

Evidence-Based Differentiated Instructional Methods: Foundation for an Intervention Programs in Social Studies

Arvin Nikko C. Tacorda

University of Makati, Makati, Metro Manila, Philippines

Publication history: Received: June 18, 2026; Revised: July 21, 2026; Accepted: July 24, 2026

Email of Corresponding Author: arvinnikko.tacorda022@gmail.com

Abstract

This study examined the effects of differentiated instruction on secondary-level learners in Social Studies and the barriers experienced by teachers in its implementation. Guided by Multiple Intelligence Theory and organized through the Input-Process-Output framework, the study aimed to develop an intervention framework that could strengthen differentiated instruction practices. A qualitative exploratory research design was employed at Emilio Aguinaldo College. Seven regular secondary school teachers with experience in differentiated instruction were selected through purposive sampling. Data were gathered using a researcher-made questionnaire, a structured interview guide, and demographic profile sheets. The participants' responses were transcribed, coded, and interpreted through thematic analysis. The findings revealed that differentiated instruction positively influenced learners' academic performance, student engagement, classroom behavior, and skill progress. It supported personalized learning, improved comprehension, increased participation and confidence, promoted collaboration and autonomy, and strengthened communication, critical thinking, problem-solving, and social interaction. However, teachers encountered difficulties in assessing learners' understanding, managing large classes, preparing differentiated lessons, designing rubrics and assessments, accessing adequate resources, managing limited instructional time, and adapting strategies to varied learner capabilities and interests. The study concluded that differentiated instruction could create a more inclusive, responsive, and learner-centered Social Studies classroom when supported by sufficient preparation, resources, and institutional assistance. It recommended professional development workshops, resource allocation, collaborative planning, mentorship, reflective practices, parent and community engagement, technology-supported learning, and regular curriculum review. The study supports SDG 4, Quality Education, by promoting inclusive and responsive teaching, and SDG 10, Reduced Inequalities, by addressing diverse learner needs. It also relates to SDG 17 through collaboration among teachers, administrators, families, communities, and policymakers. Its sustainability impact lies in strengthening long-term instructional quality, institutional support, inclusive education, and community participation.

Keywords: Academic Performance, Classroom Behavior, Differentiated Instruction, Inclusive Education, Intervention Framework, Secondary Learners, Skill Progress, Social Studies, Student Engagement

1. Introduction

Differentiated instruction is a learner-centered pedagogical approach that responds to the varied readiness levels, interests, capabilities, and learning preferences of students. It requires teachers to diagnose learners' needs and adjust content, learning processes, outputs, materials, and assessments to support meaningful learning rather than relying on a uniform method of instruction (Marks, Woolcott, & Markopoulos, 2021). In secondary Social Studies education, differentiated instruction is especially relevant because students come from diverse academic, social, and cognitive backgrounds, requiring teaching strategies that promote engagement, academic performance, classroom behavior, and skill progress. This study focuses on the effects of differentiated instruction on secondary-level learners and the barriers experienced by teachers in implementing it. It is grounded in the need to develop an intervention framework that can guide educators in applying differentiated instruction more effectively in Social Studies classrooms. The study recognizes that while differentiated instruction has been widely discussed in relation to reading, writing, mathematics, science, and language learning, its application in Social Studies at the secondary level remains less explored (Pablico, Diack, & Lawson, 2017).

1.1 Differentiated Instruction in Secondary Social Studies Education

Differentiated instruction is based on the principle that teachers should adapt instruction to the individual needs of learners in general education classrooms. This includes learners with varying learning styles, levels of readiness, strengths, weaknesses, interests, and preferences. Instead of expecting students to conform to a single instructional model, differentiated instruction requires teachers to adjust their methods so that all learners can access the curriculum meaningfully. The approach allows teachers to vary instructional strategies through role-playing, choral chanting, movement-based activities, educational games, collaborative work, and student-created projects. These strategies are

designed to respond to learner diversity while maintaining the same curricular goals. Differentiated instruction therefore becomes a teacher's deliberate response to students' varying needs, particularly in classrooms where learners differ in cognitive strengths, learning pace, and participation levels. In this study, differentiated instruction is examined within secondary Social Studies classrooms. The researcher identified the need to investigate how differentiated instruction affects academic performance, student engagement, classroom behavior, and skill progress among secondary learners. The study also addresses the barriers teachers experience when implementing differentiated instruction, including time constraints, limited resources, classroom management concerns, assessment challenges, and pedagogical difficulties (Marks, Woolcott, & Markopoulos, 2021).

1.2 Effects of Differentiated Instruction on Academic Performance, Engagement, Classroom Behavior, and Skill Progress

The literature emphasizes that differentiated instruction supports students by recognizing their individual learning needs and creating lessons that sustain engagement, exploration, interaction, and knowledge acquisition (Davies et al., 2018). Letzel-Alt and Pozas (2023) highlighted differentiated approaches such as content and process diversification, learning centers, and varied instructional methods. Their findings showed that differentiated methods were satisfying for both students and instructors, although specialized attention remained necessary for students with exceptional needs (Letzel-Alt & Pozas, 2023). Research also shows that differentiated instruction is aligned with student-centered and equitable education. Smale-Jacobse, Meijer, Helms-Lorenz, and Maulana (2019) emphasized that differentiated instruction can support ability grouping, mastery learning, and student-centered teaching. These strategies align with learning approaches that place students within moderately challenging tasks and support their strengths, interests, and growth (Smale-Jacobse et al., 2019). However, studies also note that the effects of differentiated instruction vary depending on how it is operationalized and implemented across contexts (Deunk et al., 2018). In terms of academic performance, Aranda and Zamora (2016) found that differentiated instruction improved the performance of Grade 10 students in Filipino after lessons were designed according to identified learning styles. Aguhayon et al. (2023) also noted that differentiated instruction positively affected academic performance, particularly when creative and varied instructional techniques were used. Studies in mathematics showed that differentiation could improve achievement by tailoring subject matter, instructional methods, outputs, and student experiences to learner needs (Kyriakides et al., 2018; Schleicher, 2016; UNESCO, 2017; Wilkinson & Penney, 2014; Smale-Jacobse et al., 2019). This perspective is grounded in the belief that the curriculum should adapt to students rather than requiring students to conform to a rigid curriculum (Roy et al., 2013; Tomlinson, 2014; Tomlinson, 2015). Differentiated instruction has also been linked to language learning outcomes. Sapan and Mede (2022) emphasized that strategies such as tiered activities, learner centers, and KWL charts contributed to foreign language achievement. Similar positive effects were reported in studies on foreign language achievement (İzgi, 2014; Magableh & Abdullah, 2020). These findings suggest that differentiated instruction is effective because it responds to students' learning needs, styles, interests, and readiness levels (Özer & Yılmaz, 2018; Sayı & Emir, 2017; Yavuz, 2018). Other studies further support the relationship between differentiated instruction and academic achievement. Minshew (2020) emphasized the benefits of tailored strategies in diverse classrooms, while Haymon and Wilson (2020) found that differentiated reading instruction improved comprehension and literacy skills. Furthermore, Suprayogi et al. (2017) reported improved mathematics achievement among students who received differentiated instruction compared with those who did not. In relation to student engagement, Pablico et al. (2017) found that differentiated instruction improved student participation, ownership, creativity, and commitment to learning in high school science classrooms. The use of inventories on learning styles and multiple intelligences helped teachers plan groupings and lessons aligned with student preferences. Similarly, Zens (2021) found that differentiated instruction improved participation, on-task behavior, and enthusiasm in a mixed-ability middle school classroom. Gregory and Chapman (2013) also observed that differentiated instruction promoted a positive classroom atmosphere where learners felt valued and motivated. Additional studies reinforce the role of differentiated instruction in promoting engagement. McQuarrie, McRae, and Stack-Cutler (2021) found that students exposed to differentiated instruction were more active and enthusiastic in classroom activities. Similarly, Subban and Round (2020) reported that differentiated instruction increased participation, interest, belongingness, and inclusivity. These findings show that differentiated instruction can make learning environments more dynamic by allowing students to take ownership of learning and participate in ways that match their needs. Differentiated instruction also influences classroom behavior and classroom management. Effective classroom management creates a productive learning environment where students are focused, respected, and supported. Spencer (2018) emphasized that classroom management requires specific skills that help reduce disruption and support student growth. Within differentiated instruction, classroom management supports personalized goals, student concentration, inclusivity, and respectful peer relationships. Positive perceptions of differentiated instruction were also reported in English classrooms. Chien (2014) and White (2015) noted that tiered activities and multiple task choices based on students' needs, learning styles, interests, and readiness levels improved students' attitudes toward learning English. Meyad et al. (2014) argued that differentiated instruction allows students to access information in varied ways, increasing motivation and enjoyment. Tomlinson and Moon (2013) also emphasized that students became more autonomous and responsible in differentiated classes. However, challenges remain. Wahyudi et al. (2022) found that although differentiated instruction positively affects learning and engagement, many teachers hesitate to implement it due to complexity and workload concerns (OECD, 2018). Differentiated instruction requires careful

preparation and adaptation to student needs, which can be difficult in daily classroom practice (Gaitas & Martins, 2017; Dosch et al., 2017). Teachers may also feel unprepared to address diverse learning styles, readiness levels, and interests (Dosch et al., 2017). When differentiated instruction is effectively implemented, it can create a more inclusive and supportive learning environment that positively affects behavior (Le Fevre et al., 2016). The literature also connects differentiated instruction with skill progress. Adare, Li, and Gebresilase (2023) emphasized that students need time for reflection and processing to understand academic material. Strategies such as Think-Pair-Share, journaling, collaborative dialogues, and inclusive literature groups allow teachers to monitor progress while helping students deepen understanding. Sapan and Mede (2022) found that differentiated instruction promoted students' interest, questioning, collaboration, autonomy, and responsibility (Crowder, 2013; Ismail & Al Allaq, 2019). This supports the view that differentiated instruction increases student autonomy and responsibility for learning (Tomlinson and Moon, 2013). Recent studies further show that differentiated instruction supports skill development. Koutselini and Agathagelou (2021) found that scaffolded instruction and flexible grouping improved critical thinking and problem-solving abilities. Toth and York (2022) observed improvements in writing and analytical skills among middle school students who received instruction tailored to their readiness and learning styles. Additionally, Chen, Zhan, and Su (2022) found that differentiated activities such as project-based learning and peer tutoring improved collaboration and technical skills in STEM subjects.

1.3 Differentiated Instruction in Local, National, and Global Inclusive Education Contexts

The global educational context increasingly emphasizes learner diversity, inclusion, and equitable access to quality instruction. Researchers and policymakers advocate for teaching approaches that recognize the distinct composition of classrooms and adjust instructional strategies accordingly (Smale-Jacobse et al., 2019; Schleicher, 2016; UNESCO, 2017). Differentiated instruction supports inclusive education because it values each learner's strengths and weaknesses while allowing teachers to adapt curriculum materials, instructional approaches, and learning outcomes (Smale-Jacobse et al., 2019). This aligns with broader efforts to address heterogeneous classrooms through detracking, inclusive education, and equitable instructional practices (Smale-Jacobse et al., 2019; OECD, 2018). Despite this global emphasis, the adoption of differentiated instruction remains limited. International findings indicate that educators still adapt differentiation techniques inconsistently, showing the need for more research on implementation strategies (Schleicher, 2016; Smale-Jacobse et al., 2019). While differentiated instruction has shown promise in elementary education, its effectiveness in secondary education remains insufficiently examined (Deunk et al., 2018; Van Casteren et al., 2017). This gap is important because secondary learners require instructional approaches suited to more complex subject matter, adolescent development, and diverse classroom dynamics. Nationally and institutionally, the study is relevant to teachers, principals, administrators, and DepEd officials. The results may support educators in improving instructional design and guide administrators in assisting teachers. The findings may also provide policymakers with information on the quality of instruction students receive in both synchronous and asynchronous modalities. Within Emilio Aguinaldo College, the study focuses on secondary school teachers teaching Social Studies during the first quarter of Academic Year 2022-2023 who apply differentiated instruction.

1.4 Multiple Intelligence Theory and Input-Process-Output Framework of the Study

This study is guided by the intention of Multiple Intelligence Theory of Dr. Howard to shape and enrich differentiated instruction. The study assumes that secondary learners possess diverse cognitive strengths and learning preferences, requiring educators to tailor teaching strategies and approaches. Differentiated instruction allows students to work toward common learning objectives at their own pace and level of knowledge (McAdamis, 2001; Hapsari et al., 2018). It shifts teachers' attention from simply covering content to meeting individual learner needs (Iqbal et al., 2020). Teachers who apply diversification may also encourage collaboration through more efficient use of class time and learning materials, although differentiating lessons requires greater effort than traditional lecturing (Desta, 2019; Hess, 1999). The study also uses the Input-Process-Output model to organize the investigation. The input includes the effects of differentiated instruction on secondary learners in terms of academic performance, student engagement, classroom behavior, and skill progress, as well as the barriers teachers experience in implementation. The process involves Key Informant Interviews, thematic analysis, and coding of transcriptions. The output is an intervention framework for differentiated instruction implementation based on the findings. This framework supports the study's three major concerns: how differentiated instruction influences learners, what barriers teachers encounter, and what intervention framework can be proposed. It provides a systematic structure for examining the relationship between differentiated instruction, learner outcomes, teacher experiences, and practical intervention development.

1.5 Research Gaps and Rationale for a Differentiated Instruction Intervention Framework

The major research gap addressed by this study is the limited application of differentiated instruction in Social Studies classrooms. Existing literature on differentiated instruction has focused largely on reading, writing, mathematics, science, and language learning, leaving limited empirical evidence on its effects in Social Studies education (Pablico, Diack, & Lawson, 2017). The study therefore seeks to explore how differentiated instruction affects secondary-level learners in Social Studies, particularly in relation to academic performance, student engagement, classroom behavior, and skill progress. The study also responds to the need for deeper investigation into differentiated instruction at the secondary level. Research indicates that while differentiated instruction has promise, more empirical evidence is needed to establish its

benefits in secondary classrooms (Deunk et al., 2018; Van Casteren et al., 2017). Further, there is a need to examine how differentiated instruction affects broader skills over time and across subject areas (Deunk et al., 2018; Smale-Jacobse et al., 2019). The study also addresses the need to assess how differentiated instruction influences engagement and academic performance in secondary contexts (Van Casteren et al., 2017; Deunk et al., 2018), as well as the long-term effects of differentiated instruction on future academic and professional success (Williams, 2018). The study further considers the relationship between differentiated instruction and classroom behavior. More research is needed to understand how differentiated instruction can improve classroom behavior and create a conducive learning environment (Lester, 2023). This is important because differentiated instruction requires strong classroom management, learner participation, and teacher preparedness. Several barriers justify the need for an intervention framework. Teachers may experience difficulties in understanding differentiated instruction (Wan, 2016), applying teaching and learning methodologies (Jager, 2017; Wan, 2016), shaping teaching beliefs (Jager, 2017; Boston, 2017), and recognizing the influence of personal characteristics on instruction (Suprayogi et al., 2017; Merawi, 2018). Jager's (2017) study showed that teachers may lack expertise in identifying learning challenges and adapting the curriculum to learner needs. Unal et al.'s (2022) and Lunsford (2017) also found that teachers' confidence in applying differentiated instruction was low when they lacked a solid understanding of the approach. Student participation is another barrier. Aldossari (2018), De Neve and Devos (2016), and Jager (2017) argued that inadequate student preparation and discipline may hinder implementation. Group work requires self-disciplined and intrinsically motivated students, and some learners may prefer traditional teaching methods when they are unfamiliar with differentiated instruction (Aldossari, 2018). Administrative support, infrastructure, and resources also affect implementation. The support and expertise of school administration are important in equipping teachers for differentiated instruction (Stollman, 2018; Aldossari, 2018; Shareefa et al., 2019). Teachers may struggle when administrative support is insufficient (Aldossari, 2018; Avgousti, 2017), when workload limits lesson planning time (Jager, 2017; Merawi, 2018), when infrastructure does not support differentiated instruction (Jager, 2017; Aldossari, 2018; Merawi, 2018), and when readings and resources are difficult to access (Lunsford, 2017; Avgousti, 2017; Merawi, 2018; Jager, 2017). Existing intervention approaches suggest possible directions for improving implementation. As cited in the study of Ghaith and Awada (2022), Miller (2016) argued that differentiated teaching can be naturally integrated with Problem-Based Learning through teams, reflection, goal planning, mini-lessons, resource repositories, student voice and choice, formative assessment, and combined group and individual work. Yuen et al. (2023) also emphasized that inclusive measures can address impersonality and limited accessibility in online learning environments. Magableh and Abdullah (2020) identified differentiation and streaming as strategies for grouping students, with streaming potentially increasing engagement and academic achievement.

1.6 Alignment with Relevant Sustainable Development Goals for Inclusive and Quality Education

This study is most directly aligned with SDG 4 - Quality Education because it focuses on improving teaching strategies, learner engagement, academic performance, classroom behavior, and skill progress through differentiated instruction. The study supports inclusive and equitable learning by recognizing that students have diverse readiness levels, strengths, interests, and learning preferences. Its goal of developing an intervention framework for differentiated instruction contributes to improving instructional quality in secondary Social Studies classrooms. The study also relates to SDG 10 - Reduced Inequalities because differentiated instruction addresses learner diversity and supports students who may otherwise be disadvantaged by uniform instructional methods. By tailoring instruction to individual needs, differentiated instruction helps promote fairer learning opportunities in mixed-ability classrooms. SDG 17 - Partnerships for the Goals is also indirectly relevant because the study highlights the roles of teachers, principals, administrators, DepEd officials, students, and future researchers in improving instructional practice. Its findings may support collaboration among educators and policymakers in strengthening classroom instruction and developing intervention programs.

1.7 Importance of Differentiated Instruction to Educational, Institutional, Socio-Economic, and Governance Sustainability

The study contributes to educational sustainability by promoting instructional practices that respond to learner diversity and support long-term improvement in teaching and learning. Since differentiated instruction encourages teachers to adjust strategies according to student needs, it strengthens the capacity of classrooms to remain inclusive, responsive, and effective across varying learner profiles. It also supports institutional sustainability by providing educators, principals, and administrators with information that may guide teacher support, instructional planning, and classroom improvement. For DepEd officials and policymakers, the study may serve as a basis for strengthening policies that promote quality instruction in both synchronous and asynchronous modalities. In this sense, the study contributes to policy and governance sustainability by offering evidence that can inform decisions on instructional quality and teacher support. The study further contributes to socio-economic and community sustainability by improving learners' educational experiences and helping them develop academic, behavioral, and skill-based competencies. Because students are the primary recipients of instruction, improved differentiated practices may help them become more engaged, responsible, and capable learners. Future researchers may also build on the study by conducting longitudinal research, examining differentiated instruction in other subjects and settings, and developing innovative strategies to address identified implementation challenges.

2. Material and methods

2.1 Research Design

The study used a qualitative research design to examine teachers' perceptions and experiences in implementing differentiated instruction. Qualitative research allowed the researcher to gather and analyze non-quantitative data through interviews, surveys, and participant observation. An exploratory approach was also employed to gain deeper familiarity with the issues surrounding differentiated instruction and to identify possible intervention measures. The study used thematic analysis to organize and interpret the qualitative data. This method enabled the researcher to identify themes from the participants' narratives through careful reading and rereading of the transcribed data (Dawadi, 2020).

2.2 Locale of the Study

The study was conducted at Emilio Aguinaldo College. The institution was selected because the participants were secondary school teachers who had experience using differentiated instruction and met the criteria necessary for the study.

2.3 Respondents of the Study

The respondents were seven teachers from Emilio Aguinaldo College who were selected because they were regular teachers, had experience using differentiated instruction, and had at least one year of teaching experience. This allowed the researcher to gather relevant and experience-based insights about differentiated instruction. The number of respondents was appropriate for the qualitative nature of the study, which focused on depth and detailed descriptions rather than large-scale representation. The sample size also aligned with the recommended range of 5-25 participants for qualitative studies, as supported by Bekele and Ago (2022).

2.4 Sample and Sampling Procedure

The study used purposive sampling, a non-probability sampling technique that allowed the researcher to intentionally select participants based on predetermined criteria. McCombes (2021) asserted that purposive sampling, also referred to as judgment sampling, was a non-probability sampling technique wherein the researcher exercised subjective judgment to pick participants who possessed relevance to the particular domain of inquiry. Participants were selected based on their ability to provide meaningful perspectives essential to the study (McCombes, 2021; Robinson, 2014). Purposive sampling was also used to determine the number of interview participants. The optimum number of participants, as proposed by Creswell (1998), was highlighted in a study conducted by Bekele and Ago (2022), which indicated that the ideal number falls within the range of 5 to 25 individuals. Additional research conducted by Sim, Saunders, Waterfield, and Kingstone (2018) as well as Kumar, Kuman, Govindaraj, and PRABHU (2020) underscores the notion that a sample size ranging from three to ten is deemed satisfactory.

2.5 Research Instrument

The researcher used a researcher-made questionnaire and a structured interview guide to gather data on teachers' perceptions and experiences with differentiated instruction. The interview guide contained open-ended questions on academic performance, student engagement, classroom behavior, skill progress, and challenges encountered in implementing differentiated instruction. The guide questions were validated by three experts in education and actual practice to ensure their correctness, validity, reliability, appropriateness, and alignment with the statement of the problem. A demographic profile sheet was also used to collect participants' age, gender, years of service, and trainings or seminars related to differentiated instruction. A recording device was used during the interviews after securing permission from the participants. The researcher also used informed consent and participation letters to confirm the voluntary participation of the respondents and their understanding of the study's terms and conditions. In compliance with the Data Privacy Act of 2012, the confidentiality of all participant information was maintained.

2.6 Data Gathering Procedure

The researcher first secured formal permission from the Dean of the Graduate School before conducting the study. After approval was granted, the researcher identified qualified participants, explained the purpose and procedures of the study, and obtained informed consent. Data gathering was conducted from January 12 to January 26, 2024. Interviews were scheduled based on the availability of the participants and were conducted in comfortable locations that encouraged open discussion. With consent, the interviews were audio-recorded and lasted from 30 to 90 minutes. Participants were assigned aliases or pseudonyms to protect their identities. After the interviews, the responses were securely stored and protected. The researcher continuously reviewed the data during collection to identify emerging themes and determine data saturation. Participant confirmation was also sought to validate the responses and strengthen the credibility of the findings. Research data were retained based on applicable retention and disposal guidelines. In accordance with guidelines from the University of Virginia (2022), both federal regulations and UVA policies mandated the retention of research data for a minimum of 5 years post-completion. Specifically, the federal regulations outlined in 45 CFR 46 stipulated a requirement of at least 3 years for maintaining research records after project completion. For studies involving personally identifiable health information under the Health Insurance Portability and Accountability Act (HIPAA) regulations, records had to be retained

for a minimum of 6 years after obtaining participant authorization. For this study, the researcher intended to retain the information and responses for no more than 5 years from the final paper's publication and submission. Data could be retained indefinitely if used for another study, provided confidentiality and security measures were observed. If no longer needed, the data would be disposed of within 6 months after the study. Paper records would be shredded, electronic files permanently deleted, and physical storage devices destroyed when necessary, with documentation of the records disposed of, date, method, and circumstances of disposal (University of Tasmania, 2022).

2.7 Data Analysis Techniques

The data were analyzed using thematic analysis. The success of procedures in a qualitative study was based on the meaning and portrayal of data, rigorous data analysis, and a differentiated method of questioning (Creswell & Creswell, 2018). The qualitative data analysis procedure was lifted from Braun and Clarke (2019). The researcher first organized and transcribed the audio-recorded interviews, then identified key statements from the participants' verbatim responses. Meanings were then formulated from these statements by carefully examining the data and setting aside preconceptions. This process allowed the researcher to identify themes that reflected the participants' experiences with differentiated instruction. The credibility of the study was supported through trustworthiness criteria. As highlighted by Stahl and King (2020), these criteria were acknowledged among qualitative researchers. These included credibility, dependability, confirmability, transferability, and reflexivity, as noted by Trainor and Bundon (2021). Credibility referred to the truth-value of the research and was supported through prolonged engagement, persistent observation, triangulation, and member checks (Korstjens & Moser, 2018, p. 122). Drawing from Noble and Heale's study (2019) had proposed four types of triangulation: data triangulation, investigator triangulation, theory triangulation, and methodological triangulation. Transferability was supported through a "thick description" of the participants and research process to help readers judge the applicability of the findings to other settings (Korstjens & Moser, 2018, p. 122). Dependability referred to consistency and required that the analytical process follow accepted standards for the research design (Korstjens & Moser, 2018). Rigorous data collection techniques and procedures were used to ensure the dependability of the findings, as affirmed by NUL (2023). Confirmability ensured that interpretations were based on the data rather than on researcher bias (Korstjens & Moser, p. 122). Reflexivity required the researcher to maintain self-awareness and reflection throughout data collection, assessment, and interpretation (Korstjens & Moser, 2018, p. 123). Triangulation was used to strengthen credibility and reliability. The researcher conducted thematic analysis and coding, while experts in qualitative and mixed research methods evaluated the themes, codes, and guide questions. Participants' feedback also validated the findings by providing firsthand accounts of differentiated instruction in relation to academic performance, classroom dynamics, engagement, behavior, and skill progress. The themes, codes, and intervention framework were also reviewed by the adviser to ensure methodological soundness and academic quality.

2.8 Ethical Considerations

The study protected the rights, safety, and well-being of teacher participants in accordance with UERC regulations. It was conducted solely for academic purposes and had no commercial intention, sponsorship, or financial interest involving the participants. The researcher personally administered the questionnaires and interviews, transcribed the recorded information, and stored the data securely on an encrypted personal computer used for academic research. Participation was voluntary, and informed consent was obtained before data collection. Teachers who declined to participate were treated with respect. The study did not include vulnerable populations and only gathered teacher perspectives. The researcher personally supervised data collection and compilation to maintain data integrity, confidentiality, and respect for participant responses. No financial incentives or compensation were provided, and the study had no adverse effect on the participants or their communities.

3. Results and Discussion

3.1 Effects of Differentiated Instruction on Secondary-Level Learners

The results showed that differentiated instruction affected learners in four major areas: academic performance, student engagement, classroom behavior, and skill progress. Across these areas, the participants reported that differentiated instruction helped address varied learning styles, promote student participation, support collaboration, improve learner confidence, and respond to the diverse needs of students in Social Studies classrooms. The findings suggest that differentiated instruction provided a more flexible and learner-centered classroom experience. By allowing teachers to modify tasks, activities, groupings, and assessment methods, differentiated instruction created opportunities for learners to participate according to their strengths, interests, and readiness levels.

3.1.1 Academic Performance

The findings showed that differentiated instruction improved academic performance through personalized learning, increased engagement, support for diverse learners, recognition of learning styles and multiple intelligences, improved comprehension, and enhanced collaboration and autonomy. Participants reported using varied strategies such as group discussions, visual aids, hands-on activities, TQE, choice boards, jigsaw activities, and differentiated assessments in Social

Science subjects. These strategies helped learners understand lessons better, participate more actively, and produce improved outputs, particularly among introverted, quiet, late-blooming, academically challenged, visual, auditory, and kinesthetic learners. These findings indicate that differentiated instruction strengthened academic performance by allowing students to learn in ways suited to their abilities and preferences. The results are supported by Aranda and Zamora (2016), whose study showed that students exposed to differentiated instruction performed better than those taught using traditional methods. Their findings aligned with the present results, which showed that differentiated instruction enhanced students' engagement, comprehension, and overall academic performance.

3.1.2 Student Engagement

The results showed that differentiated instruction fostered belongingness, inclusivity, independence, autonomy, participation, collaboration, and harmonious classroom interaction. Participants noted that learners became more active, communicative, comfortable, creative, and engaged when lessons were adjusted according to their needs and interests. Differentiated tasks encouraged students to collaborate, make choices, take ownership of activities, and participate more meaningfully in class. These findings suggest that differentiated instruction improved engagement by making students feel valued and included in the learning process. The provision of choices and the use of collaborative activities encouraged students to take responsibility for their learning. This is supported by Pablico et al. (2017), whose study found that differentiated instruction improved student engagement, commitment, ownership, creativity, and active participation in classroom decisions.

3.1.3 Classroom Behavior

The findings revealed that differentiated instruction positively influenced classroom behavior by increasing interest, participation, motivation, collaboration, autonomy, independence, confidence, and positive attitudes toward learning. Participants observed that students became more interested in activities, responded positively to differentiated tasks, and showed greater willingness to participate in discussions and group work. However, some students remained less motivated when activities did not match their interests. These results show that differentiated instruction can support positive classroom behavior when activities are aligned with students' needs and interests. The findings also indicate that effective classroom management is important in sustaining participation and reducing disengagement. Spencer (2018) supported this view by emphasizing that classroom management practices complement differentiated instruction by creating an inclusive, respectful, and focused learning environment.

3.1.4 Skill Progress

The results showed that differentiated instruction supported skill progress, particularly in communication, quality of output, social interaction, participation, recitation, critical thinking, problem-solving, and collaboration. Participants reported that students became more open in expressing ideas, more confident in reporting and recitation, more engaged in creating outputs, and more capable of analyzing situations and asking meaningful questions. Collaborative activities also improved students' social skills and peer interaction. These findings suggest that differentiated instruction helped students develop both academic and social skills by providing tasks suited to their strengths and learning needs. The use of varied activities encouraged students to think critically, communicate clearly, and collaborate with others. McCarthy (2015) supported this finding by emphasizing that reflection and processing activities, such as Think-Pair-Share and journaling, help students absorb academic material gradually and participate more inclusively.

3.2 Barriers Experienced by Teachers in Implementing Differentiated Instruction

The findings showed that teachers experienced several barriers in implementing differentiated instruction. These included difficulty assessing students' understanding, time and effort constraints, large class sizes, limited class time, lack of institutional resources, challenges in designing rubrics and assessments, classroom management concerns, the need to know students' capabilities, and the difficulty of adapting strategies to different learners. Participants emphasized that differentiated instruction required careful planning, accurate assessment, sufficient preparation time, and familiarity with students' strengths, weaknesses, and learning preferences. These barriers indicate that differentiated instruction can be difficult to implement when teachers lack time, resources, support, and sufficient knowledge of learners' abilities. Assessing students' understanding was challenging because classrooms included diverse learners who required different assessment approaches (Chien, 2014). Time and effort constraints also affected implementation because differentiated instruction required extensive planning and preparation (Jager, 2017). Class size and limited resources restricted personalized support (Aldossari, 2018), while designing rubrics and assessments made it difficult to measure student progress accurately (Wan, 2016). Classroom management and knowledge of learners' capabilities were also essential in tailoring instruction effectively (Tomlinson, 2005), and adapting strategies to different learners remained an ongoing concern (Merawi, 2018). These findings are consistent with literature showing that implementation barriers may include limited administrative support, insufficient teacher knowledge, and student preparation and discipline concerns (Stollman, 2018; Jager, 2017; Aldossari, 2018).

3.3 Proposed Intervention Framework for Differentiated Instruction

The proposed intervention framework was developed to address the barriers experienced by teachers and improve the implementation of differentiated instruction. The framework included professional development workshops, resource allocation and support, collaborative planning and sharing of best practices, feedback and reflection mechanisms, and parent and community engagement. These components were designed to help teachers improve assessment techniques, classroom management, instructional planning, access to resources, and collaboration across subjects and grade levels. The proposed intervention framework suggests that differentiated instruction can be strengthened through institutional and community support. Professional development workshops may help teachers build the knowledge and skills needed to apply differentiated instruction effectively. Resource allocation and support may address limitations in instructional materials and technology. Collaborative planning may allow teachers to exchange strategies and integrate differentiated instruction across learning areas. Feedback and reflection mechanisms may support continuous improvement through input from administrators, peers, and students. Parent and community engagement may further reinforce differentiated instruction inside and outside the classroom, contributing to inclusive education and improved learning outcomes.

4. Conclusion & Recommendations

The study concluded that differentiated instruction had a positive impact on secondary learners by improving academic performance, student engagement, classroom behavior, and skill progress. It supported personalized learning, recognized varied learning styles and multiple intelligences, improved comprehension, and encouraged collaboration, autonomy, participation, and positive attitudes toward learning. However, the implementation of differentiated instruction was hindered by challenges such as difficulty assessing students' understanding, time and effort constraints, large class sizes, limited resources, classroom management concerns, difficulty designing effective rubrics and assessments, and the need to adapt strategies to different learners. To address these concerns, the study proposed an intervention framework composed of professional development workshops, resource allocation and support, collaborative planning and sharing of best practices, feedback and reflection mechanisms, and parent and community engagement.

The study recommended that schools prioritize targeted professional development and continuous training to strengthen teachers' practical skills in implementing differentiated instruction. Adequate instructional resources, time management support, collaborative planning, mentorship, peer observations, reflective practices, and effective assessment rubrics should also be provided to help teachers improve their differentiated instruction practices. Schools should also engage parents and the community, reduce class sizes where possible, consider co-teaching models, invest in technology that supports adaptive learning, and regularly review the curriculum to ensure that it remains inclusive and responsive to diverse learner needs. Future studies should include students, parents, and administrators, expand the sample size, cover varied educational settings, use longitudinal approaches, combine qualitative and quantitative data, and further examine challenges such as time management, assessment design, and technology-supported differentiated instruction.

The study was limited by its exclusive focus on teachers as participants, which may have excluded important perspectives from students and administrators. Its small sample size also reduced the generalizability of the findings to a wider population of educators. Since the study was conducted in a specific educational context, the results may not fully represent other schools with different student demographics or institutional resources. The reliance on self-reported teacher data may have introduced bias, while time constraints may have limited the depth of data collection and analysis. Data saturation was also not fully optimized because the data were gathered only through Google Forms.

Compliance with ethical standards

The study protected the rights, safety, privacy, and well-being of teacher participants in accordance with UERC regulations and the Data Privacy Act of 2012. The researcher personally administered the questionnaires and interviews, transcribed the recorded information, and securely stored the data on an encrypted personal computer used only for academic research. Confidentiality was maintained, participants were assigned aliases or pseudonyms, and the collected data were protected from unauthorized disclosure. The study did not involve vulnerable populations, provided no financial incentives or compensation, and had no adverse effect on the participants or their communities.

REFERENCES

- Adare, A. A., Li, Y. P., & Gebresilase, B. M. (2023). Assessing practices and challenges in implementing differentiated instruction in Mingde Primary School. *Open Journal of Social Sciences*, 11, 79–100. <https://doi.org/10.4236/jss.2023.112007>
- Aguhayon, H. G., Tingson, & Pentang, J. T. (2023). Addressing students learning gaps in mathematics through differentiated instruction. *International Journal of Educational Management and Development Studies*, 4(1), 69–87. <https://doi.org/10.53378/352967>

- Aldossari, A. T. (2018). The challenges of using the differentiated instruction strategy: A case study in the general education stages in Saudi Arabia. *International Education Studies*, 11(4), 74–83.
- Aranda, M., & Zamora, J. (2016). Using differentiated instruction in improving the academic performance of students in Filipino language. Retrieved January 15, 2018, from http://www.national-u.edu.ph/wp-content/uploads/2016/08/JSTAR-4_Aranda.pdf
- Avgousti, M. (2017). One size does not fit all: Understanding differentiated instruction in elementary mixed-ability classrooms [Master's thesis, University of Toronto]. https://tspace.library.utoronto.ca/bitstream/1807/76926/1/Avgousti_Melbo_201706_MT_MTRP.pdf
- Bekele, W. B., & Ago, F. Y. (2022). Sample size for interview in qualitative research in social sciences: A guide to novice researchers. *Research in Educational Policy and Management*, 4(1), 42–50. E-ISSN: 2691-0667. <https://repamjournal.org/>
- Boston, A. (2017). An action research study of barriers to differentiated instruction in reading for Georgia middle school students in the inclusive classroom [PhD thesis, Northcentral University]. <https://www.proquest.com/openview/06b6bfb6f53a7f37d300cc950119800>
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597. <https://doi.org/10.1080/2159676X.2019.1628806>
- Chen, L., Zhan, Z., & Su, Y. (2022). The role of differentiated instruction in skill acquisition in STEM education. *International Journal of STEM Education*, 9(1), 47–63.
- Chien, C. W. (2014). College students' attitude toward and learning of differentiated instruction in products. *Journal of English Language and Literature*, 1(2), 26–37. <https://doi.org/10.17722/jell.v1i2.19>
- Creswell, J. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. SAGE Publications, Inc.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publication, Inc.
- Crowder, I. G. (2013). Teachers' perceptions and practices of differentiated instruction at an innovative middle school for gifted and talented students [Unpublished doctoral dissertation]. The University of Georgia.
- Davies, L., Newton, D., & Newton, L. (2018). Teachers' pedagogies and strategies of engagement. *International Journal for Talent Development and Creativity*, 6(1–2). <https://files.eric.ed.gov/fulltext/EJ1296857.pdf>
- Dawadi, S. (2020). Thematic analysis approach: A step-by-step guide for ELT research practitioners. *Journal of NELTA*, 25(1–2), 62–71. <https://doi.org/10.3126/nelta.v25i1-2.49731>
- De Neve, D., & Devos, G. (2016). The role of environmental factors in beginning teachers' professional learning related to differentiated instruction. *Sch. Effect. Sch. Improv.*, 27, 557–579. <https://doi.org/10.1080/09243453.2015.1122637>
- Desta, A. (2019). Teacher educators' perception and practices of differentiated instruction in Ethiopian secondary teacher education. *The International Journal of Research in Teacher Education*, 10(1), 79–93. http://ijrte.inased.org/makale_indir/882
- Deunk, M. I., Smale-Jacobse, A. E., de Boer, H., Doolaard, S., & Bosker, R. J. (2018). Effective differentiation practices: A systematic review and meta-analysis of studies on the cognitive effects of differentiation practices in primary education. *Educ. Res. Rev.*, 24, 31–54. <https://doi.org/10.1016/j.edurev.2018.02.002>
- Dosch, M., Zidon, M., Pablico, J., & Dee, A. L. (2017). Digital Commons @ George Fox University preservice teacher application of differentiated instruction. *Int. J. Teach. Learn. High. Educ.*, 26(3), 30–54.
- Gaitas, S., & Martins, M. A. (2017). Teachers perceived difficulty in implementing differentiated instructional strategies in primary school. *Int. J. Incl. Educ.*, 21(5), 544–556. <https://doi.org/10.1080/13603116.2016.1223180>
- Ghaith, G. M., & Awada, G. M. (2022). Scaffolding understanding of scholarly educational research through teacher/student conferencing and differentiated instruction. *Teaching & Learning Inquiry*, 10. <https://doi.org/10.20343/teachlearninqu.10.8>
- Gregory, G. H., & Chapman, C. (2013). *Differentiated instructional strategies: One size does not fit all*. Corwin Press.
- Hapsari, T., Dahlan, D., & Dahlan, J. A. (2018). Understanding and responding the students in learning mathematics through the differentiated instruction. *Journal of Physics: Conference Series*, 1013, 012136. <https://doi.org/10.1088/1742-6596/1013/1/012136>
- Haymon, C., & Wilson, A. (2020). Differentiated reading instruction with technology for advanced middle school students' reading achievement. *Journal of Educational Research & Practice*, 10(1), 70–89. <https://doi.org/10.5590/JERAP.2020.10.1.05>
- Hess, M. A. (1999). Teaching in mixed-ability classrooms. Retrieved August 8, 2002, from <http://www.weac.org/kids/1998-99/march99/differ.htm>
- Iqbal, J., Khan, A. M., & Nisar, M. (2020). Impact of differentiated instruction on student learning: Perception of students and teachers. *Global Regional Review*, V(I), 364–375. [http://dx.doi.org/10.31703/grr.2020\(V-I\).40](http://dx.doi.org/10.31703/grr.2020(V-I).40)
- Ismail, S. A. A., & Al Allaq, K. (2019). The nature of cooperative learning and differentiated instruction practices in English classes. *SAGE Open*. <https://doi.org/10.1177/2158244019856450>
- İzgi, İ. (2014). Ayırt edicilik ilkesine dayalı İngilizce öğretim tasarımı uygulamasının öğrencilerin akademik başarı ve derse yönelik tutumları üzerine etkisi [Master's thesis, Akdeniz University]. Akdeniz University Institutional

- Repository.
<https://acikerisim.akdeniz.edu.tr/bitstream/handle/123456789/2208/T03333.pdf?isAllowed=y&sequence=1>
- Jager, T. de. (2017). Perspectives of teachers on differentiated teaching in multicultural South African secondary schools. *Studies in Educational Evaluation*, 53, 115–121.
- Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice*, 24(1), 120–124. <https://doi.org/10.1080/13814788.2017.1375092>
- Koutselini, M., & Agathagelou, S. (2021). The impact of differentiated instruction on critical thinking and problem-solving skills in primary education. *Educational Research Quarterly*, 44(3), 95–112.
- Kumar, S., Kuman, R. S., Govindaraj, M., & Prabhu, N. R. V. (2020). Sampling framework for personal interviews in qualitative research. *PalArch's Journal of Archaeology of Egypt/Egyptology (PJAEE)*, 17(7), 7102–7114. ISSN: 1567-214X.
- Kyriakides, L., Creemers, B., & Charalambous, E. (2018). Quality and equity dimensions of educational effectiveness: An introduction. *Policy Implications of Research in Education*, 8, 1–38. Springer. https://doi.org/10.1007/978-3-319-72066-1_1
- Le Fevre, D., Timperley, H., & Ell, F. (2016). Curriculum and pedagogy: The future of teacher professional learning and the development of adaptive expertise. *SAGE Handb. Curriculum Lum, Pedagog. Assess. Two Vol. Set*, 309–324. <https://doi.org/10.4135/9781473921405.n20>
- Lester, C. (2023). What is the effect of differentiated instruction on student engagement in learning? [Doctoral dissertation, Kennesaw State University]. DigitalCommons@Kennesaw State University. https://digitalcommons.kennesaw.edu/teachleaddoc_etd/64/
- Letzel-Alt, V., & Pozas, M. (2023). Differentiated instruction around the world: Exploring differentiated instructional practice in general school education. <https://doi.org/10.31244/9783830997023>
- Lunsford, K. J. (2017). Challenges to implementing differentiated instruction in middle school classrooms with mixed skill levels [PhD thesis, Walden University]. <https://scholarworks.waldenu.edu/dissertations>
- Magableh, I. S. I., & Abdullah, A. (2020). On the effectiveness of differentiated instruction in the enhancement of Jordanian students' overall achievement. *International Journal of Instruction*, 13(2), 533–548. <https://doi.org/10.29333/iji.2020.13237a>
- Magableh, I., & Abdullah, A. (2020a). The effect of differentiated instruction on EFL learners: Teachers' perspective. *International Journal of Academic Research in Business and Social Sciences*, 10(5), 626–641. <http://dx.doi.org/10.6007/IJARBS/v10-i5/7235>
- Magableh, I., & Abdullah, A. (2020b). The effectiveness of differentiated instruction by streaming: A preliminary study of current practices in the UAE. *International Journal of Learning, Teaching and Educational Research*. <https://doi.org/10.26803/ijlter.19.6.6>
- Marks, A., Woolcott, G., & Markopoulos, C. (2021). Differentiating instruction: Development of a practice framework for and with secondary mathematics classroom teachers. *International Electronic Journal of Mathematics Education*, 16(3), em0657. <https://doi.org/10.29333/iejme/11198>
- McAdamis, S. (2001). Individual paths: Teachers tailor their instruction to meet a variety of student needs. *Journal of Staff Development*, 22(2), 48–50.
- McCarthy, J. (2015, August 28). 3 ways to plan for diverse learners: What teachers do. Edutopia. <https://www.edutopia.org/blog/differentiated-instruction-ways-to-plan-john-mccarthy>
- McCombes, S. (2021, August 30). An introduction to sampling methods. Scriber. <https://www.scribbr.com/methodology/sampling-methods/>
- McQuarrie, L. M., McRae, P., & Stack-Cutler, H. (2021). Differentiated instruction: A research basis. *Kappa Delta Pi Record*, 57(1), 10–15.
- Merawi, T. M. (2018). Primary school teachers' perceptions of differentiated instruction (DI) in Awi Administrative Zone, Ethiopia. *Bahir Dar Journal of Education*, 18(2).
- Meyad, N. A., Roslan, S., Abdullah, M. C., & Hajimaming, P. (2014). The effect of differentiated learning method in teaching the Arabic language on students' motivation. *Journal of Social Science Research*, 5(1), 671–678.
- Miller, A. (2016, January 8). 6 strategies for differentiated instruction in project based learning [Blog]. <https://www.edutopia.org/blog/differentiated-instruction-strategies-pbl-andrew-miller>
- Minshew, A. (2020, July 24). How differentiated instruction can help you reach every student in class. Waterford Org. <https://www.waterford.org/education/differentiated-instruction-strategies/>
- Noble, H., & Heale, R. (2019). Triangulation in research, with examples. *Evidence-Based rNursing*, 22(3). <http://dx.doi.org/10.1136/ebnurs-2019-103145>
- NUL. (2023, April 27). Trustworthiness of qualitative data. Dissertation Center, National University Library. <https://resources.nu.edu/c.php?g=1007180>; <http://methods.sagepub.com.proxy1.ncu.edu/>
- OECD. (2018a). Programme for International Student Assessment: PISA 2018 report. <https://www.oecd.org/pisa/publications/pisa-2018-results.htm>
- OECD. (2018b). The resilience of students with an immigrant background: Factors that shape well-being. OECD Publishing. <https://doi.org/10.1787/9789264292093-en>

- Özer, S., & Yılmaz, E. (2018). The effect of thinking-style-based differentiated instruction on achievement, attitude, and retention. *Kastamonu Education Journal*, 26(1), 11–20. <https://doi.org/10.24106/kefdergi.374145>
- Pablico, J., Diack, H., & Lawson, A. (2017). Differentiated instruction: A survey study of teacher implementation in high school science. *International Journal of Education and Research*, 5(3), 113–124. <https://www.ijlter.org/index.php/ijlter/article/view/957/pdf>
- Robinson, R. S. (2014). Purposive sampling. *Encyclopedia of Quality of Life and Well-Being Research*, 5243–5245. https://doi.org/10.1007/978-94-007-0753-5_2337
- Roy, A., Guay, F., & Valois, P. (2013). Teaching to address diverse learning needs: Development and validation of a differentiated instruction scale. *International Journal Inclusion Education*, 17, 1186–1204. <https://doi.org/10.1080/13603116.2012.743604>
- 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 (IJLTR)*, 10(1), 127–144. <https://files.eric.ed.gov/fulltext/EJ1330093.pdf>
- Sayı, K. A., & Emir, S. (2017). The effects of differentiated foreign language instruction on academic achievement and creativity of gifted students. *International Journal of Academic Research*, 5(1), 276–288.
- Schleicher, A. (2016). Teaching excellence through professional learning and policy reform: Lessons from around the world. *International Summit on the Teaching Profession*; OECD Publishing. <https://doi.org/10.1787/9789264252059-en>
- Shareefa, M., Moosa, V., et al. (2019). Teachers' perceptions on differentiated instruction: Do experience, qualification and challenges matter? *International Journal of Learning, Teaching and Educational Research*, 18(8), 214–226. <https://doi.org/10.26803/ijlter.18.8.13>
- Sim, J., Saunders, B., Waterfield, J., & Kingstone, T. (2018). Can sample size in qualitative research be determined a priori? *International Journal of Social Research Methodology*, 21(5), 1–16. <https://doi.org/10.1080/13645579.2018.1454643>
- Smale-Jacobse, A. E., Meijer, A., Helms-Lorenz, M., & Maulana, R. (2019). Differentiated instruction in secondary education: A systematic review of research evidence. *Front. Psychol.*, 10, 2366. <https://doi.org/10.3389/fpsyg.2019.02366>
- Spencer, B. (2018, October 8). The impact of effective classroom management. Satchel. <https://blog.teamsatchel.com/the-impact-of-effective-classroom-management>
- Stahl, N. A., & King, J. R. (2020). Expanding approaches for research: Understanding and using trustworthiness in qualitative research. *Journal of Developmental Education*, 44(1), 26–28. <https://www.jstor.org/stable/45381095>
- Stollman, S. H. M. (2018). Differentiated instruction in practice: A teacher perspective [Ph.D. thesis, Leiden University]. <https://scholarlypublications.universiteitleiden.nl/handle/1887/62049>
- Subban, P., & Round, P. N. (2020). Differentiated instruction to support students with diverse learning needs. *Australian Journal of Teacher Education*, 45(1), 34–50.
- Suprayogi, M. N., Valcke, M., & Godwin, R. (2017). Teachers and their implementation of differentiated instruction in the classroom. *Teaching and Teacher Education*, 67, 291–301.
- Tomlinson, C. (2014). *The differentiated classroom: Responding to the needs of all learners* (2nd ed.). ASCD. <https://books.google.com.ph/books>
- Tomlinson, C. (2015). Teaching for excellence in academically diverse classrooms. *Society*, 52, 203–209. <https://doi.org/10.1007/s12115-015-9888-0>
- Tomlinson, C. A. (2005). Grading and differentiation: Paradox or good practice? *Theory Into Practice*, 44(3), 262–269. https://doi.org/10.1207/s15430421tip4403_11
- Tomlinson, C. A., & Moon, T. (2013). Assessment and student success in a differentiated classroom. *Association for Supervision and Curriculum Development (ASCD)*.
- Toth, E., & York, K. (2022). Enhancing writing and analytical skills through differentiated instruction in middle school. *Journal of Middle School Education*, 37(4), 203–219.
- Trainor, L. R., & Bundon, A. (2021). Developing the craft: Reflexive accounts of doing reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 13(5), 705–726. <https://doi.org/10.1080/2159676X.2020.1840423>
- Unal, A., Unal, Z., & Bodur, Y. (2022). Differentiated instruction and kindergarten through 5th grade teachers. *Georgia Educational Researcher*, 19(2), Article 2. <https://doi.org/10.20429/ger.2022.190202>
- UNESCO. (2017). *A guide for ensuring inclusion and equity in education*. United Nations Educational, Scientific and Cultural Organization. <https://unesdoc.unesco.org/ark:/48223/pf0000248254>
- University of Tasmania. (2022, April 8). Research data management. UTAS website. <https://utas.libguides.com/ResearchData>
- University of Virginia. (2022). Retention of research records and destruction of data. <https://research.virginia.edu/irb-sbs/retention-research-records-and-destruction-data>
- Van Casteren, W., Bendig-Jacobs, J., Wartenbergh-Cras, F., Van Essen, M., & Kurver, B. (2017). Differentiëren en differentiatievaardigheden in het voortgezet onderwijs. *ResearchNed*.

- Wahyudi, S., Hapsari, M. M., & Sugiono. (2022). The implementation of differentiated instruction methods: An identification of inhibiting factors and their solutions toward qualitative surveys. In *Proceedings of the 1st UPY International Conference on Education and Social Science (UPINCESS 2022)* (pp. 242–252). Atlantis Press. https://doi.org/10.2991/978-2-494069-39-8_23
- Wan, S. W. (2016). Differentiated instruction: Hong Kong prospective teachers' teaching efficacy and beliefs. *Teachers and Teaching*, 22(2), 148–176.
- White, D. M. (2015). Differentiated instruction in the science classroom: Student perception, engagement and learning [Unpublished Master of Science thesis]. Montana State University.
- Wilkinson, S. D., & Penney, D. (2014). The effects of setting on classroom teaching and student learning in mainstream mathematics, English and science lessons: A critical review of the literature in England. *Educational Review*, 66(4), 411–427. <https://doi.org/10.1080/00131911.2013.787971>
- Williams, E. (2018, June 29). What is the meaning of academic performance. *Chron*. <https://work.chron.com/meaning-academic-performance-17332.html>
- Yavuz, A. C. (2018). The effect of differentiated instruction on Turkish students' L2 achievement, and student and teacher perceptions [Unpublished master's thesis]. Bahçeşehir University, The Graduate School of Educational Sciences.
- Yuen, S.-Y., Luo, Z., & Wan, S. W. Y. (2023). Challenges and opportunities of implementing differentiated instruction amid the COVID-19 pandemic: Insights from a qualitative exploration. *Educ. Sci.*, 13, 989. <https://doi.org/10.3390/educsci13100989>
- Zens, A. (2021). The impact of differentiated learning activities on student engagement and motivation in the English language arts classroom. *Dissertations, Theses, and Projects*, 611. Minnesota State University Moorhead. <https://red.mnstate.edu/thesis/611>