The Differentiated Learning Method (DLM) Practices in Malaysia

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ABSTRACT

In Malaysia, teachers are struggling to teach diverse learners in large classrooms. Since the Ministry has called upon the abolishment of streaming practices, high-achieving and low-achieving students are now being grouped in a classroom. Therefore, teachers must equip themselves with the latest and most effective learning methods to address students' needs and differences. The teachers have to be able to identify, acknowledge and tailor their lessons to ensure that no one is left behind and every student has the opportunity to learn at their bests. The differentiated learning method (DLM) has been recognized globally for its ability to accommodate diverse learners. However, this concept is still new in Malaysia, and the implementation is quite limited to gifted students. This paper will discuss the concept of differentiated learning methods in detail and the application of DLM in Malaysia's education context.

Keywords: Differentiated learning method (DLM); Differentiated learning (DI); 21st-century learning; Higher order thinking skills (HOTS); Malaysia education.

Introduction

In this 21st-century era, we live in a world where technology evolves rapidly. Many technological advancements emerge in parallel to the wave of Industrial Revolution 4.0 (IR 4.0). The IR 4.0 transforms manufacturing, production and other related industries from computer and automation toward digital and cyber-physical systems (Lawrence, Ching, & Abdullah, 2019). Mastery in Science, technology, engineering, and mathematics (STEM) is essential to keep up with the fast-paced world (Balgan, Renchin, & Ojgoosh, 2022). Education is one of the fields that impacted by the industrial revolution. In this new age, conventional teaching methods are no longer relevant as the methods of teaching have slowly moved toward technology-based teaching and learning (Lee & Wong, 2020; Kaite Carstens *et al*., 2021). In addition, Lawrence et al., (2019) suggested that the content knowledge, the teaching and learning methods as well as the role of educators and students must be revisited to ensure the students will be well-equipped with the 21st century learning skills. The Partnership for 21st Century (2009) has outlined three 21st century learning skills, which consisted of life and career skills, learning and innovation skills and information, media, and technology skills (*see* **Figure 1**). The 21st century great emphasis on developing on the development of critical thinking, communication, collaboration, and creativity.

Figure 1. The framework of 21st century skills (The Partnership for 21st Century, 2009)

In line with the aspiration of the framework of the 21st-century learning skills, Ministry of Education (MOE) in Malaysia has come out with the latest education system, known as Malaysia Education Blueprint 2013-2025 (Ministry of Education, 2013). In the Malaysia Education Blueprint 2013-2025 (MEB), the MOE has outlined the education transformation including pre-school level until higher education level. Eleven shifts were highlighted in the MEB to fulfil the educational needs of students in Malaysia (Ministry of Education, 2013). In the MEB, MOE calls the teachers to improve their teaching methods from teacher-centered towards student-centered learning to enhance students' ability to construct their own knowledge, actively participate and become the main contributors to their own learning (Ministry of Education, 2013). The application of student-centered learning will reduce the teacher's domination in classroom as the teachers will only facilitate the students' learning and help them to expand their learning outside the classroom. As a result, the students will be highly engaged in self-regulated and self-directed learning as well as becoming more independent in their pursuit of knowledge (Kaufman, 2013; Lawrence et al., 2019; Lee & Wong, 2020).

Starting from 2019, the MOE in Malaysia has called for abolishment of streaming system to provide an equality in education, consistent with the aspiration of Malaysia Education Blueprint and the 21st century learning environment (Mohd Ikhwan & Azlina, 2019). Streaming system refers to the permanent grouping of students based on their academic ability reflected in previous year-end performance. It is a common management strategy to classify the students based on their academic ability as it is easier for the teacher to accommodate the needs of each group. However, this practice has increased the gap between the high-achieving students and the low-achieving students, and subsequently causing inequality in education (Ziernwald, Hillmayr, & Holzberger, 2022; Ministry of Education, 2013). As a result, teachers should expect some changes in terms of the nature of the classroom after the abolishment of streaming system. The new reality will be they have to teach large and heterogenous classroom with mixed ability students (Abdul Aziz @Ahmad, Ismail, Ibrahim, & Samat, 2017; Butt & Kausar, 2010). Heterogeneous classroom refers to a classroom which consists of students with various culture, mother tongues, learning profiles and personalities. Meanwhile, mixed ability classroom refers to a classroom which consists of diverse learners in terms of proficiencies and academic abilities (Luhalima, & Mulovhedzi, 2022)

Differentiated Learning Method (DLM)

Differentiation is a well-known method to help teachers with diverse learners in heterogenous classroom. It also allows the teachers to provide constructive and meaningful learning experience to the students while nurturing the 21st century skills throughout the learning process. Differentiation is also known as differentiated learning method (DLM). It embraces the idea of differentiated instruction by Tomlinson (1999; 2001). It refers to a learning method that take students' needs into account as it believes that every student is unique and is not all-alike when it comes to learning although they are in a same age group. In other words, students' communalities are being acknowledge and built upon in a differentiated classroom, however, students' differences are never being overlooked. Teachers in a differentiated classroom acknowledges that students have different interests, learning profiles and readiness in learning and teachers have to take those factors into account while planning the lesson (Tomlinson & Imbeau, 2010; Sousa & Tomlinson, 2011; Coubergs, Struyven, Vanthournout, & Engels, 2017) (*see* **Figure 2**).

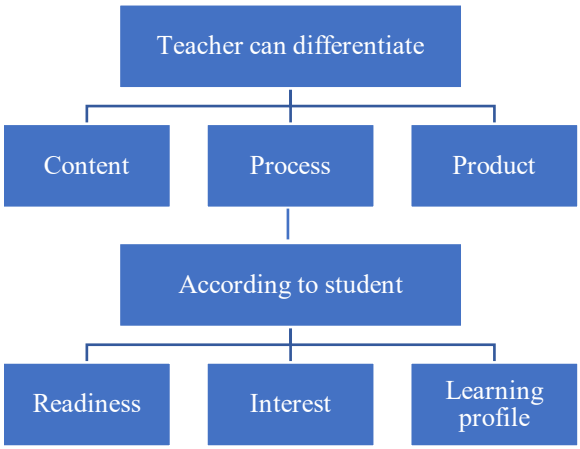

Figure 2. The framework of differentiated learning method (Tomlinson, 1999)

Tomlinson (1999) outlines the concept of differentiated learning method. It begins when the teachers identify and acknowledge students' readiness, interest and learning profile. By taking that information into account, the teachers adjust their content, process, and product to meet students' needs as differentiated learning lies in a belief that one size does not fit all (Gregory & Chapman, 2002). After identifying the students' needs, the teacher will be able to plan the application of the differentiation. They can differentiate in terms of the content, the process, or the product (Balgan et al., 2022).

Differentiated content

Content is the input, ideas, concepts, or knowledge to be taught or learned. It also refers to what teachers teach or what the teachers want students to learn (Tomlinson, 2001). There are two ways of differentiating the content, (1) teachers adapt what they want to teach; and (2) teachers modify how they want to give students access to what they want them to learn. The content can be differentiated according to the readiness, interest and learning preference of a student (Gregory & Chapman, 2002; Sousa & Tomlinson, 2011; Turville, 2008). There are few approaches for differentiating content such as concept-based teaching, curriculum compacting, using varied text and resource materials, learning contracts, minilessons as well as varied support systems.

Differentiated content according to readiness has its learning outcome matches the material given to students' capacity to understand it (Tomlinson, 2001). If a student is advance compared to his peers, teacher can give him different material on the same topic to expand his knowledge, the differences of material might be based on the complexity and level of difficulty of the task (Smets, De Neve, & Struyven, 2022). Meanwhile, differentiated content according to interest using a student's interest to trigger and attract the student to learn. It can be done by incorporating his interest (e.g., arts) into given material and content of learning. Differentiated content according to learning profile ensures a student to learn given materials that match to his preferred way of learning (e.g., lectures for auditory learners, mind mapping for visual learners, roleplaying for kinesthetics learners) (Sousa & Tomlinson, 2011; Turville, 2008).

Differentiated process

Process means sense-making, or in other word, is a platform for a student to process the learned contents, ideas or input (Sousa & Tomlinson, 2011; Tomlinson, 2001). When a student is exposed to new concepts or knowledge, they need to run the input through their own thought process, schema, and filters of meaning. The sense-making process will be enhanced as they use the material to apply, analyze, evaluate and solve a problem (Tomlinson, 2001). Without this sense-making process, the students tend to lose the ideas or confuse them.

Students tend to be motivated in processing an input or content knowledge when the classroom activities are interesting, trigger them to engage in higher order thinking and when the activities helps the students to use key skill to understand key idea (Zólyomi, 2022) As in the case with content, process or sense-making can also be differentiated according to students' readiness, interest and learning profile. Differentiating process according to readiness means matching the complexity of a task to a student's current level of understanding and skill (Sousa & Tomlinson, 2011; Tomlinson, 2001, 1999). Meanwhile, differentiating process according to interest involves giving students choices about multiple facets of a topic in which to specialize helping them link a personal interest to a sense-making goal

(Gregory & Chapman, 2002). Next, differentiating process according to learning profile means encouraging students to make sense of an idea in their own preferred way of learning (Sousa & Tomlinson, 2011; Turville, 2008).

Differentiated product

Product or output in learning aims to help the students to rethink, use and extend the learned knowledge after a long period of time (i.e., a unit, a semester, a year)(Sousa & Tomlinson, 2011; Tomlinson, 2001). It can be done either individually or in groups to represent the students' understanding and mastery. Therefore, it is important for the teachers to be able to design a high-quality product to evaluate a student's performance in learning. A high-quality product assignment must have excellent ways of assessing student's knowledge, understanding and skill. Since students are diverse and unique, some students might need different kind of assignment to show what they know and understand (Tomlinson, 2001; Turville, 2008). Sometimes, these students can show what they truly understand far better in a project rather than on a normal written test. Therefore, DLM will allow multiple options to the students on how they would like to express their understanding (Chen & Chen, 2018; Gregory & Chapman, 2002; Turville, 2008). Apart from that, the teachers in DLM classroom can differentiated the product for struggling learners and advance learners. It is essential to tailor the product according to their ability as Malaysia classrooms consist of diverse and heterogeneous learners with mixed academic abilities (Butt & Kausar, 2010; Kaur, 2017; Mohd Ikhwan & Azlina, 2019).

Tomlinson (2001) suggested several steps in creating a powerful differentiated product assignment. First, the teachers must be clear on the knowledge, understanding and skills the product must incorporate. Second, the teachers decide on the format of assignment, whether writing an essay, conducting an experiment, creating, and designing a prototype, producing creative contents by using technology aids and so on. The product assignment allows the students to explore their modes of expressions, interests, and passions. Third, the teachers have to clearly determine and explain the core expectations for the final output of the assignment. It is very important to allow the students understand how they should work for their products and the nature of the final product itself. By default, the product assignment should stretch the students' ability in applying the learned concepts. The product will reflect their understanding, application, and skills that they obtained after learning a particular knowledge. Next, the teachers will determine ways to assist the students to stretch their learning and application of understanding. The teachers may introduce a scaffolding to help the students to complete their task such as providing criteria for success by developing rubrics, providing timelines and helping them in goal setting/planning (Tomlinson, 2001; Tomlinson et al., 2003).

Differentiated Learning Method (DLM) in Malaysia Context

Differentiated approach has been practiced globally as an effective teaching and learning method that address students' different needs in various subjects/discipline of knowledge (Chen & Chen, 2018; Chen, Kong, Gao, & Mo, 2018; Dixon, Yssel, McConnell, & Hardin, 2014; Joseph, Thomas, Simonette, & Ramsook, 2013; Malesh, 2018; Özer & Yılmaz, 2018; Sabb-Cordes, 2016; Şentürk & Sari, 2018). However, the concept of differentiation and its implementation is still new in Malaysia. There are few schools in Malaysia have started to apply the DLM in classroom. However it is limited to the gifted and talented students only (Fadzil *et al.,* 2022; Hasrul *et al.,* 2022; Rashid *et al.*, 2021; Mior Muhammad, Mohd Hasrul, Mohd Fadzil, Mohd Saifun Aznin, & Muhammad Zaim, 2017; Mohd Hasrul, Hazita, & Azizah, 2015; Najiba, 2014; Noriah, Abu Yazid, Mohd Hakimie, & Jamaliah, 2012).

Noriah et al (2012) investigated that effect of DLM on academic performance and higher order thinking skills (HOTS) of gifted and talented students. It was found that more than 80% of the students indicated their ability to engage in higher order thinking. The students also showed improvement in the academic performance. Majority of students improved within the range of 20%-40% while 14 students experienced improvements within the range of 60 to 70%.

Najiba (2014) did a study to investigate the effects of differentiated learning method (DLM) on students' motivation and achievement in learning Arabic as foreign language. The study was also conducted to the high-achieving students. The participants were exposed to DLM within 14 weeks of semester. It was found that the DLM significantly increased the students' motivation and achievement in Arabic language writing, reading and grammar. This study suggested future research to investigate the effects of DLM on other subject as well such as Science and Mathematics to see the effectiveness of the approach across disciplines of knowledge (Najiba, Samsilah, Maria, &Pabiyah, 2014).

Recently, MOE starts to acknowledge the importance of applying differentiation in a diverse classroom to make sure that not even one student is left behind (Ministry of Education, 2013; Mohd Ikhwan & Azlina, 2019). Therefore, in 2015 the MOE has called upon the implementation of differentiated learning method in a regular public school (national school) through an educational transformation initiative known as, School Transformation 2025 (TS25). TS25 aims to improve student's outcomes and the quality of regular public schools (Zubaidah & Kamarul Arifin, 2018). As the implementations are still in progress, the MOE are keen to get the feedback from the stakeholders in order to see the effectiveness of the approach (Mohd Ikhwan & Azlina, 2019).

Mohd Ikhwan & Azlina (2019) revealed that the teachers have positive attitude towards the DLM approach. The teachers also aware of the diverse classroom that they have in terms of the students' academic abilities and agreed that DLM approach helps them to address both the struggling and the advanced learners. Majority of the teachers perceived DLM as a beneficial teaching and learning method which promotes better, enjoyable, and satisfactory learning experiences. However, the teachers reported that they are struggling with the DLM lesson planning as it is challenging, time-consuming and they are lacking in terms of financial resources in providing the materials for students.

This study is consisted with Muhammad Hasrul (2015) who did a qualitative study to explore the challenges faced by the teacher in implementing DLM, particularly in gifted and talented education. The teachers revealed that they were struggling to come out with strategies, tasks, and materials for DLM lessons. The preparation of DLM lesson was challenging as it is time consuming and involving rigorous efforts while their workload as a teacher is many. The teachers suggested that the implementation of DLM would be easier if there are standard procedure in differentiating lesson as well as prescribed list of strategies and materials specifically for respective subjects according to the textbook and standard learning outcomes. Therefore, there are needs to design DLM lesson plans for specific subject including the suggested materials, activities and tasks that are aligned with the textbook and standard learning objectives to reduce the teachers' workloads in preparing the lessons.

Conclusion

In conclusion, DLM is seen as an effective approach to teach diverse learners with mixed academic abilities as it allows the teacher to tailor their lessons according to the students' needs. However, since the implementation of DLM is considerably new in Malaysia, the teachers especially in regular public schools, need more guidance and help in lesson planning and applying the DLM in various subjects based on Malaysian curriculum. The teachers might also need more exposure and training to allow them mastering the art of differentiating the instruction.

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