



## **Implementation of Differentiated Instruction in the Animation Expertise Program**

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### **Abstract**

This study aims to describe teachers' understanding in the Animation Expertise Program regarding the basic concept of differentiated instruction, the forms of its implementation, the challenges that emerge, and the strategies used to overcome those challenges. This research employed a qualitative approach with a case study design. The research subjects consisted of the vice principal for curriculum affairs, animation productive-subject teachers, and a guidance and counseling (BK) teacher at SMK Negeri 1 Martapura. Data were collected through observation, interviews, and documentation. Data analysis was carried out through several stages, namely data collection, data reduction, data display, and conclusion drawing and verification.

The findings show that teachers have a fairly good understanding of differentiated instruction and perceive its benefits in the learning process. The implementation of differentiated instruction was carried out by mapping students' learning needs through non-cognitive diagnostic assessment conducted by the BK teacher and cognitive assessment conducted by the animation productive-subject teachers. Furthermore, teachers prepared lesson plans based on learning outcomes, applied differentiation in the aspects of content, process, and product, and conducted evaluation and reflection through formative and summative assessments.

Several obstacles found in the implementation of differentiated instruction included difficulties in managing students, preparing teaching modules, students' tendency to expect instant responses, and students' low self-confidence. To overcome these obstacles, the school and teachers undertook various efforts, including encouraging the continuous implementation of differentiated instruction, strengthening collaboration among teachers, providing supportive facilities and infrastructure, and conducting ongoing evaluation and feedback.

**Keywords:** *differentiated instruction, animation, vocational school*

### **Introduction**

Each learner comes to school with different characteristics. These differences are reflected in various aspects, such as learning styles, including auditory, visual, and kinesthetic styles; diverse academic abilities; different speeds in understanding learning materials; learning orientation; motivation; self-efficacy; interest in particular subjects; personality; and socioeconomic background. In a class consisting of approximately 20 to 36 students, teachers encounter such diversity directly. This condition shows that the learning process cannot be fully carried out using a uniform approach. Teachers need to ensure that every student has equal learning opportunities through methods that best suit their needs and potential. In line with this, the implementation of the Independent Curriculum encourages the use of

differentiated instruction, an approach that places students at the center of learning activities (Ditjen Vokasi, 2023).

According to Marlina (2020), differentiated instruction is a cyclical process for identifying students' learning needs and responding to instruction based on the differences possessed by each learner. In other words, differentiated instruction seeks to adapt the learning process to students' interests, readiness, and learning preferences so that learning outcomes can be achieved more optimally.

Differentiated instruction should not be understood as individualized learning that completely separates each student into different learning processes. Rather, this approach emphasizes teachers' efforts to accommodate students' strengths, needs, and learning potential through flexible instructional strategies. When teachers are able to respond to students' learning needs, they have implemented differentiation by adjusting, expanding, or adding time, materials, strategies, or forms of learning so that learning objectives can be achieved optimally. Through this approach, students receive more comprehensive support from teachers to develop their potential and, at the same time, experience learning as a right that gives them space to explore their abilities and interests (Bilantua et al., 2024).

In its implementation, teachers need to have adequate understanding of how to design and manage differentiated instruction so that the learning process can run effectively. In general, there are three main aspects that can be differentiated in learning, namely content differentiation, process differentiation, and product differentiation. Content differentiation relates to the materials, concepts, and skills that students need to learn in accordance with the curriculum. Process differentiation concerns the learning activities or experiences students go through in understanding the material. In this aspect, the strategies used by teachers may cause each student's learning process to appear different. Meanwhile, product differentiation relates to students' work or learning products as evidence of learning achievement (Khristiani et al., 2021; Kriswanto & Fauzi, 2023; Marantika et al., 2023; Rigianti, 2023).

Although differentiated instruction has been widely recommended in educational policy and practice, a number of studies indicate that its implementation in the field has not yet run optimally. Herwina (2021) found that teachers still face challenges in mapping students' learning needs and have limited time to design appropriate differentiation strategies. In addition, Pratama and Musliman (2025) showed that teachers still experience difficulties in systematically integrating the principles of differentiation into classroom planning and implementation. Other studies have also revealed that teachers' readiness to understand the concept of differentiated instruction varies and affects the quality of its implementation (Andriani et al., 2026; Lailiyah & Mas'ud, 2024). In line with this, Azzahra (2024) and Bella et al. (2025) emphasized that limited pedagogical understanding, lack of training, and challenges in managing diverse student abilities are obstacles frequently experienced by teachers. These findings show that differentiated instruction still faces various challenges, especially at the level of classroom practice.

At the vocational education level, differentiated instruction becomes increasingly important because vocational high school students are required not only to master theoretical

aspects but also practical skills according to their field of expertise. Wardani Sugiyanto, Director of Vocational High Schools, stated that differentiated instruction is one effective approach for optimizing the learning process of vocational high school students. This approach is considered relevant because the Independent Curriculum at the vocational high school level provides space for teachers to design learning that is more oriented toward developing students' skills and competencies (Ditjen Vokasi, 2023).

The Animation Expertise Program at SMK Negeri 1 Martapura is one of the expertise programs that has implemented differentiated instruction. In various curriculum socialization activities, teachers are consistently directed to use the differentiated instruction approach. However, in practice, the implementation of this approach still faces several problems. First, the school considers that the implementation of differentiated instruction has not run optimally because differences in understanding among subject teachers still exist. Second, differentiated instruction, which ideally should begin in the first semester of Grade X, can only be implemented in the second semester because learning in the first semester is still more oriented toward theoretical aspects. Third, teachers still experience difficulties in using the results of diagnostic assessments conducted at the beginning of learning as a basis for designing differentiation strategies. In addition, teachers' understanding of the essence of differentiated instruction is not yet fully even. To date, studies discussing the impact, implementation, and obstacles of differentiated instruction in this context remain limited.

Based on a review of previous studies, research on differentiated instruction generally still focuses largely on elementary and general secondary education levels. Most studies also tend to emphasize conceptual aspects or the development of learning models. Meanwhile, research that specifically examines the implementation of differentiated instruction in vocational education, particularly in skills-based expertise programs such as animation, remains relatively limited. In addition, studies that explore the continuous implementation of differentiated instruction over a long period in vocational high school settings are also still rarely found. This condition indicates a research gap that needs to be addressed through a more in-depth empirical study of differentiated instruction practices in the context of vocational education.

Based on this phenomenon, research on the implementation of differentiated instruction in the Animation Expertise Program is important to conduct. This study is expected to provide a more comprehensive description for vocational education practitioners, particularly teachers and school administrators, regarding the practices, challenges, and strategies for implementing differentiated instruction. Specifically, this study aims to explore in depth the implementation of differentiated instruction that has been running for five years at SMK Negeri 1 Martapura.

The novelty of this study lies in its focus, which specifically examines the implementation of differentiated instruction in the Animation Expertise Program at a vocational high school. This study not only discusses how differentiated instruction is implemented, but also highlights the challenges faced by teachers and the adaptive strategies used in the context of skills-based learning. In addition, this study provides an empirical

contribution because it examines the practice of differentiated instruction implementation over a relatively long period. Thus, this research is expected to provide a more complete perspective on the dynamics of differentiated instruction implementation in vocational education settings. The findings are expected to offer theoretical and practical contributions to the development of differentiated instruction strategies in vocational high schools, as well as serve as a basis for considering the formulation of vocational education policies that are more adaptive and responsive to students' needs.

## Method

This research design used a descriptive qualitative type of research with a case study approach. This approach was chosen because it enables the researcher to examine in depth the phenomenon of differentiated instruction implementation in the Animation Expertise Program at SMK Negeri 1 Martapura in a real context. The focus of this study is the implementation of differentiated instruction as one component of the Independent Curriculum applied at the school.

The research subjects were determined using purposive sampling, namely the intentional selection of informants based on certain considerations relevant to the research objectives. The informants in this study numbered four people, namely: (1) the vice principal for curriculum affairs, selected because of their role in formulating and supervising learning policies; (2) two productive-subject teachers in the Animation Expertise Program, selected because they were directly involved in the planning and implementation of differentiated instruction; and (3) one guidance and counseling (BK) teacher, selected because of their role in mapping students' learning needs, especially non-cognitive aspects. The selection of these informants was based on their direct involvement in the implementation of differentiated instruction.

The data sources in this study consisted of primary and secondary data. Primary data were obtained through in-depth interviews and observations related to the implementation of differentiated instruction. Meanwhile, secondary data were obtained through documentation, such as photos of learning activities, teaching modules, and other supporting documents.

Data collection techniques in this study included in-depth interviews, observation, and documentation. Interviews were used to obtain information related to the informants' understanding, implementation, obstacles, and efforts. Observation was conducted to directly observe the process of differentiated instruction in the classroom. Documentation was used to complement and strengthen the data obtained from interviews and observations. The research instruments were developed based on the research focus and were equipped with the form of instruments and data collection techniques for each aspect, as presented in Table 1 below.

**Table 1. Data Collection Instruments**

| Research Dimension | Aspect                                                                                  | Instrument Form     | Data Collection Technique |
|--------------------|-----------------------------------------------------------------------------------------|---------------------|---------------------------|
| Understanding      | Understanding/ability to implement differentiated instruction.                          | Interview guideline | Interview                 |
|                    | Understanding the essence of differentiated instruction.                                | Interview guideline | Interview                 |
|                    | Understanding the components of differentiated instruction (content, process, product). | Interview guideline | Interview                 |

|                |                                                                                                                          |                                                          |                          |
|----------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|--------------------------|
|                | Understanding the mapping of students' learning needs (learning readiness, learning interests, and learning profiles).   | Interview guideline                                      | Interview                |
|                | Benefits of implementing differentiated instruction.                                                                     | Interview guideline                                      | Interview                |
| Implementation | Mapping students' learning needs based on three aspects (learning readiness, learning interests, and learning profiles). | Observation and interview guideline                      | Observation, interview   |
|                | Learning planning in differentiated instruction.                                                                         | Interview guideline and document study (teaching module) | Interview, documentation |
|                | Implementation of differentiated instruction based on the three differentiation components (content, process, product).  | Observation sheet                                        | Observation              |
| Obstacles      | Obstacles in implementing differentiated instruction.                                                                    | Interview guideline                                      | Interview                |
| Efforts        | School and teacher efforts in implementing differentiated instruction.                                                   | Interview and documentation guideline                    | Interview, documentation |

In this study, data validity was tested through source and technique triangulation. Source triangulation was carried out by comparing data from various informants, namely the vice principal for curriculum affairs, animation productive-subject teachers, and the BK teacher. Meanwhile, technique triangulation was conducted by comparing data from interviews, observations, and documentation. In addition, to increase data credibility, the researcher also conducted member checks by confirming interview results with informants to ensure that the data matched the actual conditions. The researcher also extended participation and maintained persistent observation so that the data obtained would be more in-depth and consistent. Data analysis used the interactive analysis model proposed by Matthew B. Miles and A. Michael Huberman (Sugiyono, 2021), which includes four stages, namely data collection, data reduction, data display, and conclusion drawing/verification.

## Findings

### Animation Productive-Subject Teachers' Understanding of Differentiated Instruction

Based on the interview results, animation productive-subject teachers demonstrated a fairly good understanding of the concept of differentiated instruction. This understanding was obtained through workshops organized by the Center of Excellence Vocational School (SMK Pusat Keunggulan) program, as well as through direct experience in classroom learning practice. Informant 1 (vice principal for curriculum affairs) stated that:

*"Regarding understanding, God willing, yes, because we happened to receive assistance from the SMK-PK program, so we had many workshops on differentiated instruction... therefore, we held the workshops and applied them in practice."*

This indicates that teachers' understanding is not only conceptual but has also been implemented in learning practice. Teachers interpret differentiated instruction as an effort to meet students' diverse learning needs. Informant 2 (animation productive-subject teacher 1) stated:

*"Differentiated instruction is our effort as teachers to make adjustments so that the learning process meets students' needs... according to their interests and talents."*

In addition, teachers also understand that in differentiated instruction, the teacher's role shifts to that of a facilitator. Informant 1 (vice principal for curriculum affairs) explained:

*"...the teacher is only a facilitator, not the main subject of learning... students can learn through various styles such as visual, auditory, and kinesthetic."*

Teachers' understanding also covers the three main components of differentiated instruction, namely: 1) content differentiation, which involves adjusting learning materials according to students' readiness levels; 2) process differentiation, which involves varying learning strategies and methods; and 3) product differentiation, which involves varying students' learning outcomes.

### **Implementation of Differentiated Instruction in the Animation Expertise Program Mapping Students' Learning Needs**

Mapping students' learning needs was carried out through cognitive and non-cognitive diagnostic assessments. These assessments were conducted at the beginning of learning as the basis for designing instructional strategies. Informant 1 (vice principal for curriculum affairs) stated:

*"At the beginning of the semester, there is a diagnostic assessment... cognitive assessment by the subject teacher and non-cognitive assessment by the BK teacher."*

Cognitive assessment was conducted by productive-subject teachers in several ways, such as initial interviews, prompting questions, and spontaneous quizzes. Informant 2 (animation productive-subject teacher 1) explained:

*"...I ask each student one by one, 'Where is your interest? Do you already know this material?'... so before and during practice, their abilities can be observed."*

In addition, teachers also directly observed students' practical activities to identify their interests and skill tendencies. Meanwhile, non-cognitive assessment was conducted by the BK teacher to identify students' psychological aspects, interests, and learning profiles. Informant 4 (BK teacher) stated:

*"We conduct non-cognitive assessments at the beginning of the school year... the results are submitted to the teachers."*

The BK teacher plays an important role in supporting the implementation of differentiated instruction, particularly in mapping students' learning needs from the non-cognitive perspective. The BK teacher not only conducts non-cognitive diagnostic assessments, but also processes and distributes the assessment results to subject teachers as a basis for designing instruction that suits students' characteristics. As stated by Informant 4, the BK teacher:

*"The results of the non-cognitive assessments that have been conducted will be submitted to relevant parties, including productive-subject teachers, so that they can be used in the learning process. These assessment results include information related to students' learning styles, interests and talents, and future career tendencies."*

Furthermore, the data obtained from the non-cognitive assessments were used by teachers to group students, adjust instructional strategies, and determine approaches suited to each student's needs. Thus, the BK teacher's role in providing student profile data is an inseparable part of supporting the successful implementation of differentiated instruction.

### **Learning Planning**

Learning planning began with the determination of the semester project, which served as the main reference for learning activities. Based on this project, teachers prepared learning tools such as teaching modules, teaching materials, and job sheets. Informant 2 (animation productive-subject teacher 1) stated:

*"First, we refer to the semester project, then we make the plan... and then communicate it to the students."*

However, based on the results of interviews and observations, elements of differentiated instruction were not yet explicitly written in the teaching modules. Differentiation was implemented more directly during the learning process. Informant 3 (animation productive-subject teacher 2) stated:

*"...I still do not understand what good differentiation planning should look like, but in practice we still adjust it to students' abilities."*

### **Implementation of Differentiated Instruction**

#### **Content Differentiation**

Teachers provided the same material to all students at the initial stage of learning. However, at the practice stage, the content was adjusted to each student's ability.

*"The next material is usually adjusted to students' abilities." (Informant 2) The observation results showed that teachers maintained the same learning objectives while providing flexibility in the depth of material mastered by students.*

#### **Process Differentiation**

The learning process used a project-based learning approach conducted in groups. Each group member had different tasks according to their abilities and interests.

*"...the work is divided according to students' abilities." (Informant 2)*

Teachers also provided different treatment in the mentoring process. Students who already had high ability were given direction, while students who still experienced difficulty were given more intensive guidance.

*"...the experts only need to be directed, while those who are less capable are guided step by step." (Informant 3)*

The learning media used included job sheets, PowerPoint, and video tutorials from industry sources and digital platforms.

#### **Product Differentiation**

The learning products produced by students showed significant variation according to each student's level of ability. This variation was reflected in the complexity, detail, and creativity of students' work.

*"...the results differ according to ability; some are simple, while others are detailed." (Informant 2)*

For example, in creating animated objects, students with basic abilities produced simple products, while students with higher abilities were able to produce products with greater detail and complexity.

### ***Evaluation and Reflection***

Learning evaluation was conducted through formative and summative assessments. Formative assessment was carried out continuously during the learning process, while summative assessment was conducted during midterm and final semester examinations.

*"The evaluation looks at progress... as well as formative and summative assessment."*  
(Informant 2)

However, in its implementation, evaluation did not yet fully consider students' individual needs. Reflection was carried out at the end of learning by providing feedback to students or asking students to share their learning experiences.

### **Obstacles in the Implementation of Differentiated Instruction**

The findings show several obstacles in the implementation of differentiated instruction, including:

- Difficulties in managing students, especially in dealing with differences in ability within one class.
- Limited teacher understanding of differentiation planning.
- Difficulty in providing quick responses to students' needs.
- Students' low self-confidence.

*"Students still lack confidence in their abilities."* (Informant 2)

### **Efforts in the Implementation of Differentiated Instruction**

To overcome these obstacles, teachers and the school made several efforts, namely:

- Collaboration among teachers in designing and implementing learning.
- "We communicate among teachers."* (Informant 2)
- Fulfillment of facilities and infrastructure according to learning needs and industry standards.
  - Provision of additional learning resources, such as video tutorials, to support students' understanding.

## **Discussion**

### **Animation Productive-Subject Teachers' Understanding of Differentiated Instruction**

Based on the research findings, teachers' understanding of mapping students' learning needs, which include readiness, interests, and learning profiles, shows that teachers have good pedagogical awareness in accommodating the diversity of student characteristics. Teachers not only understand the concept of differentiation theoretically, but have also implemented it through various strategies such as initial assessment, observation, and direct interaction with students.

This finding indicates that teachers' understanding does not stop at the conceptual level, but has moved toward reflective practice in learning. This is in line with Mumpuniarti et

al. (2023), who emphasize that assessment in learning functions as the basis for making instructional decisions based on students' needs. However, in the context of this study, teachers demonstrated a more flexible approach because they did not rely only on formal assessments, but also combined them with direct classroom observation.

In addition, differentiated instruction in this study was proven to have a positive impact on students' learning processes, such as increased learning focus, creativity, and student engagement in learning. This condition strengthens Marlina's (2020) view that differentiation can encourage students to be more active and develop their thinking skills. However, the findings of this study also show an additional dimension, namely the emergence of peer learning practices, in which more proficient students help other students. This indicates that differentiation not only affects individuals but also forms a collaborative learning ecosystem in the classroom.

In the context of vocational education, mapping students' interests and talents has broader implications, particularly in the placement of fieldwork practice (PKL). This finding extends previous studies by showing that differentiated instruction not only affects the classroom learning process, but also contributes to students' work readiness through the alignment of competencies with industry needs.

### **Implementation of Differentiated Instruction in the Animation Expertise Program**

The findings show that the implementation of differentiated instruction began with the use of diagnostic assessments, both cognitive and non-cognitive. This practice indicates that teachers have applied the basic principle of differentiation, namely understanding students' initial conditions before designing instruction.

This finding is in line with Nasution et al. (2024), who state that diagnostic assessment functions to identify students' initial abilities. However, this study found that the non-cognitive assessment conducted by the BK teacher made a significant contribution in helping teachers understand students' psychological and social aspects. This shows that the implementation of differentiation at this school is more comprehensive because it involves cross-role collaboration, not only subject teachers.

At the planning stage, although teachers had prepared teaching modules, the research findings show that differentiation had not been fully integrated into these documents. This indicates a gap between conceptual understanding and administrative implementation. This finding supports Letzel-Alt and Pozas (2023), who state that many teachers still experience difficulties in systematically designing differentiated teaching tools. Nevertheless, in learning practice, teachers adaptively continued to apply differentiation directly in the classroom, showing pedagogical improvisation ability.

In the implementation of differentiated instruction based on its three components:

#### **Content Differentiation.**

The findings show that teachers began learning with the same material and then adjusted it according to students' needs. This indicates a gradual approach to differentiation. This practice is in line with Purba et al. (2021), but this study shows that teacher flexibility is a key factor in successful implementation, especially in the context of project-based learning.

### **Process Differentiation**

Teachers gave students freedom to develop skills through projects and the division of tasks according to ability. This finding strengthens the theory that process differentiation allows students to learn in ways most suitable for them (Mumpuniarti et al., 2023). However, this study adds that in the vocational high school context, process differentiation is closely related to role distribution in production teams, which reflects industrial practice.

### **Product Differentiation**

Students were given freedom to demonstrate learning outcomes through various forms of products. This is in line with the concept of product differentiation, which emphasizes students' expression of understanding. However, the findings of this study show that products function not only as assessment tools, but also as students' professional portfolios, which have added value in the context of vocational education.

### **Evaluation and Reflection**

Teachers consistently conducted evaluations through formative and summative assessments. This practice supports the view of Naibaho (2023); however, this study found that evaluation also functions as a tool for teachers' ongoing reflection in adjusting instructional strategies. Thus, evaluation is not only oriented toward outcomes, but also toward the process of improving learning.

### **Obstacles in the Implementation of Differentiated Instruction**

The obstacles in implementing differentiated instruction found in this study show that the main challenges lie in classroom management, teaching module preparation, limited instant responses, and students' low self-confidence. Difficulty in managing students indicates that implementing differentiation in heterogeneous classrooms is not easy. This finding is in line with Lindner and Schwab (2025), who state that classroom management is a major challenge in differentiated instruction, especially in project-based learning.

In addition, teachers' limitations in preparing differentiated teaching modules indicate that pedagogical competence still needs to be improved. This strengthens the findings of Letzel-Alt and Pozas (2023); however, this study reveals teachers' reflective attitudes and willingness to learn, which are important assets in professional development.

Difficulty in providing instant responses also indicates limitations in teachers' time and workload. This finding supports Suprayogi et al. (2022), but in the context of this study, the challenge is more complex because project-based learning requires intensive mentoring. Meanwhile, students' low self-confidence shows that the affective aspect is an important factor in the success of differentiation. This finding extends previous studies by emphasizing that the success of differentiation is determined not only by instructional strategies, but also by the emotional support provided by teachers to students.

### **Efforts in the Implementation of Differentiated Instruction**

The efforts made by teachers and the school indicate a systemic approach to the implementation of differentiation. Collaboration among teachers became the main strategy for improving learning quality. This finding is in line with Smale-Jacobse et al. (2019), who state that professional collaboration can increase the effectiveness of differentiation

implementation. However, in this study, collaboration was not limited to discussion, but also served as a means of directly sharing good practices. Setting clear learning objectives also became an important step in ensuring the success of differentiation. This supports the findings of Handini et al. (2025); however, in the context of this study, learning objectives were also integrated with real projects relevant to the world of industry.

In addition, continuous monitoring and evaluation conducted by teachers show that differentiation was implemented dynamically. This finding strengthens the study by Deunk et al. (2018), which states that differentiation accompanied by continuous evaluation has a significant impact on learning outcomes. Support for facilities and infrastructure from the school was also an important factor. Unlike previous studies, this finding shows that the readiness of facilities approaching industry standards provides greater opportunities for optimal differentiation implementation, especially in vocational education.

Differentiated instruction in the Animation Expertise Program at SMK Negeri 1 Martapura can serve as an adaptive learning model for accommodating the diversity of students' readiness, interests, and learning profiles in vocational education. The implementation that has been carried out shows potential in increasing students' engagement, creativity, and learning responsibility, especially as the school has consistently built collaboration and training with industry to align learning with workforce needs. In the future, strengthening the planning aspect and developing more systematic differentiated teaching tools remain necessary so that the good practices already in place become more structured, documented, and have a more optimal impact on improving students' professional competencies. However, this study has limitations because it was conducted in only one expertise program and used a qualitative approach with a limited number of informants; therefore, the findings are contextual and cannot yet be generalized broadly. Therefore, future research is recommended to examine the implementation of differentiated instruction in various other vocational high school expertise programs using more diverse approaches, such as comparative studies across schools or quantitative approaches to measure its impact on students' learning outcomes and vocational competencies. Further research may also explore the role of collaboration between schools and industry in supporting the development of differentiated instruction that is more contextual and relevant to workforce needs.

## **Conclusion**

Teachers' understanding of differentiated instruction shows that this approach aims to adapt the learning process to students' individual needs. Teachers understand that differentiated instruction involves three main components, namely content (the knowledge and skills taught), process (the strategies and media used), and product (the ways students demonstrate understanding). Teachers also understand the importance of mapping students' needs, including readiness, interests, and learning profiles, to create relevant and effective learning experiences. The implementation of differentiated instruction in the Animation Expertise Program was carried out through mapping students' learning needs using diagnostic assessment results, planning learning by mapping the minimum learning outcomes students were expected to achieve, implementing differentiated instruction that had been

carried out quite well but had not yet been written into teaching tools, and conducting evaluation through formative and summative assessments. Meanwhile, teacher reflection was carried out in several ways so that students could gain value after participating in learning. Obstacles in the implementation of differentiated instruction included difficulties in managing students, teachers' limited understanding in preparing teaching modules for differentiated instruction, teachers' difficulty in providing instant responses, and students' lack of self-confidence. Meanwhile, the efforts made by the school and animation productive-subject teachers to implement differentiated instruction included encouraging teachers to apply differentiated instruction, facilitating collaboration among teachers in planning and implementing differentiated instruction, fulfilling facilities and infrastructure needs, and providing evaluation and feedback from the school.

### References

- Andriani, L., Turrabiyah, A. U., Safitri, H., Aerinah, & Atsnan, Muh. F. (2026). Teachers' Challenges in Implementing Differentiated Instruction in the Implementation of the Independent Curriculum in Mathematics Learning. *Differential: Journal on Mathematics Education*, 3(2), 211-220. <https://doi.org/10.32502/differential.v3i2.853>
- Azzahra, K. R. (2024). Differentiated Instruction in English Lessons: Teacher Challenges. *Jurnal Basicedu*, 8(4), 3158-3164. <https://doi.org/10.31004/basicedu.v8i4.8423>
- Bella, A. S., Norhafizah, Nurhaliza, S., Maisarah, S., & Diani Ayu Pratiwi. (2025). Challenges of Differentiated Instruction in the Implementation of the Independent Curriculum at SDN Kuin Utara 1. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 10(02).
- Bilantua, A., Panigoro, M., & Bahsoan, A. (2024). The Effect of Differentiated Instruction on Student Learning Outcomes in Integrated Social Studies at SMP Negeri 1 Tomilito, North Gorontalo. *Jurnal Ilmu Pendidikan Nonformal*, 10(1). <https://doi.org/10.37905/aksara.10.1.427-448.2024>
- 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. *Educational Research Review*, 24, 31-54. <https://doi.org/10.1016/j.edurev.2018.02.002>
- Ditjen Vokasi. (2023). The importance of developing the operational curriculum of an educational unit. <https://www.vokasi.kemdikbud.go.id/read/b/pentingnya-penyusunan-kurikulum-operasional-satuan-pendidikan>
- Handini, O., Prihastari, E. B., & Wiryastuti, V. M. (2025). Analyzing Teacher Professionalism Performance in the Implementation of the Independent Curriculum. *KnE Social Sciences*, 10(17), 108-116. <https://doi.org/10.18502/kss.v10i17.19319>
- Herwina, W. (2021). Optimizing student needs and learning outcomes through differentiated instruction. *Perspektif Ilmu Pendidikan*, 35(2), 175-182. <https://doi.org/10.21009/PIP.352.10>

- Khristiani, H., Susan, E., Purnamasari, N., Purba, M., Anggraeni, & Saad, Y. (2021). Differentiated instruction development model. *Kemdikbudristek*.
- Kriswanto, M., & Fauzi, N. B. (2023). Product differentiation innovation using the adaptation method. *Diglosia*, 6(1), 43-52. <https://doi.org/10.30872/diglosia.v6i1.535>
- Lailiyah, N., & Mas'ud, S. (2024). Analysis of teachers' challenges in implementing differentiated instruction in the Independent Curriculum in elementary schools. *Journal On Teacher Education*, 6(2).
- Letzel-Alt, V., & Pozas, M. (2023). *Differentiated Instruction Around the World*. Waxmann. <https://doi.org/10.31244/9783830997023>
- Lindner, K. T., & Schwab, S. (2025). Differentiation and individualisation in inclusive education. *International Journal of Inclusive Education*, 29(12), 2199-2219. <https://doi.org/10.1080/13603116.2020.1813450>
- Marantika, J. E. R., Tomasouw, J., & Wenno, E. C. (2023). Implementation of differentiated instruction in the classroom. *J-Gefuge*, 2(1), 1-8. <https://doi.org/10.30598/jgefuege.2.1.1-8>
- Marlina. (2020). Differentiated instruction strategies in inclusive schools. CV Afifa Utama.
- Mumpuniarti, Mahabbati, A., & Handoyo, R. R. (2023). Differentiated instruction. UNY Press.
- Naibaho, D. P. (2023). Differentiated instruction strategies. *Journal of Creative Student Research*.
- Nasution, R. A. V., Yusri, D., & Alam, A. P. (2024). Analysis of customer perceptions of investing through gold installment financing products at PT. Bank Syariah Indonesia KCP Stabat. *Jurnal Ekonomi Dan Keuangan Syariah*, 3(3).
- Pratama, R. B., & Musliman, A. (2025). Implementation of differentiated instruction: Application, challenges, and solutions at SMA Negeri 49 Jakarta. *Journal of Innovation and Teacher Professionalism*, 3(3), 628-637. <https://doi.org/10.17977/um084v3i32025p628-637>
- Purba, M., Purnamasari, N., Soetantyo, S., Suwarna, I. R., & Elisabet, I. S. (2021). Principles of differentiated instruction. *Kemdikbudristek*.
- Rigianti, H. A. (2023). The Concept of Differentiated Learning. *Jurnal Pajar*, 7(2), 285. <https://doi.org/10.33578/pjr.v7i2.8992>
- Smale-Jacobse, A. E., Meijer, A., Helms-Lorenz, M., & Maulana, R. (2019). Differentiated Instruction in Secondary Education. *Frontiers in Psychology*.
- Sugiyono. (2021). Educational research methods (quantitative, qualitative, mixed methods, R&D, and classroom action research). Alfabeta.
- Suprayogi, M. N., Sulaeman, B., & Baydhowi, B. (2022). Differentiated Instruction Implementation. *TICASH Proceedings*.