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An English Teachers' Perception towards Their Proficiency in Executing Differentiated Instruction

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Abstract: The Merdeka Curriculum emphasizes differentiated learning as a key component to cater to diverse student needs. However, teachers often face challenges in its implementation. Previous literature indicates that not all schools using the Merdeka Curriculum fully adopt differentiated learning due to obstacles such as inadequate facilities and insufficient teacher training. This study explores the perceptions of secondary-level English teachers in Bandung regarding their ability to implement differentiated learning. Findings reveal that teachers generally perceive their ability as good, based on criteria such as lesson planning, classroom management, and instructional strategies. Despite this, they encounter significant difficulties in designing assessments and evaluations that align with differentiated learning principles. Teachers feel most confident in understanding students' characteristics and learning needs. Addressing these challenges could enhance the effectiveness of differentiated learning, thereby improving educational outcomes within the framework of the Merdeka Curriculum.

INTRODUCTION

Current curriculum developments present a variety of new atmospheres, particularly with new paradigms aimed at developing the Pancasila student profile. This profile reflects the vision of education in six dimensions: faith to God and noble character, independence, critical reasoning, creativity, mutual cooperation, and global diversity (Satria et al., 2022). According to the Learning Instructional and the Agency for Curriculum Standards and Educational Assessment, Ministry of Education, Culture, Research and Technology , the Merdeka Curriculum introduces several fundamental changes compared to the 2013 Curriculum. These changes include designing learning to account for student conditions (stage of development, relevance, and needs), making learning more meaningful, emphasizing the formation of lifelong learners, and adopting a holistic, comprehensive, and diverse learning approach. The Educational Unit Level Curriculum Development Guidebook further outlines the characteristics of integrated and multidisciplinary learning, presenting new challenges for teachers (Badan Standar Kurikulum dan Asesmen Pendidikan Kementerian Pendidikan Kebudayaan Riset dan Teknologi, 2022)

One notable aspect of the Merdeka Curriculum is its emphasis on differentiated learning, which facilitates character diversity through content differentiation, process differentiation, and product differentiation (Anggraena, 2021). However, implementing differentiated learning to accommodate the diverse characteristics of students is challenging. The results of the Merdeka Curriculum implementation indicate that differentiated learning is not yet optimal. Teaching modules often do not clearly incorporate the stages of differentiated learning (Balkist et al., 2022). Peer review results also show incomplete implementation of differentiated learning, despite teachers understanding how to recognize student characteristics and provide scaffolding, such as personal guidance and peer tutoring (Bikmaz et al., 2010)

Research by (Balkist et al., 2022) and (Rahayu et al., 2022) highlights that schools implementing the Merdeka Curriculum face obstacles such as a lack of references to differentiated learning models, limited understanding of subject matter in relation to other relevant knowledge, and difficulties in identifying the learning process. According to (Vithal, 2003), teachers' perceptions of their abilities and those of their students greatly influence learning outcomes. (Suliani, 2020) emphasizes that teachers must have the courage to intervene in policies to improve classroom learning. While considerable research exists on teachers' perceptions of the 2013 Curriculum implementation, indicating generally positive perceptions but significant external obstacles such as inadequate facilities (Barlian et al., 2022), it is crucial to investigate teachers' self-assessed capabilities in implementing differentiated learning under the Merdeka Curriculum.

This study aims to examine two specific objectives: 1) to assess teachers' perception scores regarding their abilities to implement differentiated learning, and 2) to identify elements with extreme scores (both highest and lowest). Integrating these objectives within a broader theoretical framework and understanding the identified challenges and research gaps will enhance the study's relevance and impact.

METHOD

The research method used is descriptive with a quantitative approach. The quantitative descriptive research method aims to create an objective picture or description of a situation using numbers, starting from data collection, interpretation of the data, and presentation of the results (Arikunto, 2013).

Data collection uses a semantic differential scale questionnaire, where teachers provide an assessment of their understanding of pedagogical aspects. This assessment refers to the Teacher Pedagogical Competency Indicators in Minister of Permendiknas No 16 of 2007 and BSNP version 6.0 11/2008 (Badan Standar Nasional Pendidikan, 2008) concerning the teacher competency qualification indicator framework. To aggregate and interpret the scores from the semantic differential scale questionnaire and derive overall teacher performance scores, we will follow a structured approach. First, we will collect responses, each rated on a scale from 1 to 9. For each teacher, we will calculate the average score for each item by summing the ratings and dividing by the number of respondents. The overall average score for each teacher will then be determined by averaging the scores across all items on the questionnaire. To interpret these scores, we will define thresholds for performance categories based on the criteria. The criteria used refer to Permendiknas Number 74 of 2011

concerning Teacher Performance Assessment (Penilaian Kinerja Guru, 2011) as stated in Table 1 as follows:

Table 1. Teacher Performance Score Criteria

Score (x)	Category
$0\% \leq x \leq 55\%$	Insufficient
$55\% < x \leq 70\%$	Sufficient
$70\% < x \leq 85\%$	Good
$85\% < x \leq 100\%$	Very Good

To illustrate, suppose a teacher receives ratings on a 9-point scale for three items: 6, 5, 4 for Item 1; 7, 6, 5 for Item 2; and 5, 4, 4 for Item 3. The average scores for each item would be 5, 6, and 4.33, respectively, leading to an overall average score of 5.11 on a 9-point scale so the score can be converted to 56.78%. Based on our defined thresholds, a score of 56.78% would place this teacher in the "Sufficient" category. This detailed plan ensures that the aggregation and interpretation of the semantic differential scale scores are transparent, methodical, and robust, providing a comprehensive evaluation of teacher performance.

The collected data is then processed and analyzed for scores by interpreting them in the teacher performance scores mentioned above. Furthermore, each indicator will be broken down based on each score per question item and interpreted in terms of teacher performance scores. Additionally, we will determine whether there are differences in the scores for each indicator using one-way ANOVA or the Kruskall-Wallis test. One-way ANOVA (Analysis of Variance) is appropriate when the data meet certain assumptions. These include normality, which means the data should be approximately normally distributed, and homogeneity of variances, meaning the variances across the groups being compared should be similar. However, if the data do not meet the assumptions required for ANOVA, particularly the assumption of normality, the Kruskal-Wallis test serves as a viable alternative. The choice between these tests ultimately depends on the nature of the data collected from the semantic differential scale questionnaires. Prior to selecting the appropriate test, exploratory data analysis will be conducted, including tests for normality (such as the Shapiro-Wilk test) and homogeneity of variances (such as Levene's test). If the data are approximately normally distributed and the variances are homogeneous, one-way ANOVA will be used to compare the mean scores. Conversely, if the data deviate significantly from normality or exhibit unequal variances, the Kruskal-Wallis test will be employed.

The population of this research are English teachers at the middle school level in Bandung City. Samples were taken using the random sampling method, which involves selecting samples from members of a population randomly without considering the strata within the population (Sugiyono, 2018). In this study, the sample size was twenty-nine.

RESULT AND DISCUSSION

This study acknowledges several limitations. Firstly, the sample size of 29 English teachers in Bandung may limit the generalizability of findings to a broader population.

Additionally, response biases could have influenced results, as perceptions of competency may vary based on individual experiences and interpretations of the questionnaire items. Future research could address these limitations by expanding the sample size across diverse geographical regions or employing mixed-methods approaches to mitigate bias and enhance robustness. This exploration of teacher perceptions uses the Teacher Pedagogical Competency Indicators listed in Permendiknas No 16 of 2007 (Standar Kualifikasi Akademik Dan Kompetensi Guru, 2007), which consists of seven sub-categories: (1) mastering the characteristics of students; (2) mastering learning theory and educational learning principles; (3) curriculum development; (4) educational learning activities; (5) development of student potential; (6) communication with students; and (7) assessment and evaluation. According to Lunenburg's theory (Lunenburg, 2011), there are three main components in the curriculum: goals (objectives), content, and learning experiences. Additionally, (Anggraena, 2021) states that differentiated learning is designed to facilitate the diversity of students' characters through content differentiation, process differentiation, and product differentiation.

The questionnaire used is a closed-ended questionnaire with alternative answers in the form of predetermined intervals, with the most negative answer being 0 and the most positive answer being 9. It contains 21 questions, with a maximum possible score of 189. The research data collected from 29 subjects, which are English teachers in Bandung. The data was then processed using the SPSS application, as shown in Table 2.

Table 2. Overall Data Processing Table

			Statistic	Std. Error
Skor Total	Mean		134.5517	5.84268
	95% Confidence Interval for Mean	Lower Bound	122.5835	
		Upper Bound	146.5199	
	5% Trimmed Mean		137.1705	
	Median		143.0000	
	Variance		989.970	
	Std. Deviation		31.46380	
	Minimum		29.00	
	Maximum		179.00	
	Range		150.00	
	Interquartile Range		46.00	
	Skewness		-1.432	.434
	Kurtosis		3.192	.845

It can be observed from the collected data that the maximum score is 179 and the minimum score is 29, with an average score of 139.4, which is approximately 73.75% in the "good" category. Next, we will examine the average score for each indicator. The study utilized the Kruskal-Wallis test to analyze differences in teacher scores across the seven pedagogical competency indicators due to the non-normal distribution of the data, as confirmed by Kolmogorov-Smirnov and Shapiro-Wilk tests. Assumptions for the Kruskal-Wallis test include independence of observations and ordinal (ranked) data, both of which were met in this analysis. The significance level (α=0.05) was used to determine statistical significance. Post-hoc testing with the Dunn-Bonferroni method was employed to identify

specific differences between indicator groups, providing further insights into areas of strength and potential improvement among teachers.

Table 3. Data Processing Table Based on Indicators

	Minimum	Maximum	Mean	Percent (%)	Category
Indicator 1	0	9	6,887	76,52	*Good*
Indicator 2	1	9	6,193	68,81	*Sufficient*
Indicator 3	0	9	6,427	71,41	*Good*
Indicator 4	1	9	6,534	72,6	*Good*
Indicator 5	1	8	6,431	71,45	*Good*
Indicator 6	1	9	6,586	73,18	*Good*
Indicator 7	1	9	6,524	72,49	*Good*

The average score for each indicator and its respective category can be seen from the table above. Indicators 1, 3, 4, 5, 6, and 7 fall into the "good" category, while indicator 2 falls into the "fair" category. Indicator 2 refers to the teacher's ability to master learning theory and theoretical principles in differentiated learning. Next, we will investigate whether there are differences between the scores for each indicator. Therefore, a data normality test was conducted to determine the appropriate data processing method. The results of the data normality test are presented in the following table:

Table 4. Data Normality Test Results

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Indicator	Statistic	df	Sig.	Statistic	df	Sig.
Data	Indicator 1	.231	89	.000	.837	89	.000
	Indicator 2	.226	57	.000	.873	57	.000
	Indicator 3	.256	173	.000	.836	173	.000
	Indicator 4	.285	58	.000	.833	58	.000
	Indicator 5	.278	58	.000	.838	58	.000
	Indicator 6	.183	29	.014	.872	29	.002
	Indicator 7	.228	145	.000	.872	145	.000

It can be seen from the table above that the significance value for all data groups is less than α=0.05, indicating that all data groups are not normally distributed. Due to the non-normal distribution of the data, data processing was conducted using the Kruskal-Wallis test.

Table 5. Kruskal-Wallis Test Results

Kruskal-Wallis H	16.702
df	6
Asymp. Sig.	.010

The calculation results indicate that the value of Aysmp. Sig. is 0.010. Since α=0.05 > 0.01, it can be concluded that there is a significant difference in teacher ability scores for each indicator of Pedagogical Competency. To further investigate which groups are significantly different, a post-hoc test will be conducted using the Dunn-Bonferroni Test method. The results reveal that the significant difference lies between indicator group 7 compared to indicator group 1. This suggests that teachers feel more confident in understanding the characteristics of students in differentiated learning compared to their confidence in preparing assessments and evaluations in differentiated learning.

Mastering Learner Characteristics

This indicator is divided into three assessment items. The first item explains the integration of student character data in learning. The second item discusses the teacher's ability to prepare and conduct initial diagnostics to determine the student's character. The third item discusses the teacher's understanding of the purpose of the initial diagnostic in educating participants.

Table 6. 1st Indicator Data Processing

	Question		Statistic	Std. Error	Percent (%)	Category
Data	Question 1	Mean	6.5517	.34593	72,8	*Good*
	Question 2	Mean	6.6207	.41349	73,6	*Good*
	Question 3	Mean	7.4828	.28777	83,1	*Good*

From the survey results, it is indicated that all three assessment items fall under the "good" category, which means in terms of understanding data about students' characteristics. Furthermore, the teacher's readiness in conducting and preparing instruments for students' initial diagnostics is already at a "good" level.

Mastery of Learning Theory and Principles of Educative Learning

This indicator is divided into 2 assessment items. The first item explains the teacher's understanding of the learning theory being used, which is the understanding of differentiated learning theoretically. The second item discusses the teacher's ability to develop continuous learning throughout one academic year.

Table 7. 2nd Indicator Data Processing

	Question		Statistic	Std. Error	Percent (%)	Category
Data	Question 1	Mean	6.6786	.27724	74.2	Sufficient
	Question 2	Mean	5.7000	.38700	63.3	Good

From the survey results, it is shown that the first assessment item falls into the "sufficient" category, while the second assessment item falls into the "good" category. This indicates that the teacher's understanding of differentiated learning theory falls into the "sufficient" category, while the teacher's ability to construct integrated learning falls into the "good" category.

Curriculum Development

This indicator is divided into 5 assessment items. The first item explains the teacher's ability to develop a syllabus according to the syntax of differentiated learning. The second item discusses the teacher's ability to identify teaching materials according to the learning environment and students' needs. The third and fifth items address the teacher's ability to identify and develop teaching materials that are good according to the principles of differentiated learning. The fourth item discusses the teacher's ability to develop teaching modules.

Table 8. 3rd Indicator Data Processing

Question	Statistic	Std. Error	Percent (%)	Category

Data	Question 1	Mean	5.6552	.50191	62.83	Sufficient
	Question 2	Mean	6.4828	.35310	72.03	Good
	Question 3	Mean	6.7931	.35918	75.48	Good
	Question 4	Mean	6.2414	.40519	69.35	Sufficient
	Question 5	Mean	6.7586	.30047	75.09	Good

From the survey results, it is shown that assessment items 2, 3, and 5 fall into the "good" category, while assessment items 1 and 4 fall into the "sufficient" category. This means that in terms of developing syllabi and teaching materials, teachers' perception of their abilities is in the "sufficient" category. However, on the other hand, in identifying learning objectives according to learning needs and the principles of differentiated learning, teachers' perception of their abilities is in the "good" category.

Educative Learning Activities

This indicator is divided into 2 assessment items. The first item explains the teacher's ability to conduct learning according to the principles of differentiated learning, while the second item discusses the teacher's understanding of conducting differentiated learning.

Table 9. 4th Indicator Data Processing

	Question		Statistic	Std. Error	Percent (%)	Category
Data	Question 1	Mean	6.4828	.28345	72	Good
	Question 2	Mean	6.5862	.32361	72,2	Good

From the survey results, both assessment items fall into the "good" category. This means that in terms of understanding and the ability to conduct learning according to differentiated learning, teachers' perception falls into the "good" category.

Student Potential Development

This indicator is divided into 2 assessment items. The first item explains the teacher's understanding of students' potential, while the second item discusses the teacher's understanding of optimizing students' potential.

Table 10. 5th Indicator Data Processing

	Question		Statistic	Std. Error	Percent (%)	Category
Data	Question 1	Mean	6.3448	.25440	70.5	Good
	Question 2	Mean	6.5172	.27011	72.4	Good

From the survey results, both assessment items fall into the "good" category. This indicates that in terms of understanding and optimizing students' potential, teachers' perception falls into the "good" category.

Communication with Students

This indicator is structured into one assessment item, addressing the teacher's understanding of how to communicate with students within the framework of differentiated learning.

Table 11. 6th Indicator Data Processing

	Question		Statistic	Std. Error	Percent (%)	Category
Data	Question 1	Mean	6.5862	.31198	73.2	Good

From the survey results, it is indicated that in terms of the teacher's understanding of communication with students, it falls into the "good" category.

Assessment and Evaluation

This indicator is divided into 5 assessment items. These items address the teacher's ability to develop assessments, understand the results, identify characteristics, and provide descriptions of learning assessments in accordance with the principles of differentiated learning. The fifth item discusses the teacher's understanding of the competencies that need to be considered to support differentiated learning.

Table 12. 7th Indicator Data Processing

	Question		Statistic	Std. Error	Percent (%)	Category
Data	Question 1	Mean	5.8621	.40842	65.1	Sufficient
	Question 2	Mean	6.1379	.37047	68.2	Sufficient
	Question 3	Mean	6.1724	.35812	68.6	Sufficient
	Question 4	Mean	6.3103	.31034	70.1	Good
	Question 5	Mean	6.1379	.33924	68.2	Sufficient

From the survey results, it is shown that assessment items 1, 2, 3, and 4 fall into the "sufficient" category. This indicates that in terms of developing assessments, understanding results, identifying characteristics, and describing learning assessments in accordance with the principles of differentiated learning, teachers' perception is that they are in the "sufficient" category. However, for assessment item 5, it falls into the "good" category. This means that in understanding the competencies that need to be considered in students, teachers feel they are in the "good" category.

The findings have several practical implications for educational policymakers, school administrators, and teacher professional development programs. Policymakers can use these insights to tailor policies that support ongoing professional development in differentiated instruction, focusing on areas where teachers perceive strengths or challenges. School administrators can design targeted training programs that address specific competencies identified in the study, fostering continuous improvement among educators. Moreover, integrating differentiated learning principles into teacher certification and evaluation frameworks can promote sustained growth in pedagogical competencies. These actionable recommendations aim to enhance teacher effectiveness and ultimately improve student learning outcomes in diverse educational settings.

CONCLUSION

The perception of English teachers at the middle school level in Bandung City regarding their ability to implement differentiated learning is generally categorized as good. The data, collected from 29 English teachers in Bandung and processed using SPSS, revealed an overall average competency score of 139.4, indicating a "good" perception among teachers regarding their pedagogical competencies in differentiated learning. Analysis of individual indicators showed that six out of seven categories were perceived positively as "good," with only one category falling into the "sufficient" range. Specifically, teachers expressed higher confidence in understanding student characteristics, educational learning activities, curriculum development, student potential development, communication with students, and assessment and evaluation practices related to differentiated learning. The study also identified significant differences in teacher perceptions across these competency indicators, with the Dunn-Bonferroni post-hoc test highlighting varying levels of confidence among teachers in different aspects of differentiated learning. These findings underscore the importance of ongoing professional development and targeted support to enhance pedagogical competencies, particularly in areas where perceptions may indicate room for improvement.

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