THE EFFECTIVENESS OF DIFFERENTIATED LEARNING FROM THE PERSPECTIVE OF CAROL ANN TOMLINSON IN THE LEARNING PROCESS OF ISLAMIC RELIGIOUS EDUCATION IN JUNIOR HIGH SCHOOL

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Abstract

This study aims to analyze the effectiveness of differentiated learning in the subject of Islamic Religious Education and Ethics in the Independent Curriculum at SMP Muhammadiyah 1 Jakarta. This study uses mixed methods with a concurrent embedded model, where the qualitative approach is the main method and is strengthened by descriptive quantitative data. The analytical framework refers to Carol Ann Tomlinson's theory which includes three main pillars: philosophy, principles, and practice. The results of the study show that differentiated learning has been implemented effectively starting from the planning, implementation, to evaluation stages. PAI teachers actively adjust learning strategies based on the results of diagnostic assessments that identify students' readiness, interests, and learning styles. In the process, various learning methods such as discussions, worship practices, visual media, and content-based creative projects are used. The effectiveness of differentiated learning is also reinforced by quantitative data showing a significant improvement in the distribution of student grades. Prior to the implementation of differentiated learning (semester 1), most student scores were centered in the range of 85–87, with a mode and median score of 86, and only 3.3% of students reached the highest score range (88–90). After the implementation in semester 2, as many as 26.7% of students reached the score range of 91–93, with an increase in the mode and median to 91. This shows a shift in academic performance collectively towards a higher level. Students respond positively to this approach; They feel cared for, motivated, and more confident in following learning. Thus, these findings show that the implementation of differentiated learning in schools has proven to be effective in meeting the learning needs of students optimally in the learning process of Islamic Religious Education and Ethics.

Keywords: Effectiveness, Differentiated Learning, Islamic Religious Education, Carol Ann Tomlinson.

Abstrak

Penelitian ini bertujuan untuk menganalisis efektivitas pembelajaran berdiferensiasi dalam mata pelajaran Pendidikan Agama Islam dan Budi Pekerti pada Kurikulum Merdeka di SMP Muhammadiyah 1 Jakarta. Penelitian ini menggunakan metode kombinasi (mixed methods) dengan model concurrent embedded, di mana pendekatan kualitatif menjadi metode utama dan diperkuat oleh data kuantitatif deskriptif. Kerangka analisis merujuk pada teori Carol Ann Tomlinson yang mencakup tiga pilar utama: filosofi, prinsip, dan praktik. Hasil penelitian menunjukkan bahwa pembelajaran

berdiferensiasi telah diterapkan secara efektif mulai dari tahap perencanaan, pelaksanaan, hingga evaluasi. Guru-guru PAI aktif menyesuaikan strategi pembelajaran berdasarkan hasil asesmen diagnostik yang mengidentifikasi kesiapan, minat, dan gaya belajar siswa. Dalam prosesnya, digunakan metode pembelajaran yang bervariasi seperti diskusi, praktik ibadah, media visual, serta proyek kreatif berbasis konten. Efektivitas pembelajaran berdiferensiasi juga diperkuat oleh data kuantitatif yang menunjukkan peningkatan signifikan pada distribusi nilai siswa. Sebelum penerapan pembelajaran berdiferensiasi (semester 1), sebagian besar nilai siswa terpusat pada rentang 85–87, dengan nilai modus dan median sebesar 86, dan hanya 3,3% siswa yang mencapai rentang nilai tertinggi (88–90). Setelah penerapan pada semester 2, sebanyak 26,7% siswa mencapai rentang nilai 91–93, dengan peningkatan modus dan median menjadi 91. Hal ini menunjukkan adanya pergeseran performa akademik secara kolektif menuju tingkat yang lebih tinggi. Siswa merespons pendekatan ini dengan positif; mereka merasa diperhatikan, termotivasi, dan lebih percaya diri dalam mengikuti pembelajaran. Dengan demikian, temuan ini menunjukkan bahwa implementasi pembelajaran berdiferensiasi di sekolah ini terbukti efektif dalam memenuhi kebutuhan belajar peserta didik secara optimal dalam proses pembelajaran Pendidikan Agama Islam dan Budi Pekerti.

Kata kunci*: Efektivitas, Pembelajaran Berdiferensiasi, Pendidikan Agama Islam, Carol Ann Tomlinson.*

INTRODUCTION

Improving the quality of superior, dedicated, and high-integrity human resources requires the central role of education in shaping the nation's moral and intellectual intelligence. Along with the progress of the times, education has also become a strategic vehicle in encouraging the birth of innovative and creative ideas for the advancement of civilization. The level of individual quality in the realm of education is greatly influenced by the learning process that they undergo. Effective and quality learning can only be achieved if it is supported by a relevant curriculum and in harmony with the orientation and stages of education. However, in practice, not all curriculum designs can be applied uniformly across educational institutions, considering the differences in the characteristics and needs of each institution (Rahayu et al., 2022).

 Ideally, educational goals can be achieved if they are supported by a well-organized curriculum that can meet the needs of students at school, but in reality, empirically there are still many students who experience psychological burdens when facing curriculum transformation in their educational institutions, due to difficulties in adapting to the new paradigm that is applied. In fact, in some cases, this phenomenon is illustrated by the widely circulated saying, "change ministers, change curriculum", which reflects the frequency of curriculum changes that occur in each given period.

The learning *loss* caused by Covid-19 causes students to achieve varying competencies in each school. To overcome this, it is necessary to implement a curriculum to restore learning. Of course, the implementation of the curriculum is adjusted to needs and must pay attention to the achievement of student competencies in each school. Before the Covid-19 Pandemic, the only curriculum applied in educational units in the learning

process was the 2013 curriculum. Then, in the early stages of the pandemic from 2020 to 2021, the Ministry of Education and Culture enacted regulations to implement the 2013 curriculum along with the emergency curriculum, namely modifications from the 2013 curriculum that were adjusted for the emergency conditions (simplified 2013 curriculum). Then, each educational institution is given a choice between three curricula developed by the Ministry of Education and Culture. The Minister of Education, issued an independent learning policy that aims to improve the current curriculum. The curriculum focuses on character education and student activities that promote social, emotional, and physical competence (Nugraha , 2022) (São Paulo , 2022)

In the Ministry of Education and Culture Number 56 of 2022, the independent curriculum allows teachers to express learning materials more freely, while students are given greater space to explore their own potential in order to achieve optimal results. The Independent Curriculum is applied at the PAUD and elementary, junior high, and high school levels. For the junior high school level, the Ministry of Education and Culture also explained that the curriculum structure at the junior high school level includes intracurricular teaching and learning activities as well as P5 or called the Pancasila student profile strengthening project as the main activity. (Ministry of Education and Culture Number 56, 2022)

One of the characteristics of the Independent Curriculum is differentiated learning. The existence of differentiated learning aims to ensure that students can learn according to their own needs, interests and abilities (Tomlinson et al., 2014). . In classroom learning practice, teachers often face various challenges such as differences in students' abilities, limited time, and lack of resource support, which hinder the achievement of learning goals equally. One approach that is considered effective to answer these challenges is the application of differentiated learning, because it is able to adapt teaching strategies to the individual learning needs of students in a more flexible and humanistic manner. The Government of Indonesia has established a number of policies that explicitly support the implementation of differentiated learning in the national education system. These provisions are contained in Government Regulation Number 57 of 2021 concerning National Education Standards. The regulation emphasizes the importance of learning in providing sufficient space for initiative, creativity, independence in accordance with the talents, interests, and physical and psychological development of students. In addition, Permendikbudristek Number 16 of 2022 concerning Process Standards requires educators to design learning that takes into account the diversity of individual students, such as their learning readiness, interests, and learning styles. The principles of differentiation are also reflected in Permendikbudristek Number 8 of 2024 concerning "Content Standards", which allows the adjustment of teaching materials according to the characteristics of students where students are at each level, formulating the scope of learning materials that provide flexibility to educators to facilitate students to develop their competencies, and adopting the principle of differentiation in developing the scope of learning materials. Thus, the three regulations not only provide a juridical basis for the implementation of

differentiated learning, but also affirm the state's commitment to accommodating the diversity of students as an integral part of national education practices. (Tundreng et al., 2025) (Rules Government Number 57, 2021) (Permendikbudristek Number 16, 2022) (Permendikbudristek Nomor 8, 2024)

Differentiated learning in the Independent Curriculum can be analyzed in the framework *of das Sein* and *das Sollen* to identify the distance between the reality of praxis and ideal norms. Das Sein described the empirical reality in the field, where many teachers still experience confusion in implementing differentiated learning. The limitations of training, administrative burden, and the dominance of a teacher-centered instructional mindset hinder the realization of the principle of differentiation. In various schools, especially those in marginalized areas, differentiation strategies have not been systemically integrated in learning planning. Teachers tend to adopt a uniform approach for the sake of efficiency and technical fluency of reporting. (Lestari et al.)

Meanwhile, das Sollen refers to the normative ideals in the Independent Curriculum, namely that every student has the right to receive educational services that are in accordance with their potential and characteristics. Differentiated learning is positioned as a pillar of pedagogical justice that bridges the gap in learning outcomes among students. Ideally, teachers are required to be able to analyze the learning needs of students individually and develop learning strategies that are varied, flexible, and adaptive to the classroom context. (Tomlinson et al., 2014)

Diversity in students is an inevitable reality in the school environment. Each student brings unique abilities, experiences, talents, interests, languages, cultures, and learning styles. Therefore, the application of uniform teaching methods and equal assessment for all students is considered unfair. Teachers need to pay attention to the variety of students' learning characteristics and provide services that are tailored to the individual needs of each student. In a differentiated learning approach, teachers need to realize that there is no single approach or method that can meet the needs of all students universally. Each student has diverse and unique learning abilities, interests, and needs. Therefore, this differentiated learning model is very important to be applied in the learning process to align the needs, learning styles, and interests according to students' abilities. The context of differentiated learning that is adjusted to the student's abilities is in line with Q.S. Al-Baqarah verse 286 which reads: (Sarnoto , 2024)

"Allah does not burden a person except according to his ability..."
In the context of differentiated learning, this verse has significant relevance. Differentiated learning is an educational approach that recognizes that each student has different abilities, interests, and needs. Therefore, teaching methods, materials, and assessments must be tailored to the unique characteristics of each student. The verse emphasizes that Allah does not burden a person beyond what he can bear. This is in line with the key principle of differentiated learning, where educators are expected to provide challenges that are appropriate to the student's individual abilities. In practice, this means that students are not given tasks that are too difficult or easy, but are given tasks that

challenge them at a level that suits their abilities. This ensures that all students can reach their maximum potential without feeling overburdened or frustrated.

Differentiated learning also emphasizes the importance of providing students with the necessary support for them to succeed. This is in line with the concept in the verse, where each individual is given a burden or responsibility according to his ability, and nothing more. Thus, in education, it is important to ensure that each student is supported and empowered to learn in their own capacity, in a way that respects and respects their individual differences.

Several previous studies related to differentiated learning have been conducted, including research written by Muhammad Sidiq Alrabi in his thesis entitled "*Implementation of Differentiated Learning in the Independent Learning Curriculum in Islamic Religious Education Subjects at the Cendana Riau Education Foundation, Duri* District", which emphasizes that the use of differentiated learning in the context of the Independent Curriculum aims to meet the needs of the variety of students. In this study, the entire school ecosystem has made efforts to implement the Independent Curriculum. The principal has instructed the teaching staff to apply differentiated learning methods in the context of the Independent Learning Curriculum. The implementation of differentiated learning can be done through modification of content, processes, or learning outcomes, and efforts to improve the implementation of differentiated learning activities by PAI teachers in Cendana Riau, Duri District are very important. A variety of learning media have been made available to support the implementation of differentiated learning, along with the assessment of individual and group assignments as part of such differentiated learning. (Muhammad Sidiq Alrabi , 2023)

Next is a Journal entitled "*The Effectiveness of Differentiated Learning on Improving the Learning Outcomes of Grade IV Students of SDN 77 Rejang Lebong*" by Septi Ade Tiansi, Baryanto, and Putrajaya (2024). The study used a quasi-experimental method with a pretest-posttest design in two groups: an experimental class that applied differentiated learning and a control class that did not. The results showed that the average posttest score of the experimental class (81.43) was higher than that of the control class (68.57), with the t-test showing a significant difference (p=0.004). This shows that differentiated learning is effective in improving student learning outcomes in science subjects. (Muhammad Sidiq Alrabi , 2023)

Next is the Journal entitled "*The Effectiveness of the Use of Differentiated Learning Strategies on Science Learning Outcomes in Elementary Schools*" written by Maharani, Akbar, and Fitriani in the Journal of Elementary School Teacher Education Research, Volume 3, Number 1 of 2025. The research method used is the quasi-experimental method. The study found that students who received differentiated learning experienced better learning outcomes compared to students with conventional learning. However, this research is limited to science subjects and has not examined the affective and spiritual realms that are typical characteristics in Islamic religious education. (Maharani & Akbar, 2025)

Several studies on the implementation and differentiated learning strategies have been conducted either in general lessons or Islamic religious lessons, but as far as the author's observation is concerned, no one has provided an answer about how effective the differentiated learning strategy is if applied to Islamic religious subjects. The question of how effective differentiated learning is is very important to answer to prove whether the

Independent Curriculum with its differentiated learning is worth continuing or needs to be stopped.

Based on the results of preliminary observations carried out by the researcher, the researcher found that SMP Muhammadiyah 1 Jakarta implemented several curricula including *the Cambridge* curriculum for English subjects, *the Singapore* curriculum for mathematics and science and the national curriculum, namely the Merdeka Curriculum. However, the most dominant one is the Independent Curriculum by using differentiated learning in all subjects, especially PAI subjects. Based on this, in this case the author is interested in discussing "*The Effectiveness of Carol Ann Tomlinson's Differentiated Learning Perspective in the Learning Process of Islamic Religious Education at SMP Muhammadiyah 1 Jakarta*".

METHODS

The method used in this study is a mixed research method. In the opinion of John W. Creswell, *mixed methods* or mixed research is a research approach that connects or combines qualitative methods with quantitative methods. According to Sugiyono, (John W. Creswell, 2010) *the mixed methods* research method is a research method by combining or combining quantitative and qualitative research methods in a study simultaneously in order to obtain more reliable, valid, objective and comprehensive data, this research method is also abbreviated as Metkom (Combination Method). The mix (Sugiyono , 2018) *method* used in this study is *the concurrent embedded model*. According to Sugiyono, *the concurrent embedded* model is a model that integrates qualitative and quantitative research approaches by mixing the two methods unbalanced. This model was chosen because the research was conducted simultaneously (at the same time) by prioritizing the qualitative method as the main method (Sugiyono , 2019) , while the quantitative method was used as a support to strengthen the research results. The qualitative method in this study is said to be the primary method, of course, has more dominant weight compared to the quantitative method with a scale of approximately 70% using qualitative methods and 30% using quantitative methods. These two methods were applied simultaneously in a single research period, but still studied independently to answer the same problem formulation.

This research was conducted at SMP Muhammadiyah 1 Jakarta, which is located on Jalan Srengseng Sawah No. 3, RT. 10/RW. 09 Srengseng Sawah Village, Jagakarsa District, South Jakarta City, DKI Jakarta. The implementation of the research was carried out from February 2025 to April 2025. The complementary data instruments carried out in this study are through observation, interviews, and documentation activities related to the analysis of differentiated learning in PAI learning. This study uses two types of data sources, namely primary data and secondary data. Primary data in this study was obtained directly from the sources through in-depth interviews and observations conducted at the research site. The resource persons in this study included the deputy principal for curriculum and three teachers of Islamic Religious Education. Interviews were conducted with open-ended question guidelines compiled based on Carol Ann Tomlinson's differentiated perspective learning effectiveness indicators, while observations were

conducted to see the implementation of learning directly in the classroom. The sampling technique used in this study is *the Purposive Sampling technique*. Secondary data in this study was obtained from the results of direct observation to the research site in the form of school data and documentation, school guidebooks, summative student learning results, photos and videos from PAI teachers related to differentiated learning, and scientific literature that supports theoretical analysis and research context.

RESULTS AND DISCUSSION

Based on what Carol Ann Tomlison initiated, there is a different perspective between the traditional learning curriculum and differentiated learning. This is mainly related to how to position students in teaching and learning activities. According to Carol, students with all their differences in the learning process must be appreciated and learned as a basis for planning in the teacher's teaching process, not something that should be considered as a problematic problem. In traditional learning students are often distinguished based on their intelligence, some are intelligent and some are not. Usually assessments are done at the end of learning and they are assessed based on those beliefs. In contrast, differentiated learning assumes that all students have the capacity to succeed and teachers support this through continuous learning and differentiated planning. In terms of assessment, differentiated learning views that assessment is diagnostic and ongoing to understand how teaching is more responsive to the needs of students. (Tomlinson et al., 2014)

Some of these differences, and other differences related to traditional and differentiated learning, confirm that the old way of looking at students according to Carol Ann Tomlinson requires a change, students are no longer objects that must be seen in black and white. They should be seen as subjects who want to grow, they are diverse and they both have the same potential that needs to be developed in the right way and in accordance with their learning interests.

Learning is differentiated in such a way that students are the center of learning. Teachers and all learning systems adapt and plan learning according to different students' interests and learning styles. A differentiated learning system can then be examined to the extent of its effectiveness through how students receive the differentiated learning model. The effectiveness of this differentiated learning can be seen from how students are treated by their teachers, how the learning system helps them to grow, how assessment or assessment is not solely to see who is superior to them but as a medium of analysis so that teachers make learning more appropriate according to students' interests and learning styles. Some of these points are important from the observation of the implementation of differentiated learning, because in fact students are the main aspect of differentiated learning. (Tomlinson et al., 2014)

The effectiveness of differentiated learning according to Carol Ann Tomlinson depends on the integration between three main pillars, namely educational philosophy, learning management principles, and adaptive instructional practices. These three pillars are not only a conceptual framework, but also an indicator of the success of the implementation

of differentiated learning in the classroom. For Carol Ann Tomlinson, although there is no patent formula or standard formula for creating a classroom with a differentiated learning approach, according to her (Tomlinson et al., 2014) , *"Effective differentiation is governed by a philosophy, a set of principles, and some pivotal instructional practices." (Tomlinson et al., 2014)* This can be interpreted as effective differentiated learning based on a philosophy, a set of principles, and some important core learning practices. In other words, differentiation is principled and exploratory (heuristic), not mechanistic or simply following a fixed procedure. In this case, differentiated learning is said to be effective when there are three main pillars that are the foundation for the implementation of differentiated learning in its entirety as follows.

Figure 1. The three pillars of Differentiated Learning

Based on the results of observations and interviews with teachers and vice principals at SMP Muhammadiyah 1 Jakarta. The results of the findings and analysis of the effectiveness of differentiated learning applied at SMP Muhammadiyah 1 Jakarta in fulfilling student learning outcomes based on effectiveness indicators according to Carol Ann Tomlinson are as follows.

1. Pillar Philosophy

Differentiated learning as developed by Carol Ann Tomlinson is rooted in three main pillars, namely philosophy, principles, and practice. The philosophy pillar is the foundation of the beliefs that educators must have before implementing effective differentiation strategies in the classroom. Some of the important philosophical values emphasized by Tomlinson include that student diversity is natural and valuable, that every student has the potential to achieve academic success, and that teachers are responsible for the progress of all students by overcoming learning barriers so that every individual has equitable access to quality learning.

Field findings through interviews with Islamic Religious Education (PAI) teachers at SMP Muhammadiyah 1 Jakarta show that these philosophical pillars have been internalized and reflected in their awareness and teaching practices. For example, teachers consciously recognize the diversity of student characteristics as natural and positive in learning. One of the teachers even stated that he found various differences from the

students, both in learning style and in the level of comprehension, so he had to adjust the language approach used so that the PAI material was easier to understand for all students. The teacher likens himself to an older brother who is close to students, but still maintains professionalism as an educator (Masyrofah 2025).

In addition, the teachers also show a strong belief that every student has the potential to succeed academically. This is reflected in their commitment to continue to accompany, guide, and motivate students in the PAI learning process. They do not view academic success as something exclusive to certain students only, but as a common goal that can be achieved by all learners through the right approach.

Furthermore, the interview also revealed the teacher's responsibility for the progress of all students. This commitment is seen in teachers' efforts to adjust teaching strategies to suit individual student needs. Teachers not only deliver material uniformly, but also pay attention to the background, abilities, and learning barriers faced by students. For example, teachers are aware of the challenges that arise when students come from non-Muhammadiyah backgrounds. In such a situation, teachers try to reduce the potential for cultural dissonance through an open, empathetic, and communicative approach, so that the values of PAI from the perspective of Muhammadiyah can still be accepted by all students without feeling alienated (Lany, 2025).

Thus, the interviews conducted showed that the differentiated learning philosophy developed by Carol Ann Tomlinson has been implemented in real terms in the field. Awareness of these basic values is an important foundation for the application of more structured differentiation principles and practices in the future.

2. Pillars of Principle

In addition to the philosophy pillar, there are principles that are the foundation for creating an effective differentiated learning approach by paying attention to several aspects as follows. The second pillar of differentiated learning according to Carol Ann Tomlinson is principles, which are a set of operational ideas that bridge philosophical values with practice in the classroom. These principles include the creation of a safe learning environment, the use of quality curriculum, informative assessments, data-driven instruction, and flexible classroom management. Field findings through interviews and observations with Islamic Religious Education (PAI) teachers at SMP Muhammadiyah 1 Jakarta show that most of these principles have been applied with a contextual and progressive approach.

First, the principle of creating a safe and conducive learning environment is realized by PAI teachers through systematic learning planning. Teachers prepare Learning Implementation Plans (RPP) long before teaching activities begin, which is the basis for creating a structured and predictive environment for students, this is in accordance with the statement of Mrs. Lany as a PAI teacher at SMP Muhammadiyah 1 Jakarta that

"If the first step is to prepare the lesson plan in advance, then the second one is the one who made the learning contract from the beginning, so I already know what they want or the learning pattern is like how to always prepare a different learning method every day, don't do that anymore, usually if I have used one method I don't use it again in the next lesson, for example, the card match index (ICM) It's like pairing a card once I've used it in 7th grade and I don't use it anymore in 8th grade so don't let the child oh I've already gotten this one I want something different from what I've used. What is certain is that I have to be humble lest I open it already angry, so I am very rare and maybe it can be counted fingers as angry in class (Lany, 2025)".

Based on the results of the interview, teachers implemented student-centered learning by drafting a learning contract at the beginning of the semester, which aims to build a mutual commitment between teachers and students. Some teachers even leverage data from student interest and learning style surveys collected previously, so that they can tailor learning strategies to each individual's needs and preferences (Vitti, 2025).

Furthermore, the principle of building the foundation of a quality curriculum is applied through flexible and integrative curriculum policies at the institutional level. The vice principal for curriculum stated that SMP Muhammadiyah 1 Jakarta uses four types of curriculum simultaneously to answer the needs of student differentiation. The Independent Curriculum from the government became the main framework, which was then combined with the Muhammadiyah Curriculum as a characteristic of the institution. For English lessons, the Cambridge Curriculum is used, while Mathematics and Science lessons use the Singapore Curriculum from Marshall Cavendish Education (Fida, 2025). This curriculum integration shows that schools not only emphasize the diversity of content, but also open up space for adjustments based on student characteristics.

The next principle is to use assessments to design learning. The findings of the interviews show that some teachers have started to adopt this approach even though they have not fully implemented the differentiation assessment technically. One of the indicators of progress is the creation of a learning contract that allows students to give input on teaching methods. In practice, teachers begin to be open to students' voices and are willing to adjust learning strategies, which shows a spirit of differentiation even though the implementation is still gradual. In addition, based on the results of observations, it was found that one of the PAI teachers used a digital-based diagnostic assessment through the "Aku Pintar" platform, which allows students to conduct learning style tests independently. Test links are shared through class WhatsApp groups for easy student access.

Furthermore, the principle of adjusting instructions based on assessment data has also begun to be implemented. The results of the learning style assessment obtained from the platform are used to group students into four main types: kinesthetic, auditory, visual, and visual mixed. This grouping is the basis for teachers to develop learning strategies that

are relevant to the characteristics of students, as well as show real efforts in making assessment the basis for differentiating instruction.

Finally, the principle of conducting and managing the classroom flexibly reflected the teacher's courage to break out of the uniform classical pattern. PAI teachers at SMP Muhammadiyah 1 Jakarta regulate the learning rhythm by combining group, couple, and random discussion learning methods. They also apply a humanist approach that emphasizes warm interpersonal relationships with students without losing authority as educators. This flexibility allows students to respond to learning more positively, while opening up spaces for active participation that are in line with the principles of differentiated learning.

Thus, based on empirical data from interviews and observations, it can be concluded that the principles of differentiated learning have begun to be implemented by PAI teachers at SMP Muhammadiyah 1 Jakarta. While the level of implementation still varies, these practices demonstrate a strong commitment to creating learning environments that are inclusive, adaptive, and oriented to the individual needs of students.

3. Pillars of Practice

The last pillar in the framework of differentiated learning according to Carol Ann Tomlinson is practice, which is the real implementation of philosophy and principles in the learning process in the classroom. These practices include proactive planning based on student readiness and learning styles, content- and needs-based instructional approaches, *teaching up strategies*, assignment structuring that respects differences, and the implementation of flexible groupings. Based on the results of interviews and observations at SMP Muhammadiyah 1 Jakarta, these five practices began to be seen in the learning of Islamic Religious Education (PAI), especially on the topic of the history of the Abbasid Empire.

First, proactive planning practices based on students' readiness, interests, and learning styles have been implemented through both cognitive and non-cognitive diagnostic assessments. PAI teachers of SMP Muhammadiyah 1 Jakarta used the results of this assessment to identify student learning profiles as the basis for the preparation of relevant and responsive learning strategies. Early introduction to individual student needs allows teachers to develop more adaptive learning materials, media, and approaches, so that the learning process becomes more meaningful and inclusive (Masyrofah, 2025).

Second, in the practice of a content- and needs-based instructional approach, it was found that teachers delivered the same material to all students, but using an approach tailored to their respective learning styles. In learning the Abbasid History material, visual students are given animated videos depicting important events in the Abbasid rule. Auditory students listen to audio-based explanations that are listened to through class speakers. Meanwhile, kinesthetic students were asked to create a *roadmap* or travel map depicting five periods in the history of the Abbasid caliphate. This strategy not only demonstrates instructional flexibility, but also reflects teachers' efforts to meet diverse learning needs.

The third practice, namely teaching up, is shown through a teacher's approach that is oriented towards high achievement without overburdening students. Teachers emphasized the importance of adjusting methods and assignment loads to students' abilities and readiness. This philosophy is reflected in the attitude of teachers who try to maintain a balance between academic challenges and pedagogical support, so that students are encouraged to exceed expectations without feeling pressured.

Fourth, in the practice of assigning assignments that respect differences, teachers arrange tasks that are relevant to students' learning styles. Visual students were asked to watch the video and write down the answers to the five questions given. Auditory students summarize the material after listening to the learning audio. The kinesthetic students were asked to prepare *a roadmap* of the history of the Abbasid Empire according to their creativity. This approach not only respects students' learning preferences, but also increases motivation and learning outcomes because assignments are felt to be relevant and challenging according to the characteristics of each student.

Finally, flexible grouping practices are implemented by teachers using tools such as spinners and a rotating group leader appointment system. Teachers also form groups based on certain advantages, such as abilities in design, communication, or information processing. In this way, interactions between students become more diverse, the dominance of friend groups can be reduced, and each student gains a strategic role according to his or her potential. This flexible grouping allows for more dynamic collaboration and provides an equal contribution space for all students.

Overall, the findings show that differentiated learning practices in Muhammadiyah 1 Jakarta Junior High School have been implemented with a reflective and progressive approach. Although not all components are implemented perfectly, the practices implemented demonstrate alignment with the basic principle of instructional differentiation that aims to meet the diverse learning needs in the classroom.

The results of the study on the application of the above philosophical pillars, principles and practices of differentiation show that all aspects developed by Carol Ann Tomlinson have been implemented in SMP Muhammadiyah 1 Jakarta. However, its implementation has not reached the optimal level, as there are still variations in the consistency and depth of practice between teachers.

To see the level of effectiveness of the implementation of this differentiated learning, the following descriptive statistical analysis results will be presented.

Descriptive Statistical Analysis

Descriptive statistics are used to analyze data by presenting or describing the data that has been collected as it is, without drawing general or generalizing conclusions. Descriptive statistics focuses on collecting, processing, analysing and presenting part or all of the data (observations) without drawing conclusions. To determine the effectiveness of differentiated learning on the achievement of student learning outcomes in the subject

of Islamic Religious Education, the researcher analyzed quantitative data in the form of learning outcomes of grade VII students of SMP Muhammadiyah 1 Jakarta. The data was obtained from PAI subject teachers at the school and consisted of semester 1 and semester 2 scores. (Sugiyono , 2019) (Kadir, 2018)

In this study, the descriptive statistical analysis used includes *mean values,* medians, modes, standard deviations, variances, skewness, kurtosis, range of values, minimum and maximum values processed using the IBM SPSS 27 application. This step is important to provide an initial overview of changes in student learning outcomes and the extent to which differentiated learning methods are effective and able to influence the spread and tendency of student learning outcomes. The following is presented data on student learning outcomes in semesters 1 and 2.

Table 1 Semester 1 and 2 Student Learning Outcomes

No.	Student's Name (Initial)	Semester 1 Grade	Semester 2 Grades
1.	ALQ	80	Value
2.	QA	84	78
3.	AQMU	81	84
4.	APH	87	81
5.	DRSS	86	93
6.	DZF	86	85
7.	ESIH	79	92
8.	FRR	89	76
9.	GAME	90	89
10.	IY	79	92
11.	SHARE	87	76
12.	KSM	85	87
13.	KHN	86	80
14.	KGKV	87	91
15.	KD	88	91
16.	LAS	81	91
17.	MRRC	78	82
18.	MDFI	89	83
19.	MDFA	85	91
20.	MFH	84	82
21.	MHB	81	88
22.	MNY	79	79
23.	BILLION	86	80
24.	NRK	83	82
25.	RIP	81	85
26.	RRA	87	84
27.	SSN	88	90
28.	TKW	84	92
29.	BAG	85	83
30.	ZR	87	87

The score data was obtained from the Islamic Religious Education (PAI) subject teacher at SMP Muhammadiyah 1 Jakarta. Scores in semester 1 are collected before students get learning with differentiated learning methods, while grades in semester 2 are obtained after differentiated learning methods are applied, Descriptive statistical tables of student learning outcomes scores in semesters 1 and 2 processed using the IBM SPSS 27 application are as follows.

Table 2. Descriptive Statistics of Student Learning Outcomes

		STATISTICS	
		Semester 1 Student Learning Outcomes	Semester 2 Student Learning Outcomes
N	Valid	30	30
	Missing	0	0
Mean		84,40	85,37
Std. Error of Mean		,626	,936
Median		85,14	85,00
Mode		87	91
Hours of deviation		3,430	5,129
Variance		11,766	26,309
Skewness		-0,377	-0,171
Kurtosis		-1,005	-1,107
Range		12	17
Minimum		78	76
Maximum		90	93
Percentiles	25	81,40	81,50
	50	85,14	85,00
	55	85,57	86,20

From the descriptive statistical data, it can be seen that:

1. Central Tendency

The following is the *central tendency* (measure of data concentration) obtained from the descriptive statistical data of the learning outcomes of students in semesters 1 and 2 above:

a. Data Validity

From the data above, there is N, which is the amount of valid data, which is as many as 30 pieces in the data of semesters 1 and 2, while the missing data or missing data is 0. This means that all data is valid and valid for processing.

b. Average (Mean):

The average score of semester 1 was 84.40, while semester 2 increased to 85.37. This shows an increase in average learning outcomes after the implementation of differentiated learning in semester 2.

c. Median:

The median is the middle value (50%) after sorting. In semester 1, the middle (median) score of students from the learning outcome data was 85.14 while in semester 2 it was 85.00. The median score looked stable, but decreased slightly (insignificantly), indicating that half of the students had a score below 85 and half above 85. (Kadir, 2018)

d. Mode:

The mode in semester 1 is 87, while semester 2 is 91. The mode reflects the grades that appear most often, so we can see higher grade shifts appear more frequently in semester 2.

From the results of the descriptive statistical data that has been presented, it can be analyzed that the average score of student learning outcomes increased from 84.40 in semester 1 to 85.37 in semester 2. This increase indicates a positive effect of the application of differentiated learning on students' cognitive achievement. This increase of 0.97 points, although numerically small, needs to be seen in the context of distribution, indicating broader values and changes in personalized learning strategies.

The median in semester 1 was 85.14 while in semester 2 it was 85.00, which shows that the data midpoint did not change significantly even though it decreased slightly. However, there is an interesting change in the mode, which is the most frequently occurring score: 87 in semester 1, increasing to 91 in semester 2. Thus, the data showed a shift in dominant grade preferences towards higher categories, suggesting that a group of students experienced a significant improvement in their learning outcomes after participating in differentiated learning tailored to their needs, readiness, and learning interests. This is in line with previous research conducted by Siti Nurul Qomariyah et al. showing that the application of differentiated learning can significantly improve student learning outcomes. In the study, student learning completeness increased from 47.62% in cycle I to 90.48% in cycle II after the application of this method. This suggests that an approach that pays attention to individual differences in differentiated learning can improve student activeness, motivation, and learning outcomes in PAI material. (Nurul Qomariyah & Nurhamidah , n.d.)

The next step is to present the data in the form of a histogram. This visualization aims to clarify the pattern of the distribution of student learning outcomes, so that it can be further analyzed to see an increase in the effectiveness of differentiated learning in Islamic Religious Education (PAI) subjects as follows.

Figure 1. Histogram of Student Learning Outcomes Semester 1
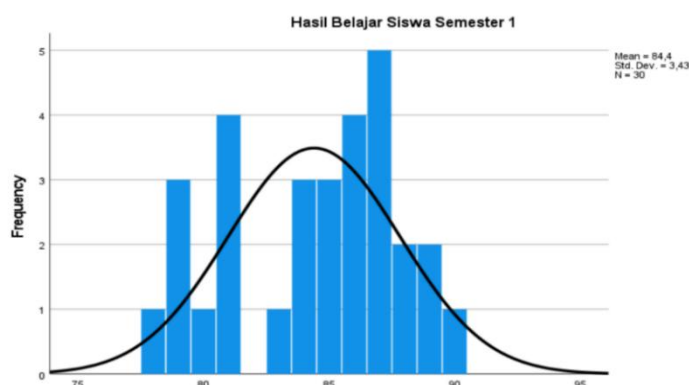
The histogram image shows the distribution of learning outcomes of 1st semester students in the subject of Islamic Religious Education (PAI) before the application of

differentiated learning methods. Based on the graph, the average score (mean) of students is 84.4 with a standard deviation of 3.43 and the number of students is 30 people. Learning outcome scores ranged from 77 to 91, with the highest frequency being in the range of 86–87 scores. Visually, the distribution of data is close to the shape of a normal curve, but there is a slight negative slope, characterized by the presence of some students who score fairly low, while very high scores (above 90) are relatively few.

This distribution that accumulates around the average reflects homogeneous learning conditions, where the approach used tends to target students at the middle level without considering the diversity of students' abilities, interests, and learning styles. This phenomenon shows a strong indication that the learning process that takes place is not adaptive and does not provide space for personalization of learning. Students with high potential are not encouraged to achieve maximum results due to the absence of additional challenges, while students who struggle do not get interventions or support that are appropriate to their needs.

This pattern reflects a learning practice known as *teaching to the middle*, which is a teaching strategy that targets the majority of students who are on the average path, and ignores the existence of students with abilities above or below them. The concept (Tomlinson et al., 2014) *of teaching to the middle* is widely discussed in the differentiated education literature, especially by Carol Ann Tomlinson, a leading expert in the field of *differentiated instruction.* According *to Tomlinson, teaching to middle students is perhaps the least effective way to ensure   (Tomlinson et al., 2014).* student growth, as it ignores both struggling learners and advanced students.

According to Tomlinson, the teaching to the middle *learning pattern* is one of the main weaknesses in conventional learning, because it assumes that all students learn at the same level and in the same way. In fact, in a heterogeneous classroom, teachers need to design flexible learning to meet the diverse needs of students. This risks creating inequality in learning outcomes and reducing the motivation of students, both those who are left behind and those who should be able to shoot further. Thus, this histogram is an important empirical evidence that confirms the need for learning innovation through the application of differentiated learning methods. This approach allows teachers to adjust the content, processes, and learning products based on the needs of each student, so that their potential can develop optimally. Differentiated learning is not only pedagogically relevant, but also crucial to realizing fairness and more equitable learning success. The histogram of student learning outcomes in semester 1 shows generally stable learning outcomes, but also indicates the limitations of the teaching approach that has not taken into account the diversity of students. This is a solid basis that learning innovations such as differentiated learning are absolutely needed to raise the full potential of all students, not just those in the middle.

Figure 2. Histogram of Student Learning Outcomes Semester 2

Hasil Belajar Siswa Semester 2
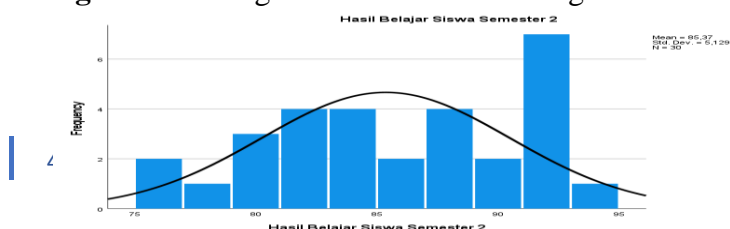
Based on the histogram of student learning outcomes in the Islamic Religious Education (PAI) semester 2 subject, it shows that the distribution of data tends to be close to the normal pattern. From the data displayed, it is known that the average score of students is at 85.37 with a standard deviation of 5.129, and the number of students is 30 people. The range of recorded values ranges from 75 to 95, with the highest frequency appearing in the value group between 90 to 92. This indicates that most students are able to achieve good learning outcomes, with a concentration of scores collected in the range of 80 to 90. This distribution of grades reflects that the learning carried out in general has been able to meet the needs of the majority of students. However, there are a number of students who get scores lower than 80, which shows that not all students have managed to achieve optimal learning outcomes.

In the context of differentiated learning, this condition shows a diversity in students' abilities, learning styles, and needs that need to be accommodated by teachers through more adaptive learning strategies. Students with high scores may be assigned enrichment tasks or challenging independent projects, while students with moderate achievement need reinforcement of material through group work or guided discussions. Students with low scores need special attention, such as more intensive learning assistance, more concrete use of learning media, or remedial learning that is tailored to their learning style.

Figure 3. Comparison of Histograms of Student Learning Outcomes Semester 1 and 2
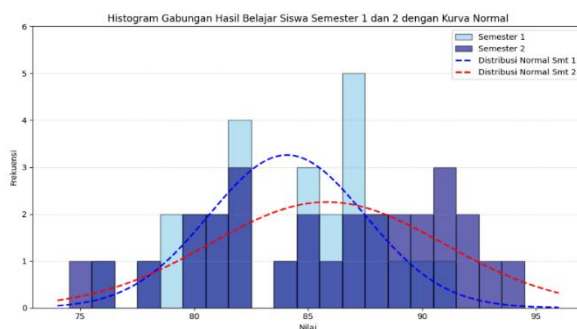
From the histogram, it can be seen that there is an increase in learning effectiveness after the application of differentiated learning methods. The average student score increased by 1.15% from 84.4 in semester 1 to 85.37 in semester 2. In addition, there was a significant increase in the frequency of students who obtained high scores, especially in the 91–92 grade range filled in by 7 students, making it the highest frequency. This shows that a differentiated approach is able to provide space for high-ability students to develop optimally, which may have previously been hampered by the *teaching to the middle* approach, which is a teaching model that generalizes the learning process in average-capable students and ignores the needs of students above or below. (Tomlinson et al., 2014)

In addition to the increase in average scores, there was also an increase in the standard deviation from 3.43 (semester 1) to 5.13 (semester 2), which indicates a wider variation in achievement between students. In the context of differentiated learning, this variation

is not something negative automatically, because it reflects the success of this strategy in facilitating diverse learning needs, both in terms of learning readiness, interests, and student learning profiles. In other words, this method has succeeded in shifting the originally uniform learning pattern to learning that is more inclusive and responsive to individual differences. (Carol Ann Tomlinson, 2017)

These results are in line with Carol Ann Tomlinson's findings that differentiated learning "provides a fair opportunity for each student to grow from their own starting point," and is an appropriate response to an increasingly heterogeneous classroom. In addition, research by Mulyasa also shows that the application of learning that pays attention to the differences in student characteristics can significantly increase motivation and learning outcomes. Thus, the histogram of semester 2 visually and statistically can be considered as strong evidence that differentiated learning has a positive impact on the learning outcomes of PAI students. (Carol Ann Tomlinson, 2017) (São Paulo , 2009)

Based on the results of the analysis of descriptive statistical data from the learning outcomes of students in semester 1 and semester 2 at SMP Muhammadiyah 1 Jakarta, it can be concluded that differentiated learning has proven to be effective in improving student learning outcomes, including in the subject of Islamic Religious Education (PAI). Analysis of the frequency distribution of student scores shows that in semester 1, before the implementation of differentiated learning, the distribution of student scores tends to be concentrated in one range with the majority of students as many as 40% in the score range of 85–87 and only 3.3% of students reach the highest score range, namely in the score range of 88–90. After the implementation of differentiated learning in semester 2, there was a significant increase in the highest score range in the 91–93 grade range achieved by 26.7% of students. In addition, the distribution of grades became more even, showing an increase in overall learning outcomes. This shows that a learning approach that adjusts to students' readiness, interests, and learning profiles is able to elevate academic achievement effectively and comprehensively by accommodating the individual learning needs of students, because in differentiated learning there are adjustments to learning materials, processes, and products according to students' readiness, interests, and learning profiles, so as to increase their motivation and learning outcomes. The histogram of learning outcomes also illustrates the existence of an anomaly in the lower limit of learning outcome scores, where the minimum score of semester 2 turned out to be more compared to semester 1, after conducting an interview with the PAI teacher who was responsible for the class, it was found that students who got the lowest score in semester 2 were influenced by external factors in their family environment so as to reduce their interest and enthusiasm for learning. (Lany, 2025)

From the data on student learning outcomes in semesters 1 and 2, it does show an increase in the average score, as well as a shift in frequency distribution to a higher range of grades in semester 2. However, these improvements cannot be generalized as evidence of the success of differentiated learning across the board, due to some significant methodological limitations. One of the main drawbacks is the absence of a control class

as a comparator. In quantitative research aimed at measuring the effectiveness of an intervention (in this case, differentiated learning), the presence of a control group is essential. Without a class that is not given non-differentiated treatment, we cannot be sure that the increase in grades is solely due to differentiated learning. There may be other variables that affect learning outcomes, such as the quality of teachers who teach in semester 2 is better, the learning materials in semester 2 are relatively easier to understand, or it could be that students are more familiar with the evaluation system used, or there are even other interventions from schools or parents. Thus, the absence of an adequate experimental design, especially without a control group, makes these data results not strong enough to be used as a basis for generalizations on the effectiveness of differentiated learning in a broader context.

The effectiveness of differentiated learning is strengthened by a number of studies such as those conducted by Adiwibowo and Suprapti which show that the implementation of differentiated learning in Pulokulon District State Elementary Schools significantly increases student learning outcomes and motivation. The findings support the theory that differentiated learning, which tailors content, processes, products, and learning environments to the individual needs of students, can significantly improve learning outcomes. (Superhero , 2024)

Thus, overall, when viewed from relevant previous data and research, it supports that differentiated learning can increase the effectiveness of student learning outcomes, especially when applied by taking into account the individual needs and characteristics of students. However, its success depends heavily on the context, the readiness of teachers and students, the strategies applied, careful planning, teacher training, and adequate resource support.

CONCLUSION

Based on the results of data analysis obtained through in-depth interviews, observations, and documentation, and referring to Carol Ann Tomlinson's theoretical framework regarding the effectiveness of differentiated learning which includes aspects of philosophy, principles, and practice, it can be concluded that the application of differentiated learning in the Independent Curriculum in the subject of Islamic Religious Education and Ethics at SMP Muhammadiyah 1 Jakarta has shown strong effectiveness in fulfilling achievements learning. PAI teachers in this school actively implement differentiation strategies based on students' readiness, interests, and learning styles. This can be seen from the implementation of cognitive and non-cognitive diagnostic assessments at the beginning of the school year to identify the needs and characteristics of students, as well as the preparation of learning contracts that involve students directly. In the learning process, teachers use various methods, such as discussions, worship practices, video media, and project-based assignments that are tailored to the character of the subject content and student learning profile.

The results of these interviews and observations were strengthened by the results of descriptive statistical data analysis which as a whole can be concluded that differentiated

learning has proven to be effective in improving student learning outcomes, including in the subject of Islamic Religious Education (PAI). This is based on the increase in the mode score, median and average student scores and the frequency distribution of student scores shows that in semester 1, before the implementation of differentiated learning, the distribution of student scores tends to be concentrated in one range with the majority of students as many as 40% in the score range of 85-87 and only 3.3% of students reach the highest score range, namely in the score range of 88-90. After the implementation of differentiated learning in semester 2, there was a significant increase in the highest score range in the 91–93 grade range achieved by 26.7% of students.

Teachers' understanding of differentiated learning concepts and principles is very good. PAI Muhammadiyah 1 Jakarta teachers understand the philosophy that every student has unique potential and deserves an appropriate learning approach. This is reflected in diverse and flexible instructional strategies, student involvement in learning planning through learning contracts, learning style tests and the implementation of learning evaluations in a variety of ways according to students' readiness, interests and learning profiles. Teachers recognize the importance of providing a fair space for all students to thrive. They are also committed to helping students outside of class hours if anyone is left behind.

Planning is carried out proactively, and instruction is adjusted to the condition of readiness, interests and learning profiles of students based on the results of learning style tests and direct observation. The grouping strategy is not fixed, but flexible, using a lottery system or spinner application, and sometimes the division of groups is based on the results of the student's learning style test so that teachers can give varied tasks according to students' learning styles, be it kinesthetic, visual, or auditory. From the institutional side, schools provide concrete support for the implementation of differentiated learning. School policies include the provision of digital facilities in every classroom, Canva Pro subscriptions, strengthening programs such as the "Special Tahsin" program, the "Practical Worship" program, and regular training for teachers. Learning evaluation is also carried out through post-exam student surveys and teacher reflections in monthly meetings. Thus, it can be concluded that differentiated learning at SMP Muhammadiyah 1 Jakarta has been implemented effectively, both in terms of planning, implementation, and student response. All of the key components of Carol Ann Tomlinson's framework, namely a philosophy that values diversity, adaptive classroom management principles, and learning practices that are responsive to students' needs, have been well implemented.

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