sciences*, 11(02), 79–100. <https://doi.org/10.4236/jss.2023.112007>
- Aikaterini, T. A., & Makrina, Z. (2022). Differentiated Instruction and Portfolio Assessment: Motivating Young Greek-Romani Students in the English Class. *World Journal of English Language*, 12(1), 258–274. <https://doi.org/10.5430/wjel.v12n1p25>
- Anggoro, S., Fitriati, A., Thoe, N. K., Talib, C. A., & Mareza, L. (2024). Differentiated instruction based on multiple intelligences as promising joyful and meaningful learning. *International Journal of Evaluation and Research in Education*, 13(2), 1194–1204. <https://doi.org/10.11591/ijere.v13i2.24791>
- Ayuningtyas, L. P. S., Suwastini, N. K. A., & Dantes, G. R. (2023). Differentiated instruction in online learning: Its benefits and challenges in EFL contexts. *Jurnal Pendidikan Teknologi Dan Kejuruan*, 20(1).
- Bal, A. P. (2023). Assessing the impact of differentiated instruction on mathematics achievement and attitudes of secondary school learners. *South African Journal of Education*, 43(1). <https://doi.org/10.15700/saje.v43n1a2065>
- Benu, N. N., Beeh, N., & Nenotek, S. A. (2025). Implementing deep learning in the EFL classroom: Strategies for fostering mindful, meaningful, and joyful language learning. *LedTure Journal on Language*, 3(1). <https://doi.org/10.33323/l.v3i1.64>
- Cheng, L. (2023). Delving into the role of mindfulness on the relationship among creativity, anxiety, and boredom of young EFL learners. In *Heliyon* (Vol. 9, Issue 2). Elsevier Ltd. <https://doi.org/10.1016/j.heliyon.2023.e13733>
- Fajariyah, L. A., Retnawati, H., & Madya, S. (2023). Exploring Students' Diversity in a Differentiated Classroom. In *Journal: Language Education and Acquisition Research Network* (Vol. 16, Issue 2). <https://so04.tci-thaijo.org/index.php/LEARN/index>
- Fitria, T. N. (2026). *LINGPOET (Journal of Linguistics and Literary Research) Differentiated Instruction: Integrating Content, Process, Product, and Learning Environment for Diverse Learners in English Language Teaching (ELT)*. 07(01), 94–109. <https://doi.org/10.26594/register.v6i1.idarticl>

- Getie, A. S. (2020). Factors affecting the attitudes of students towards learning English as a foreign language. *Cogent Education*, 7(1). <https://doi.org/10.1080/2331186X.2020.1738184>
- Hasanah, E., Suyatno, S., Maryani, I., Badar, M. I. al, Fitria, Y., & Patmasari, L. (2022). Conceptual Model of Differentiated-Instruction (DI) Based on Teachers' Experiences in Indonesia. *Education Sciences*, 12(10). <https://doi.org/10.3390/educsci12100650>
- Juwita, R., Sukmawati, F., Budhi Santosa, E., Tri Cahyono, B., Prihatin, R., Ridhani, J., & Trisnaningsih, S. (2025). *Unpacking the Layers: A Comparative Insight into Differentiated Instruction Strategies for Deeper Learning Across Educational Contexts*. <https://doi.org/10.61227>
- Kamarulzaman, M. H., Azman, H., Mohd Zahidi, A., & Md Yunus, M. (2021). *The Practice of Online Differentiated Instruction and Its Impact on Motivation and Academic Performance in the Wake of Covid-19*. <https://doi.org/10.20944/preprints202106.0028.v1>
- Kótyay-Nagy, A. (2023). Differentiated instruction in the EFL classroom: An interview study on Hungarian primary and secondary school EFL teachers' views and self-reported practices. *Journal of Adult Learning, Knowledge and Innovation*, 6(1), 33–46. <https://doi.org/10.1556/2059.2023.00076>
- Kovač, G., Sawayama, M., Portelas, R., Colas, C., Dominey, P. F., & Oudeyer, P.-Y. (2023). *Large Language Models as Superpositions of Cultural Perspectives*. <http://arxiv.org/abs/2307.07870>
- Komang, N., Suwastini, A., Kadek, N., Rinawati, A., Gusti, I., Sri, A., Jayantini, R., & Dantes, G. R. (2021). DIFFERENTIATED INSTRUCTION ACROSS EFL CLASSROOMS: A CONCEPTUAL REVIEW. *TELL-US Journal*, 7. <https://doi.org/10.22202/tus.2021.v7i1.4719>
- Lee, T. K., & Hung, A. C. Y. (2025). Implementing differentiated instruction through lesson study: reflections from Taiwanese EFL teachers. *International Journal of Educational Research*, 133. <https://doi.org/10.1016/j.ijer.2025.102720>
- Magableh, I., & Abdullah, A. (2020). The Effect of Differentiated Instruction on EFL Learners: Teachers' Perspective. *International Journal of Academic Research in Business and Social Sciences*, 10(5). <https://doi.org/10.6007/ijarbss/v10-i5/7235>
- Mardhatillah, M., & Suharyadi, S. (2023). Differentiated Instruction: Challenges and Opportunities in EFL Classroom. *Journal of English Language Teaching and Linguistics*, 8(1), 69. <https://doi.org/10.21462/jeltl.v8i1.1022>
- Massaad, M., & Chaker, L. Y. A. (2020). The Influence of Differentiated Instruction on Lebanese Students' Motivation, Knowledge, and Engagement. *International*

Journal of English Literature and Social Sciences, 5(3), 755–774.
<https://doi.org/10.22161/ijels.53.31>

Mujiono, M., & Fatimah, S. (2025). Evaluating the Impact of Differentiated Instruction on English Language Proficiency in EFL Classrooms: A Meta-Analytic Perspective. *Jurnal Pendidikan Progresif*, 15(4), 2328–2347.
<https://doi.org/10.23960/jpp.v15i4.pp2328-2347>

Mutmainah, M., Sundari, H., & Juhana, J. (2023). English Teachers' Perceptions and Practices of Differentiated Instruction (DI) in the Merdeka Curriculum. *Linguistic, English Education and Art (LEEAA) Journal*, 7(1), 151–171.
<https://doi.org/10.31539/leea.v7i1.8261>

Mystakidis, S., Berki, E., & Valtanen, J. P. (2021). Deep and meaningful e-learning with social virtual reality environments in higher education: A systematic literature review. In *Applied Sciences (Switzerland)* (Vol. 11, Issue 5). MDPI AG.
<https://doi.org/10.3390/app11052412>

Nixon Dapa, A. (2020). *Differentiated Learning Model For Student with Reading Difficulties*. 22(2). <https://doi.org/10.21009/jtp.v22i2>

Ogunbode, C. A., Doran, R., Hanss, D., Ojala, M., Salmela-Aro, K., van den Broek, K. L., Bhullar, N., Aquino, S. D., Marot, T., Schermer, J. A., Włodarczyk, A., Lu, S., Jiang, F., Maran, D. A., Yadav, R., Ardi, R., Chegeni, R., Ghanbarian, E., Zand, S., ... Karasu, M. (2022). Climate anxiety, wellbeing and pro-environmental action: correlates of negative emotional responses to climate change in 32 countries. *Journal of Environmental Psychology*, 84. <https://doi.org/10.1016/j.jenvp.2022.101887>

Onwumere, D. D., Cruz, Y. M., Harris, L. I., Malfucci, K. A., Seidman, S., Boone, C., & Patten, K. (2021). The Impact of an Independence Curriculum on Self-Determination and Function in Middle School Autistic Students. *Journal of Occupational Therapy, Schools, and Early Intervention*, 14(1), 103–117.
<https://doi.org/10.1080/19411243.2020.1799904>

Pektaş, H. M., Karamustafaoğlu, O., & Çelik, H. (2025). The Role of Educational Data Mining and Artificial Intelligence Supported Learning Analytics on Conceptual Change: New Approaches to Differentiated Instruction. *Journal of Science Education and Technology*. <https://doi.org/10.1007/s10956-025-10214-3>

Peters, M. T., Hebbecke, K., & Souvignier, E. (2022). Effects of Providing Teachers With Tools for Implementing Assessment-Based Differentiated Reading Instruction in Second Grade. *Assessment for Effective Intervention*, 47(3), 157–169.
<https://doi.org/10.1177/15345084211014926>

Rahimi, A. R., & Sevilla-Pavón, A. (2024). A pathway from surface to deep online language learning approach: The crucial role of online self-regulation. *Acta Psychologica*, 251. <https://doi.org/10.1016/j.actpsy.2024.104644>

- Risnada, R., & Tiarina, Y. (2024). Understanding and implementation of differentiated instruction by English teachers at vocational high schools in pariaman. *English Review: Journal of English Education*, 12(3), 923–934. <https://doi.org/10.25134/erjee.v12i3.10702>
- Salar, R., & Turgut, U. (2021). Effect of Differentiated Instruction and 5E Learning Cycle on Academic Achievement and Self-efficacy of Students in Physics Lesson. *Science Education International*, 32(1), 4–13. <https://doi.org/10.33828/sei.v32.i1.1>
- Sapan, M., & Mede, E. (2022). The Effects of Differentiated Instruction (DI) on Achievement, Motivation, and Autonomy among English Learners. *Iranian Journal of Language Teaching Research*, 10(1), 127–144. <https://doi.org/10.30466/ijltr.2022.121125>
- Sapkota, H. P. (2025). Differentiated Instruction in EFL Classrooms: A Systematic Review. *Journal of Natural Language and Linguistics*, 3(1), 201–208. <https://doi.org/10.54536/jnll.v3i1.5775>
- Suryati, I., Koesoemo Ratih, & Maryadi. (2024). How Can Teachers Tailor Success? Innovative Strategies for Content, Process, and Product in EFL Classrooms. *Voices of English Language Education Society*, 8(1). <https://doi.org/10.29408/veles.v8i1.24451>
- Setyo Nugroho, M., Prayitno, H. J., Ratih, K., & Samsudin, M. (2025). Deep Learning vs Differentiated Learning: Learning Innovation in Islamic Boarding School-Based Middle Schools Journal of Deep Learning Deep Learning vs Differentiated Learning: Learning Innovation in Islamic Boarding School-Based Middle Schools. In *Journal of Deep Learning / e* (Vol. 1, Issue 1). <https://journals2.ums.ac.id/index.php/jdl>
- Skelly, K. J., & Estrada-Chichon, J. L. (2021). Mindfulness as a coping strategy for EFL learning in education. *International Journal of Instruction*, 14(3), 965–980. <https://doi.org/10.29333/iji.2021.14356a>
- Smets, W., de Neve, D., & Struyven, K. (2022). Responding to students' learning needs: how secondary education teachers learn to implement differentiated instruction. *Educational Action Research*, 30(2), 243–260. <https://doi.org/10.1080/09650792.2020.1848604>
- Wibowo, S., Wangid, M. N., & Firdaus, F. M. (2025). The relevance of Vygotsky's constructivism learning theory with the differentiated learning primary schools. *Journal of Education and Learning*, 19(1), 431–440. <https://doi.org/10.11591/edulearn.v19i1.21197>
- Westbroek, H. B., van Rens, L., van den Berg, E., & Janssen, F. (2020). A practical approach to assessment for learning and differentiated instruction. *International Journal of Science Education*, 42(6), 955–976. <https://doi.org/10.1080/09500693.2020.1744044>