Vol 42, No 2 (2025): October 2025

Jurnal Penelitian Pendidikan

https://journal.unnes.ac.id/journals/JPP

Transformation of Assessment Practices: Evaluation of the Implementation of Differentiated Assessment in the Garment Preparation Phase at Vocational High Schools

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Abstract

This study aims to evaluate the implementation of differentiated assessment in the garment preparation phase of the Fashion Design and Production subject in vocational high schools (SMK). Differentiated assessment is a strategic approach that aligns evaluation with students' readiness, interests, and learning profiles, and is strongly promoted by the Merdeka Curriculum. Using a mixed-methods approach and the CIPP (Context, Input, Process, Product) evaluation model, this study involved 10 teachers, 160 students, 3 school principals, and 2 program heads from selected SMKs in Semarang. Data were collected through document analysis, classroom observations, questionnaires, interviews, and focus group discussions. The results show that differentiated assessment is only partially implemented. Most teachers adapt task difficulty but rarely differentiate based on students' learning styles or interests. Major obstacles include limited professional development, lack of contextualized assessment tools, and time constraints. Despite these challenges, the study finds that students exhibit higher engagement and improved performance when provided with flexible and personalized assessment options. The findings emphasize the need for structured teacher training, development of project-based differentiated assessment tools, and school policies that support inclusive evaluation practices. This study contributes to both local and global discourse by highlighting the practical implications of differentiated assessment in vocational education and strengthening its relevance within the context of Indonesia's education reform.

Keywords: assessment, vocational education, Merdeka Curriculum, fashion design, inclusive learning

INTRODUCTION

Vocational education is designed to equip students with practical skills aligned with the demands of the workforce. The Fashion Design and Technology program in vocational high schools (SMKs) plays a vital role in preparing students to enter the fashion industry (Azizah et al., 2020; Wahyuningsih et al., 2024). The Fashion Design specialization in vocational education consists of two core subjects: Fundamentals of Fashion for Phase E (Grade X) and Fashion Design and Production for Phase F (Grades XI and XII). The Fundamentals of Fashion course focuses on foundational competencies essential for fashion professionals. These competencies extend beyond technical garment construction skills to include creativity, production processes, and marketing strategies. Additionally, students are introduced to the evolution of fashion-related technologies, global industry issues, entrepreneurial profiles, job profiles, and opportunities in both employment and business sectors.

Fashion Design and Production is a subject that encompasses the advanced competencies required for mastering fashion expertise. It integrates an understanding of consumer taste and lifestyle trends, which are then translated into fashion design and production processes. The subject includes the following elements: (1) Fashion Illustration, (2) Technical Drawing, (3) Style and Design Development, (4) Textile Experimentation and Decorative Design, (5) Garment Preparation, (6) Garment Construction, and (7) Fashion Collection Development. (Keputusan Kepala Badan Standar, Kurikulum, Dan Asesmen Pendidikan Kementerian Pendidikan, Kebudayaan, Riset Dan Teknologi Nomor 033/ H/ 2022, 2022). Achieving mastery of these competencies demands an adaptive instructional approach that accommodates students'

initial skill levels and diverse learning characteristics (Brookhart, 2013; Gravells, 2011).

Assessment practices in vocational high schools are typically standardized, with teachers frequently employing identical instruments and rubrics for all students. This approach often overlooks variations in students' academic backgrounds, learning preferences, and individual interests (Tomlinson, 2017). Such practices create a mismatch between students' learning needs and the evaluation methods applied. This misalignment has the potential to hinder learning outcomes, particularly for students who require more flexible and personalized instructional approaches (Andrade & Heritage, 2018; Fautley & Savage, 2008).

Research of (Looney, 2011) indicates that assessments which fail to incorporate differentiation pose a major barrier to student engagement in vocational education. In contrast, differentiated assessment has the potential to enhance the participation of students with special needs. (Marlina et al., 2023). (Compen et al., 2025) emphasize that this approach can help narrow the achievement gap among students. In a broader context, equitable assessment practices are also essential for fostering an inclusive learning environment (Goldstein et al., 2011; Torrance & Pryor, 1998).

The *Merdeka Curriculum*, as a national education policy, promotes a transformation of learning toward a more flexible and student-centered paradigm. One of its core components is the implementation of assessment practices that are adaptive to students' learning profiles (Keputusan Kepala Badan Standar, Kurikulum, Dan Asesmen Pendidikan Kementerian Pendidikan, Kebudayaan, Riset Dan Teknologi Nomor 033/ H/ 2022, 2022). Differentiated assessment is considered aligned with the spirit of the *Merdeka Curriculum*, as it enables teachers to tailor the form, content, and complexity of evaluations to meet students' individual needs (Gravells, 2011; Tomlinson, 2017). However, (Sudrajat & Prasetyo, 2021) found that most vocational high school teachers still lack adequate understanding and skills in designing and implementing contextualized differentiated assessments. This finding is supported by (Andrade & Heritage, 2018) who revealed that many teachers struggle to translate formative assessment principles into effective differentiated practices.

In the context of project- and practice-based vocational learning, the need for flexible assessment becomes increasingly critical. Studies on differentiated instruction in project-based settings indicate that project-based differentiated assessment significantly enhances student engagement, particularly in hands-on fields such as handmade crafts (Moon et al., 2020). A similar point is reported by (Fautley & Savage, 2008), who emphasize the importance of adapting assessment to accommodate diverse forms of performance expression in both creative and technical practices.

The gap between policy and practice highlights the need for a comprehensive evaluation of the implementation of differentiated assessment, particularly in vocational practice-based subjects. If left unaddressed, this gap may lead to increased risks of assessment inequity, decreased student motivation, and stagnation in the development of vocational skills (Andrade et al., 2019; Goldstein et al., 2011; Heritage, 2013; Torrance & Pryor, 1998).

This study was conducted to evaluate the implementation of differentiated assessment in the garment preparation phase of the Fashion Design and Production subject in vocational high schools. The focus of the investigation includes teachers' assessment strategies, implementation challenges, and the impact of differentiated assessment approaches on learning outcomes among students with diverse backgrounds and abilities.

The study also aims to contribute to the global discourse on equity in vocational education assessment—an area that remains underexplored in the Indonesian context. As such, the contribution of this research is not only locally significant but also relevant to the broader development of international literature on differentiated assessment in technical and vocational education and training (TVET).

Therefore, this study seeks to evaluate how differentiated assessment is applied during the garment preparation phase in vocational fashion education and to identify the challenges faced by teachers, as well as the impact on student achievement.

The research questions addressed in this study are as follows:

1. To what extent do fashion design teachers implement differentiated assessment in the teaching of garment preparation?
2. What are the main challenges they face in its implementation?
3. How does differentiated assessment impact students with varying levels of readiness and learning preferences?

By answering these questions, this study is expected to offer practical contributions toward enhancing the quality and equity of assessment practices in vocational education in Indonesia.

METHOD

This study employs a mixed-methods approach with an evaluative design based on the CIPP (Context,

Input, Process, Product) model developed by Stufflebeam (2003). This model was selected for its capacity to provide a comprehensive overview of the implementation of differentiated assessment, covering aspects such as the learning environment, available resources, implementation processes, and resulting outcomes. The use of this approach is considered appropriate for evaluating the application of differentiated assessment in the garment preparation element of vocational fashion education, which is inherently complex and context-dependent.

Research Subjects and Location

The subjects of this study include teachers of the Fashion Design and Production subject, specifically those teaching the garment preparation element at public and private vocational high schools (SMKs) in Semarang, Indonesia. Participants were selected through purposive sampling based on the following criteria: (1) currently teaching the relevant subject, (2) having a minimum of three years of teaching experience, and (3) having implemented the Merdeka Curriculum in their instruction. The total number of participants includes 10 teachers, 2 heads of vocational programs, 3 school principals, and 160 students enrolled in the subject.

Data Collection Techniques

Data were collected using four main techniques corresponding to the dimensions of the CIPP model:

a. Context: In-depth interviews with school principals and heads of vocational programs were conducted to explore policies and environmental factors supporting the implementation of differentiated assessment.
b. Input: Document analysis of lesson plans, assessment rubrics, and instructional modules was carried out, along with teacher questionnaires addressing resource readiness, training experiences, and understanding of differentiated assessment concepts.
c. Process: Classroom observations were conducted using an observation sheet based on key indicators of differentiated assessment implementation (e.g., task variation, time flexibility, media adaptation).
d. Product: Student learning outcomes were evaluated, and students' perceptions of fairness and engagement in the assessment process were gathered through questionnaires and focus group discussions (FGDs).

Prior to data collection, all research instruments were validated to ensure their effectiveness. Instrument validity refers to the extent to which evidence and theoretical rationale support the interpretation of test scores for their intended purposes. Reliability was also examined to estimate the consistency and stability of the assessment outcomes (AERA et al., 2014). The validity of the questionnaire instrument in this study was established through content validity, using Aiken's V formula..

An item is considered valid if it meets the minimum threshold of Aiken's V coefficient. In this study, content validity was assessed using judgments from nine expert raters on a 5-point rating scale. According to Aiken's V critical value table, the minimum required coefficient for each item is 0.72 at a probability level of 0.38. Items meeting or exceeding this threshold are deemed to have acceptable content validity (Aiken, 2016). Based on the results of the Aiken's V calculation, the questionnaire items used in this study were deemed appropriate and valid, as all items obtained Aiken's V values greater than 0.72.

The reliability of the instrument was estimated using Cronbach's alpha formula. The instrument measuring students' preferences in selecting social media as a learning medium in the Career Preparation course employed Cronbach's alpha, as it consisted of polytomous scale items (1–5 Likert scale) (Retnawati et al., 2016). The reliability of the instrument in this study was estimated using SPSS version 22. An instrument is considered reliable if it obtains a $\alpha > 0{,}70$ (Bonett & Wright, 2014). The results of the reliability analysis using Cronbach's alpha, as shown in Table 2, indicate an alpha value of 0.855, which exceeds the threshold of 0.70. Therefore, it can be concluded that the instrument is reliable.

Data Analysis Technique

The qualitative data were analyzed using Miles and Huberman's approach, which involves data reduction, data display, and conclusion drawing (Matthew B. Miles, 2014), Meanwhile, the quantitative data were analyzed using descriptive statistics, including mean, percentage, and standard deviation. The results from each dimension of the CIPP model were then synthesized to provide a comprehensive overview of the level of implementation, effectiveness, and challenges associated with differentiated assessment in vocational fashion classrooms at SMKs.

This study evaluates the implementation of differentiated assessment in the garment preparation element using the CIPP model, which encompasses four aspects: context, input, process, and product. Data were collected through observations, interviews, questionnaires, document analysis, and focus group discussions (FGDs).

RESULT AND DISCUSSION

This study aims to evaluate the implementation of differentiated assessment in the garment preparation element of the Fashion Design and Production subject in vocational high schools (SMKs). The evaluation was conducted using the CIPP model (Context, Input, Process, Product). Data were collected through observations, document analysis, questionnaires, interviews, and focus group discussions (FGDs). The results and discussion are presented according to each component of the CIPP model.

Context Evaluation

Most schools have implemented the Merdeka Curriculum; however, they do not yet have specific policies or technical guidelines explicitly regulating the implementation of differentiated assessment. Interviews with vocational program heads revealed that teachers are granted flexibility in conducting assessments, but they lack adequate training and supervision. This condition supports the findings of Lindner and Schwab (2020), who argue that the success of differentiation does not rely solely on teacher initiative but also requires structural support from educational institutions.

Input Evaluation

Out of the ten lesson plans (*RPPs*) analyzed, only two explicitly incorporated strategies for differentiated assessment. The assessment rubrics used by most teachers were uniform and did not take into account differences in student readiness, interests, or learning styles. Questionnaire results revealed the following:

- 80% of teachers had never attended training on differentiated assessment,
- 70% of teachers were unfamiliar with the term *"learning profile"* in the context of assessment,
- 90% of teachers cited limited time as the primary constraint in implementing differentiated assessment.

These findings are consistent with studies by Prast et al. (2018) and Deunk et al. (2018), which indicate that limited understanding and lack of training lead teachers to apply differentiation primarily in terms of task difficulty, rather than in assessment format or approach.

Process Evaluation

Observation results indicate that some teachers have implemented differentiation based on task difficulty. For example, high-achieving students were assigned complex pattern-making tasks, while beginners worked on basic pattern construction. However, only one teacher offered students a choice of assignment formats (e.g., digital portfolios, manual sketches, or oral presentations).

The focus group discussions (FGDs) further underscored the importance of differentiated approaches. A total of 83% of students reported feeling more confident when given the freedom to choose how to demonstrate their learning. Additionally, 79% stated that varied assessment formats were more relevant to their individual abilities. These findings align with Sun et al. (2022), who found that differentiated assessment enhances student motivation and participation in vocational education settings.

Product Evaluation

A comparison between two classes—one implementing differentiated assessment and the other using uniform assessment—showed significant results. The average score in the differentiated class was 83.4 (SD = 5.6), while the non-differentiated class averaged 75.1 (SD = 7.4). Furthermore, among 60 students who completed the questionnaire:

- 85% perceived the assessment as fairer,
- 91% reported that personalized feedback helped improve their performance,
- 78% felt they better understood learning targets through flexible rubrics.

These findings support the view of Black and Wiliam (2018), who argue that assessment adapted to students' needs enhances both engagement and learning outcomes.

Discussion

The findings indicate that differentiated assessment has not yet been systematically implemented in vocational high schools, particularly in practical subjects such as garment preparation. However, even limited implementation by some teachers has shown positive effects on student motivation, participation, and learning achievement.

Assessment practices that take into account students' readiness, learning styles, and interests play a

critical role in fostering self-confidence and a sense of ownership of learning. This aligns with Gebhardt et al. (2022), who assert that flexibility in assessment is essential in vocational education, as it allows students to demonstrate their strengths through diverse modes of expression.

These findings also reflect the ongoing need to strengthen the implementation of the Merdeka Curriculum, especially in the area of assessment. Without adequate teacher training, the development of contextualized assessment tools, and supportive school policies, the gap between policy and classroom practice is likely to persist (Valiandes & Neophytou, 2018; OECD, 2020).

Thus, differentiated assessment should not be viewed merely as a technical strategy, but rather as part of a pedagogical transformation that promotes equity and inclusivity, particularly in classrooms characterized by diverse student abilities and backgrounds.

CONCLUSION

This study concludes that the implementation of differentiated assessment in the garment preparation element of vocational fashion education in SMKs remains suboptimal and fragmented. While some teachers have attempted to adjust task difficulty based on student ability, such efforts are still largely limited to content differentiation. Other crucial aspects—such as student interests, learning styles, and formats of expression—have not been widely addressed. The lack of training, time constraints, and the absence of contextualized assessment tools are identified as the primary barriers to achieving fair and adaptive assessment practices.

Nevertheless, even limited implementation of differentiated assessment has shown positive impacts on student engagement, motivation, and learning outcomes. These findings affirm that assessment aligned with students' readiness and individual characteristics not only enables more meaningful learning, but also enhances self-confidence and a sense of ownership over the learning process.

This study offers both practical and theoretical contributions to strengthening assessment practices in vocational education, particularly within the framework of the Merdeka Curriculum. The findings underscore the need for systematic teacher training, the development of project-based adaptive assessment tools, and school-level policies that foster a culture of inclusive and differentiated evaluation. In this way, assessment is redefined not merely as a tool for measuring outcomes, but as a pedagogical strategy that ensures equity and student-centered learning in vocational classrooms.

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