

Examining differentiated instruction practices among secondary school Malay language teachers in Malaysia

Elmustian¹, Zamri Mahamod², Edmund Austrus², Norhidayah Azni Mohamed Zohomi²

¹Indonesia Language and Literature Education Program, Faculty of Teacher Training and Education, Universitas Riau, Riau, Indonesia

²Centre of the Learner Diversity and Education, Faculty of Education, The National University of Malaysia, Bangi, Malaysia

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ABSTRACT

This research focuses on the teaching practices of secondary school Malay language teachers in the Klang District, specifically on implementing differentiated instruction (DI) approaches introduced by the Malaysian Ministry of Education in 2019. This study employed a quantitative research design using a descriptive survey approach. Preliminary findings show that many students lack interest in classroom learning (PdP) due to traditional teaching methods, contributing to difficulties in mastering the syllabus and poor performance in public examinations such as the *Sijil Pelajaran Malaysia* (SPM). A questionnaire-based survey of 146 teachers was conducted, with descriptive analysis revealing that the overall implementation of DI is moderate (mean=3.15, SD=0.427). Among the 10 assessed items, 'implementing DI according to environmental conditions' achieved the highest mean (3.29), while 'implementing (daily lesson plans RPH) based on DI' scored the lowest (2.95). The analysis showed no significant gender-based differences in implementation practices, and teaching experience was weakly negatively correlated with implementation effectiveness. These findings suggest the need for targeted professional development programs to enhance teachers' readiness and competency in applying DI. The study underscores the importance of equipping teachers with the necessary skills to create inclusive and effective learning environments, which can improve student engagement and academic outcomes.

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Corresponding Author:

Elmustian

Indonesia Language and Literature Education Program, Faculty of Teacher Training and Education

Universitas Riau

Riau, Indonesia

Email: elmustian@lecturer.unri.ac.id

1. INTRODUCTION

The educational landscape worldwide has undergone significant transformations over the past two decades, particularly with the increasing diversity in student populations. Increasing enrolment of students from non-Malay language backgrounds, students with disabilities, culturally diverse students, and academically gifted students has necessitated a re-evaluation of teaching practices. The once homogeneous classrooms have evolved into diverse learning environments, yet many educators remain hesitant to adapt their methods to address this shift effectively. Differentiated instruction (DI) has emerged as a compelling approach to reorganizing traditional classrooms by accommodating diverse abilities, interests, and learning profiles, although its effectiveness still requires robust empirical validation [1], [2].

DI is one of the pedagogical methods implemented in the classroom, involving the customization of course content, processes, such as various teaching strategies, and products or skills, based on the abilities

and diversity of students. This align with several studies [3]–[7] emphasizes that DI requires teachers to modify four essential elements: i) content, which refers to the scope and complexity of the course or skills learned by students; ii) process, which involves adapting teaching strategies and engaging students in varied learning activities; iii) product, which represents the outcomes demonstrated by students according to their abilities and assessed through holistic evaluation; and iv) environment, which refers to the classroom setting, including seating arrangements, visual displays, and the overall atmosphere such as lighting and other facilities that provide a comfortable learning space. These four elements, namely content, process, product, and environment, align closely with the universal design for learning (UDL) framework, which advocates for providing multiple means of representation, engagement, and expression to cater to diverse learners. Furthermore, they resonate with Gardner’s multiple intelligences theory (MIT), which emphasizes leveraging students varied intellectual strengths in instructional design. Integrating DI with these frameworks not only enhances pedagogical inclusivity but also reinforces the alignment of classroom practices with evidence-based educational models.

Therefore, this study aims to examine the practices of Malay language teachers in implementing the DI approach introduced by the Ministry of Education Malaysia in 2019. The study seeks to identify teaching practices that can be applied based on established theoretical frameworks to support the systematic adoption of DI in classrooms. It also aims to explore factors influencing teachers’ practices that could drive pedagogical transformation and actively engage students in the learning process. Finally, the study proposes a DI model that responds to the diverse needs of students and promotes equitable learning opportunities.

The implementation of DI also presents various issues and challenges, especially in the classroom’s teaching and learning process. Academic success cannot be achieved if teachers continue to rely on outdated, traditional methods, especially when current curricula emphasize higher-order thinking skills (HOTS) [8]–[10]. This is stated because the current curriculum’s emphasis on high-level skills requires students to move beyond outdated or traditional methods. Students not only need knowledge and understanding but also need to analysis and assess using HOTS. Therefore, when teachers fail to implement DI approaches in the classroom and choose to use traditional methods due to difficulties in implementing a differentiated pedagogical framework [11]–[13]. DI framework is crucial in identifying the conditions of students in the classroom, especially during teaching and learning sessions, to ensure that each student has equal opportunities, and teachers do not feel burdened by the diverse situations of students in the class.

The implementation of DI practices is still limited due to the lack of optimal exposure for teachers, especially in areas where it is challenging to obtain up-to-date information from the education community, such as in rural areas [14]–[16]. Teachers are also not equipped with suitable curriculum and training to guide them in employing differentiated teaching methods and skills. As a result, when teachers lack broad pedagogical knowledge, they are less prepared to implement teaching that encompasses the diversity of abilities and skills of students in the learning environment. Teachers’ perceptions of the DI are also observed to be heterogeneous in the teaching and learning process, which can influence the outcomes of implementing these skills. The study conducted by the researcher has the objective of examining the practices of Malay language teachers regarding the DI approach based on their experience in teaching the Malay language. This study is crucial for schools as it can formulate new strategies to enhance the efforts of all parties in continually improving their practices. Additionally, teachers will consistently receive the latest input and practices, positively impact students and ensure that the national education system is always moving towards the best direction.

In addition to prioritizing students, this study provides teachers with opportunities to diversify teaching methods and materials to actively engage learners in the classroom. The use of differentiated pedagogy is essential for effectively addressing learner diversity. This study addresses a critical gap in empirical evidence on DI within secondary Malay language classrooms in Malaysia. While DI has been extensively examined in other subject domains, its application in Malay language pedagogy remains underexplored. By focusing on Klang, a district characterized by high student diversity and varied pedagogical challenges, this research offers novel and localized insights that bridge theoretical principles with context-specific realities. The study contributes practical recommendations for improving teacher readiness and professional development and provides a foundation for developing a DI model tailored to diverse student populations, thereby ensuring equitable learning opportunities and fostering better academic outcomes.

2. RESEARCH METHOD

The methodology employed in this study aims to examine the implementation practices of teaching methods used by Malay language teachers in the DI approach. Furthermore, the study seeks to understand the implementation profiles of differentiated teaching practices among secondary school teachers teaching the

Malay language. This section provides a detailed explanation of the research methodology, including the research design, study location, respondent background, pilot study, research instruments, and data analysis, organized under specific sub-topics.

2.1. Research design

The research design used in this study is based on a quantitative research approach utilizing a descriptive survey to determine the practices of Malay language teachers in secondary schools in the Klang District, Selangor, in implementing DI. The research design serves as a guide to the investigation to seek clear answers to the research questions [17]. This survey method is a study of what is happening today and has become one of the most common ways to make generalizations in a specific population [18], [19]. In other words, with this type of survey study, the researcher has the opportunity to measure the collected quantitative data and then analysis it based on the same characteristics for generalization to a larger population [20], [21].

2.2. Research instrument

The research instrument used in this quantitative study is a questionnaire, which was distributed to 146 Malay language teachers. The questionnaire comprises four demographic sections covering respondents' gender, age, academic qualifications, and teaching experience. Additionally, it includes 10 items related to the implementation of differentiated teaching practices. A Likert scale ranging from 1 to 4 was used to measure the responses, where 1=strongly disagree, 2=disagree, 3=agree, and 4=strongly agree. To ensure that the data obtained through this questionnaire met the study's requirements, a pilot study was conducted in two schools located in a different district. Five Malay language teachers, who were not involved in the main study, were selected to participate in this pilot study. The primary objective was to establish the validity and reliability of the research instrument and to identify and address any issues or ambiguities in the questionnaire. This process allowed the researcher to refine the questionnaire before deploying it for the actual study. During the pilot study, each questionnaire item was assessed using the Cronbach's alpha reliability coefficient to evaluate the reliability of the instrument.

The reliability of a test is the ability of the obtained data to remain consistent even after repeated testing. In other words, consistent data values indicate that the data is highly reliable and suitable for use in actual research. Conversely, if the data fluctuates and is unstable, it suggests a weak reliability level for items in the instrument and may need to be reviewed or modified. The reliability values will be tested using the SPSS version 28. Based on the pilot test results as stated in Table 1, the overall Cronbach's alpha value is 0.972. This value can be considered excellent with high reliability. Cronbach's alpha values between 0.60 and 0.80 are considered acceptable, while values above 0.80 are deemed excellent [18], [22]. The interest item obtained a value of 0.930, motivation 0.904, and the implementation of differentiated teaching approach practices is 0.960. All these alpha values are acceptable for the item's use in the questionnaire as they exceed 0.90, surpassing the threshold for excellent reliability.

Table 1. Reliability of constructs in questionnaire

Construct/dimension	Related item numbers	Cronbach's alpha
Student interest	1, 2	0.930
Student motivation	3, 4, 5	0.904
Differentiated teaching implementation practices	6, 7, 8, 9, 10	0.960
Overall	1-10	0.972

2.3. Study participants

This study focused on secondary school teachers in the Klang District, Selangor, Malaysia, a location chosen due to its large student population of 59,087, which offers teachers extensive experience in managing diverse students and implementing DI. To ensure reliable and unbiased results, the researcher employed simple random sampling, as outlined by Hossan *et al.* [23], ensuring each teacher had an equal opportunity to participate. From a total of 444 Malay language teachers, a sample of 146 teachers was selected to effectively represent the population [24]. Klang District was chosen for this study because it offers a rich mix of demographic and educational diversity. As one of the most populous districts in Selangor, it is home to students from Malay, Chinese, Indian, and indigenous backgrounds, representing a wide range of socio-economic levels and a high proportion of bilingual or multilingual learners. The district is also actively involved in professional development programs led by the Ministry of Education, yet it continues to face challenges in applying DI consistently, largely due to differences in school resources and teacher preparedness. These unique characteristics make Klang a valuable setting for understanding how differentiated teaching is implemented in an urban Malaysian secondary school context.

2.4. Data analysis

The questionnaire was distributed using a Google Form link created by the researcher through the Telegram and WhatsApp applications within the group of Malay language teachers in the Klang District. Respondents were allowed to answer the questionnaire only once, with email verification implemented to prevent multiple responses from the same individual. The data collected will be organized in Microsoft Excel and analyzed using the SPSS version 28.0. The findings will be analysis descriptively, referring to mean and standard deviation. The minimum score scale used by the researcher is a 4-point minimum score scale based on studies [22], [25], as shown in Table 2. Meanwhile, inferential data analysis will use t-Test methods and correlations to determine relationships between the studied variables, such as gender and teaching experience, based on the constructs chosen by the researcher, namely the implementation of differentiated teaching practices.

Table 2. Minimum score scale

Minimum score scale	Score scale
1.00-2.00	Low
2.01-3.00	Moderately low
3.01-4.00	Moderate
4.01-5.00	High

3. RESULTS

This section presents the research findings in a structured manner aligned with the research questions. The analysis focuses on three key issues that were outlined in the previous section. Each issue is now discussed in greater detail and supported by the data obtained from the study.

3.1. Respondent demographics

Table 3 represents the demographic information of the respondents, which will be interpreted descriptively. This study involved 146 respondents, comprising 71 male teachers (49%) and 75 female teachers (51%), currently serving in secondary schools in the Klang District. In terms of age categories, respondents include 48 individuals (33%) in the 31-40 years category, followed by 47 individuals (32%) in the 41-50 years category, 30 individuals (21%) aged 51-60 years, and 21 individuals (14%) aged 21-30 years. More than half of the respondents (62%) hold a bachelor's degree in education, while only 27 individuals (19%) have a diploma or education degree. Regarding teaching experience, 33 respondents (22%) have less than 6-10 years of service, while 32 individuals (22%) have 21-25 years of experience, 25 individuals (17%) have 26-30 years of experience, 20 individuals (14%) have 11-15 years of experience, and 16-20 years of experience. A total of 16 respondents (11%) stated having teaching experience for only 1-5 years.

Table 3. Distribution of respondent demographics

Category	Criteria	Frequency (N=146)	Percentage (%)
Gender	Male	71	49
	Female	75	51
Age	21-30 years	21	14
	31-40 years	48	33
	41-50 years	47	32
	51-60 years	30	21
Qualifications	Diploma in education	27	19
	Bachelor's degree in education	92	62
	Master's degree in education	27	19
Teaching experience	1-5 years	16	11
	6-10 years	33	22
	11-15 years	20	14
	16-20 years	20	14
	21-25 years	32	22
	26-30 years	25	17

3.2. Implementation of Malay language teachers' practices in differentiated instruction

The 10 questionnaire items were designed to operationalize DI based on Tomlinson's four elements which is content, process, product, and learning environment. Specifically, item 1 assessed the ability to design activities suited to students' profiles; item 2 measured teachers' capacity to communicate the objectives and importance of DI; item 3 examined the extent to which teachers diversify teaching strategies;

item 4 focused on implementing various DI levels in line with SKPMg2; item 5 evaluated the selection of teaching materials to support DI; item 6 assessed the variety of DI strategies applied; item 7 measured the integration of DI elements in daily lesson plans (RPH); item 8 examined adaptation of DI to environmental conditions; item 9 evaluated monitoring of DI implementation; and item 10 assessed reflective practices to improve DI over time.

The findings of this study, as presented in Table 4 and Figure 1, indicate that the overall implementation level of Malay language teachers' practices in differentiated teaching is moderate, with a mean score of 3.15 (SD=0.427). Among the 10 items measured within the construct of DI practices, item 8, "implementing differentiated approaches in classroom learning (PdP) according to the environmental conditions to enhance students' mastery of the Malay language subject," recorded the highest mean score of 3.29, suggesting that teachers are generally skilled in responding to immediate classroom contexts such as adjusting seating arrangements, managing lighting, and creating a supportive learning atmosphere to enhance student's engagement and mastery of the Malay language. This strength indicates that teachers are able to make real-time, situational adjustments that cater to student needs, reflecting adaptability in classroom management.

Table 4. Implementation of Malay language teachers' practices in DI

No	Item	Mean	SD	Level
1	Implementing learning activities that are suitable for students using differentiated approaches in PdP	3.21	0.497	Moderate
2	Explaining the objective and significance of implementing differentiated approaches to students	3.06	0.601	Moderate
3	Diversifying teaching to meet the criteria of differentiated approaches for implementing PdP	3.13	0.474	Moderate
4	Implementing various levels of differentiated approaches in <i>Standard Kualiti Pendidikan Malaysia Gelombang 2</i> (SKPMg2) through PdP	3.16	0.682	Moderate
5	Teaching materials are determined to ensure the success of differentiated approaches in SKPMg2 through the implementation of PdP	3.09	0.609	Moderate
6	Diversifying types of differentiated approaches for students in PdP	3.25	0.519	Moderate
7	Implementing the RPH based on aspects contained in differentiated approaches as preparation for implementing PdP	2.95	0.683	Moderately low
8	Implementing differentiated approaches in PdP according to the environmental conditions to enhance students' mastery of the Malay language subject	3.29	0.538	Moderate
9	Effectively and continuously controlling the implementation process of differentiated approaches in PdP to observe student engagement and development in the Malay language subject	3.18	0.525	Moderate
10	Reflecting on teaching to continually improve the implementation of differentiated approaches in PdP for Malay language over time	3.20	0.606	Moderate
Overall mean		3.15	0.427	Moderate

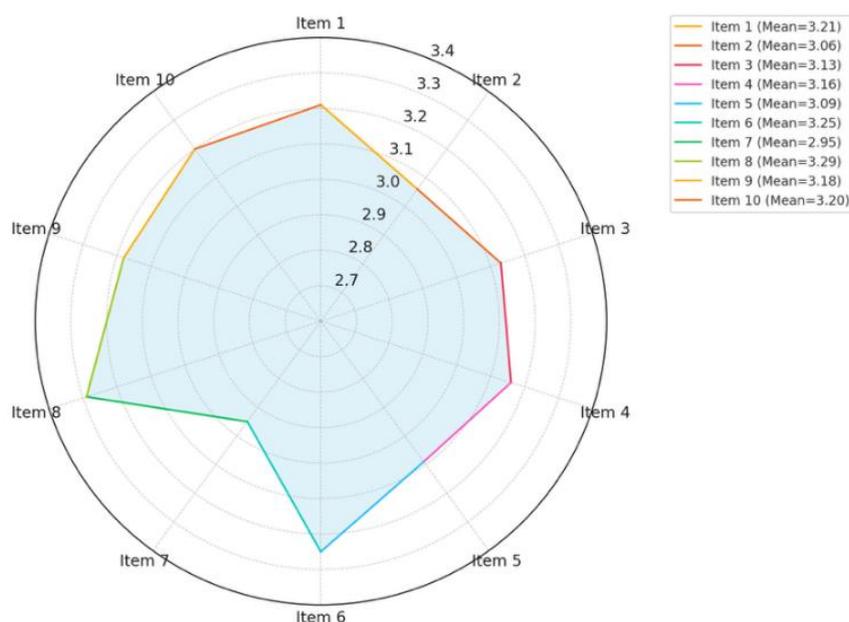


Figure 1. DI implementation score

In contrast, Item 7, “implementing RPH based on aspects contained in differentiated approaches as preparation for PdP implementation,” had the lowest mean score of 2.95 (SD=0.683). While all other items in this construct fall within the moderate level, item 7 is categorized as moderately low. This is particularly striking given the Malaysian Ministry of Education’s emphasis on DI since 2019. The gap suggests that while teachers can adapt spontaneously to classroom conditions, embedding differentiation systematically into structured planning remains a challenge. Contributing factors may include heavy workloads, administrative duties, and co-curricular commitments, which limit the time available for detailed lesson preparation. Furthermore, professional development programs often prioritize theoretical awareness over the provision of practical strategies, ready-to-use exemplars, or adaptable RPH templates. Without sustained monitoring, feedback, and coaching, many teachers revert to conventional planning formats that do not fully reflect DI principles.

These contrasting findings highlight a critical implementation gap: teachers are able to apply DI reactively in classroom contexts but struggle to plan for it proactively. Bridging this gap requires targeted, practice-focused training, supported by leadership that allocates dedicated planning time and provides easy access to high-quality DI lesson resources. Such measures would ensure that the capacity to adapt in real-time is complemented by systematic, policy-aligned lesson planning that benefits all learners.

3.3. Implementation of DI practices among male and female Malay language teachers

Table 5 shows the results of the t-test, indicating that there is no significant difference in the implementation of DI practices among male and female Malay language teachers. The minimum difference in the implementation of differentiated teaching practices between male teachers (mean=3.13) and female teachers (mean=3.16) was observed. The hypothesis is accepted with a significant difference value of 0.672 ($p>0.05$).

Table 5. T-test based on the implementation of instruction practices according to gender

Item	Gender	Mean	SD	t-test	Sig
Practices	Male	3.13	0.410	-0.424	0.672
	Female	3.16	0.445		

3.4. Relationship between Malay language teachers’ teaching experience and implementation of DI practices

This research investigates whether a relationship exists between Malay language teachers’ implementation of DI practices and their teaching experience. Spearman’s Rho correlation analysis was employed to examine the relationship between the independent variable (implementation practices) and the dependent variable (teaching experience). The Spearman’s Rho correlation analysis revealed a weak negative correlation ($r=-0.374$, $p<0.01$) between teachers’ implementation of DI practices and their teaching experience. This indicates that as teaching experience increases, the implementation of differentiated approaches tends to slightly decrease. However, the relationship is not strong, suggesting that teaching experience is not a significant determinant of DI implementation among Malay language teachers.

4. DISCUSSION

The study results indicate that teachers consistently implement varied DI approaches for students in classroom action research (CAR) by designing learning activities that align with environmental conditions to enhance students’ proficiency in the Malay language. This is evident from the high mean score obtained for this item compared to others. These findings are consistent with several previous studies, which emphasize that modifying DI approaches enables teachers to plan instruction that suits students’ abilities, rather than relying on a “one-size-fits-all” method [26]–[29]. Teachers can diversify methods and teaching options through instructional materials in terms of content, process, and product, based on students’ readiness, interests, learning profiles, and learning needs [30], [31]. The practice of DI thus addresses the diverse needs of learners, allowing teachers to adapt their teaching strategies to meet current educational demands.

Furthermore, this study also found that teachers tend to neglect the implementation of various ability levels and lack professional and continuous control over the DI approach. Additionally, teachers appear to engage less in reflective teaching practices to enhance the implementation of DI approaches in CAR for the Malay language over time. The study findings regarding these items received moderate scores in the research. These results differ from the previous studies [32], [33] which found that diversity in activities is essential to ensure equal and fair access for all students to the teaching and learning process, even when DI approaches are used. Furthermore, based on the findings of studies [6], [28], teachers employ different methods in the teaching process to address gaps in students’ language knowledge and skills at various

proficiency levels, including weak, moderate, good, and excellent levels. Therefore, teachers should prioritize the implementation of DI practices during CAR as this knowledge gap needs to be addressed to ensure consistent improvement in students' Malay language skills over time.

Additionally, the study revealed that teachers often struggle to determine appropriate teaching materials for implementing DI approaches in CAR. This challenge disrupts the implementation of the RPH and makes it difficult to articulate the objectives and significance of implementing DI approaches to students. This statement received a low minimum score in the conducted study. These findings align with several studies [34]–[36], which states that determining different approaches, strategies, and objectives can lead to effective teaching and learning in the classroom. Students will be able to achieve the objectives set by teachers for students with diverse backgrounds. Meanwhile, previous studies [7], [10] support this statement by stating that the successful use of differentiated approaches brings about effective changes in the teaching and learning conducted by teachers. The practice of DI by Malay language teachers should be consistently implemented to meet the meaningful learning needs of diverse students and achieve the overall goal of teaching language skills.

The study results found no significant difference in DI practices based on gender. Both male and female teachers demonstrated moderate levels of implementation, with inferential analysis confirming no significant differences in pedagogical practices between genders. Both variables show moderate-level scores. Inferential analysis involving the practice of DI also indicates no significant difference in pedagogical practice based on the gender of the teachers. Therefore, it can be stated that, generally, gender does not influence perceptions in implementing DI practices. The study findings also suggest that gender is not a barrier preventing teachers from fulfilling their responsibility to succeed in producing high-quality and effective CAR. Consequently, teachers need to adapt through approaches that can enhance student achievement by implementing suitable pedagogy. Practically, what happens among teachers plays a direct role in changing teachers' attitudes toward embracing change in shaping more effective pedagogy to avoid student dropout in CAR. In line with this, several researchers [33], [37], [38] argue that teachers need to consider the existing differences among students in the teaching process. Students will not be left behind if teachers consistently care about the differences among their students.

The study results also identify a negative relationship between the weak variable structure. Overall, there is a weak relationship between variables indicating differentiated teaching practices and the experience of teachers who have been teaching for a long time in the schools participating in this study. The analysis results of this study clearly confirm the researcher's hypothesis that the practice of implementing DI, and the experience of Malay language teachers do not have a significant relationship. The findings have proven that the practice of implementing DI by teachers does not depend on the teachers' teaching experience but rather on the teachers' understanding of this DI approach. This is different from the studies [39]–[41] which found that experienced teachers have high implementation practices in carrying out daily teaching tasks for an extended period compared to novice teachers to develop skills in classroom management and teaching strategies, especially in this DI approach. Other studies [36], [42] also indicate that teaching experience is among the main elements in the implementation of DI approaches. They found that teachers with more than seven years of teaching experience are more likely to have high confidence in implementing DI approaches. This may be due to the ability and confidence of teachers in systematic classroom management to create an encouraging teaching and learning environment. Essentially, this effort is aligned with the professional development of teachers through educational transformation.

A likely reason for the weak negative correlation found in this study is that firstly, newer teachers may have had more recent exposure to DI frameworks and contemporary teaching innovations during their pre-service training. In addition, they are more inclined to use technology and access modern professional development resources that facilitate DI integration. In contrast, experienced teachers, despite their strong subject expertise and classroom management skills, may be more accustomed to established routines, which makes them less likely to incorporate DI systematically unless provided with targeted retraining. Therefore, this finding underscores the importance of tailoring professional development for teachers by offering advanced, practice-based DI training for veteran educators while strengthening the foundational DI skills of novice teachers. This approach would help ensure consistent and effective DI implementation across all levels of teaching experience.

5. CONCLUSION

Overall, this study provides an empirical overview of factors influencing the implementation of differentiated teaching practices among secondary school Malay language teachers. Using a quantitative descriptive survey approach with randomly selected respondents, it examined implementation levels, demographic factors, and relationships between key variables. The findings highlight the increasing importance of DI in addressing diverse learning needs, particularly following the abolition of classroom

streaming in Malaysia in 2019. Malay language teachers are now expected to design inclusive and meaningful lessons that promote language mastery and respond to varying student abilities. As facilitators of learning, they are required to align pedagogy with curriculum standards while embracing innovations promoted by the Malaysian Ministry of Education to ensure equitable and effective learning experiences.

The study has several limitations. Reliance on self-reported questionnaire data introduces potential response bias, and the exclusion of external factors such as administrative support, resource availability, and policy constraints limits the scope of the analysis. Future research should adopt mixed methods by combining surveys with classroom observations or interviews to provide richer insights into DI practices. Expanding the sample to include teachers from different districts or states would improve the generalizability of findings. Further studies could also examine the impact of professional development and targeted training on DI effectiveness, and explore student perspectives to gain a more holistic understanding of its impact in diverse classroom settings. Finally, future research could also focus on rural schools or institutions with high populations of students learning Malay as a second language. Such comparisons would provide valuable insights into the readiness and adaptability of differentiated teaching practices across diverse demographic and linguistic contexts, enabling more targeted professional development and policy interventions.

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AUTHOR CONTRIBUTIONS STATEMENT

This journal uses the Contributor Roles Taxonomy (CRediT) to recognize individual author contributions, reduce authorship disputes, and facilitate collaboration.

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Elmustian	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓
Zamri Mahamod	✓	✓		✓		✓	✓	✓	✓	✓		✓	✓	
Edmund Austrus	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	
Norhidayah Azni	✓	✓				✓	✓	✓		✓	✓			✓
Mohamed Zohomi														

C : **C**onceptualization

M : **M**ethodology

So : **S**oftware

Va : **V**alidation

Fo : **F**ormal analysis

I : **I**nvestigation

R : **R**esources

D : **D**ata Curation

O : **O**riting - **O**riginal Draft

E : **E**riting - **R**eview & **E**ding

Vi : **V**isualization

Su : **S**upervision

P : **P**roject administration

Fu : **F**unding acquisition

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

INFORMED CONSENT

We have obtained informed consent from all individuals included in this study. Participating teachers were informed about the purpose of the research and their right to withdraw at any time.

DATA AVAILABILITY

The data that support the findings of this study are available from the corresponding author, [E], upon reasonable request. Due to ethical and privacy considerations, the dataset containing respondent information cannot be made publicly available.

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BIOGRAPHIES OF AUTHORS



Elmustian     is a postgraduate lecturer in the field of Malay culture-based literature education at the Faculty of Teacher Training and Education, University of Riau. He got doctor of Malay literature education at Universiti Kebangsaan Malaysia in 2016. He was appointed as a lecturer in 1991 and as an associate professor in 2010. He has passionate about improving the quality of student learning and development in secondary and higher education. He has focus on research in the innovation of Indonesian language and literature learning based on Malay culture. Beside a lecturer, he is also a researcher and a certified Cultural Heritage Expert Team. His products include the Baturijal Encyclopedia (2012); Riau Malay Culture Encyclopedia 5 volumes (2012); Bengkalis Encyclopedia 2 volumes (2017). He is also head of the Riau Malay Culture Local Content Curriculum Compilation Team for Elementary School, Junior High School, High School and Equivalent, and the General Malay Culture Course Curriculum at Riau University. Now, he is a chair of the Indonesian Language Education Master's Program, Faculty of Teacher Training and Education, Riau University. He can be contacted at email: elmustian@lecturer.unri.ac.id.



Zamri Mahamod     is a professor specializing in Malay language education at the Faculty of Education at The National University of Malaysia. He received his doctor of philosophy in language teaching methods from Universiti Kebangsaan Malaysia (UKM) in 2004, a master in language teaching methods from UKM in 1997, and a bachelor in Malay language from Universiti Putra Malaysia in 1992. As an academician, he has prolifically contributed to journals and scholarly books, in addition to conference proceedings articles. His expertise is widely recognized by the Malaysian Examination Board (MPM), the National Language and Literature Agency (DBP), and Teacher Training Institutes (IPG) in the context of Malay language education. His research expertise also lies in the field of arts and applied arts - education, with a specific focus on Malay language education. He can be contacted at email: d-zam@ukm.edu.my.



Edmund Austrus     is a Ph.D. candidate, Faculty of Education at The National University of Malaysia, Selangor, Malaysia. With a profound commitment to the field of education, his research is specifically centered on Malay language education, reflecting his deep interest in contributing to the enhancement of language learning and teaching methodologies. He also engages in rigorous academic exploration, aiming to address the challenges faced by students, particularly non-native speakers, in mastering the intricacies of Malay language education. His research endeavors focus on the development of innovative and effective teaching modules, with a thematic approach tailored to the needs of diverse learners. He can be contacted at email: edmund91ukm@gmail.com.



Norhidayah Azni Mohamed Zohomi     is an educator currently serving as a teacher at Kolej Tingkatan Enam Sri Istana (KTESI) in Klang. She specializes in teaching Pengajian Am, a subject that provides students with critical knowledge in general studies and current affairs. Before joining KTESI, Norhidayah spent a decade teaching *Bahasa Melayu* at a daily secondary school, where she played a pivotal role in enhancing students' proficiency in the Malay language. She holds a master's degree in Malay language from Universiti Kebangsaan Malaysia (UKM), which she completed in 2023. In addition to her teaching career, she has contributed to academic research by publishing several articles related to language education and teaching methodologies. One of her notable publications includes a study on differentiated teaching approaches for Malay language educators. She can be contacted at email: adznie219@gmail.com.