






The Belief of Mandarin Foreign Language Educators in Differentiated Instruction Based on Student Characteristics



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ABSTRACT

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foreign language, learning, elective, teaching practices, motivation

This study aims to investigate Mandarin university educators' perceptions of implementing Differentiated Instruction (DI) and the role of genders in relation to students' characteristics. The high dropout rates among students learning Mandarin have raised concerns, and this study seeks to address this issue by providing insights into how educators can adjust their curriculum, instructional methods, learning materials, and activities to meet the individual needs of their students. The study uses a purposive sampling technique to recruit 26 Mandarin University educators who completed the survey questions based on the developed instruments. The data analysis was completed using SPSS ver.25, and the normality of the data was confirmed using Shapiro–Wilks. The Mann-Whitney U test was used to ascertain the belief of the educators with respect to gender differences. This study highlights potential gender differences in Mandarin language educators' use of Differentiated Instruction (DI) and suggests that educators should consider students' characteristics in DI implementation. Tailoring teaching practices to individual students' needs can lead to increase engagement and success. It suggests informing teacher training programs to tailor teaching practices to meet the individual needs of students, leading to better student outcomes. Accurate statistical methods, such as non-parametric tests, were used in the study, which contributes to improving Mandarin language education and may inspire future research in other subject areas within educational contexts.

1. INTRODUCTION

Mandarin, specifically Chinese characters, is frequently regarded as one of the most difficult languages to acquire as a foreign/second language, particularly for individuals coming from alphabetic first-language backgrounds [1]. Because of these problems, there have been more than a hundred articles written in English or Chinese about teaching and learning Mandarin [2]. Recently, Mandarin experts were astonished by the statistic: 94% of students in Chinese language programs in Australian high schools who learn Chinese at any point during their education drop out before the end of year 12 [3]. In Malaysia, there are cases where Malay students who learn at SRJKC (National School of Chinese) fall behind in their studies because they do not master the Chinese language well [4]. This is due to the phenomenon of Chinese (educators) teaching Mandarin to Chinese (students). In Malaysia, this is a reality; both Chinese and non-Chinese students study Mandarin in the same curriculum in SRJKC.

Furthermore, it is difficult to maintain a consistent agenda

while teaching all students. When groups of complete beginners and groups of fluent speakers are in the same class, there will be a huge imbalance. Therefore, to produce a quality education, teachers must be aware of students' characteristics, including socioeconomic variables, culture, language, religion, cognitive level, affective, interest, tendency, gender, and background, to effectively design instruction and maximise their potential. Also, UNESCO Commission in 1993 stated that to deal with individual differences, people's goals and expectations must be altered. In the same way, the Malaysian Education Development Plan 2013–2025 also asserts that every student needs to reach their maximum potential to compete at the global level [5]. Differentiated Instruction (DI) has recently been identified as a well-established strategy that assists teachers in instructing students with varying needs [6]. According to Tomlinson [7], it is teachers' response to adapt the learning process to students' interests, reading levels, or learning profiles. Meanwhile, differentiation is an approach that assists instructors in meeting each student's unique level of readiness, interest, and

learning profiles. In other words, teachers need to react to student characteristics in order to enhance all pupils' learning opportunities.

The impact of individual characteristics and circumstances, cultural values, and customs on students' readiness for learning has been previously studied [8, 9]. Cooperative learning is a commonly used differentiation strategy. However, studies comparing gender have shown significant differences in students' readiness levels [10]. This study aims to examine the relationship between students' readiness, interest, and learning profiles and the application of differentiation instruction by Mandarin foreign language educators. The study intends to provide Mandarin educators with insights into the significance of students' personalities and their relation to the application of DI, particularly when dealing with a diverse student body. In summary, this study explores the relationship between students' characteristics and the application of DI in Mandarin foreign language classrooms focusing of educators' perspective. It also seeks to provide insights into the application of DI in Mandarin foreign language classrooms and how educators can adjust their teaching methods to cater to students' individual needs and characteristics.

2. LITERATURE REVIEW

Personal characteristics and individual circumstances, such as language beliefs, student perceptions of teacher characteristics, the availability of outside-of-school support and resources, learning performance, study time, and net-surfing time, were discovered to influence the levels of the readiness dimensions in learning a foreign language [8].

To better understand the culture, values, and customs of those who lived in other regions of the world were the attracting factors the participants ready to learn a new language [9]. Also, the Pearson correlation analysis showed a weak positive correlation when professional and multicultural goals were tested with readiness to learn a foreign language

Tse and Tan [11] focused on the implementation of differentiated instruction in Mandarin language classes in Singaporean primary schools. The authors highlight the challenges of teaching Mandarin to students with varying proficiency levels and propose a differentiated instruction approach that involves tailoring the curriculum and instructional materials to meet the needs of students at different levels of language proficiency. They provide examples of instructional strategies and materials that can be used in Mandarin classes to cater to the diverse needs of students and highlighted the importance of addressing the needs of students with diverse linguistic backgrounds in order to create an inclusive and effective learning environment. The such paradigm is taken into account in this study.

The issue of the relationship based on gender, was revealed by Saali [10] that male and female students showed significantly different levels of readiness for differentiated instruction in Malay language teaching and learning. While there was no significant difference between male and female attitudes toward individualised instruction in the teaching and learning of the Malay language. In addition to the perspectives of students on DI, notable researchers have also addressed the perceptions of teachers. Melesse [12] discovered that instructors lacked sufficient knowledge of DI and its

techniques, which should be addressed by teacher trainers and administrators. In terms of demographics, female instructors utilised DI more effectively than male teachers. Another study, Smets and Struyven [13] revealed that most educators accommodate heterogeneity by using cooperative learning strategies. However, this did not lead to differentiated/academically responsive instruction because of the non-responsive instructional design, and they proposed conceptualising DI as a teacher's high- and low-level competency. In addition, Izgi's study in the study of Sapan and Mede [14] revealed that implementing DI boosted the experimental group's academic achievement and positively influenced their interest in language acquisition.

A School Improvement Specialist Coach Plus (SISC+) in Malaysia noted that certain pupils, particularly low-proficiency learners, are unmotivated and uninterested in learning English, which is a second/foreign language for Malaysians. It could be the students did not comprehend the material and were not given the chance to maximise their ability in accordance with their learning methods [15]. According to the study, teachers should organise their classes and alter their approach and activities to fit the needs of all students, so that all students can complete their assignments based on their learning styles (Multiple Intelligences) and skill levels.

A lot of evidence shows that students are more successful and satisfied if they are taught in ways that are responsive to their readiness levels [7]. However, previous studies found that educators do not have knowledge of differentiation and it is not favourably practised by teachers in Malaysian classrooms due to the fact the teachers need to make a lot of preparations to cater to a heterogeneous group of students [15].

Baecher et al. [16] wrote on differentiated instruction for English language learners is a well-researched study that presents valuable insights into how teachers can support students with diverse language needs. Several studies have examined differentiated instruction in the context of foreign language education, and some of them are similar to the research presented in this paper. For instance, Chua et al. [17] explored the effectiveness of differentiated instruction in improving students' language proficiency and found that it had a positive impact on their learning outcomes. Similarly, Sun et al. [18] investigated the use of differentiated instruction based on student characteristics in Chinese language classrooms and found that it led to improved student engagement and motivation. These studies provide a useful context for understanding the innovative contribution of the research, which specifically focuses on the beliefs of Mandarin foreign language educators regarding differentiated instruction.

The above discussion brings forward the need to understand more about students' characteristics and their relationship to DI Mandarin educators with the following ideas:

Research question:

What are the perceptions and beliefs of male and female university Mandarin educators in the implementation of DI based on students' characteristics (Readiness, Interest and Learning Profile)?

Hypothesis:

There is no statistically significant distinction in the perception of male and female university-level instructors of Mandarin concerning the utilization of differentiated instruction (DI) based on the characteristics of their students.

3. THEORETICAL FRAMEWORK

Tomlinson [19] defined differentiated instruction as a philosophy of teaching that is based on the premise that students learn best when their teachers accommodate the differences in their readiness levels, interests, and learning profiles. One of the primary goals of individualised instruction is to maximise each student's potential to learn [19]. According to Tomlinson [7], differentiation is more than just an instructional method or a teaching recipe; it is an inventive way of thinking about teaching and learning.

The well-known framework is the Differentiated Instruction Model proposed by Tomlinson [20], shown in Figure 1. This model is based on effective educational practice framed around several critical elements: Respectful Tasks; High-Quality Curriculum; Teaching Up; Flexible Grouping; Continual Assessment and Building Community

In Figure 1, differentiation is approachable teaching rather than one size fits all teaching [20]. It means that teachers proactively intend to work differently to deliver what students need to learn and learn as effectively as possible [20].

A high-quality curriculum means planning activities that address all students' needs and learning preferences. It engages students to explore essential ideas and develop skills and attitudes. Next, teachers use assessment to group the students at the beginning of the lesson. During the lesson, the continuous assessment enables teachers to adjust and plan appropriately for the next steps, activities, next lesson, or class. At the end of the topic, summative assessments allow students to demonstrate what they have learned. Teachers should

ensure the tasks given are respectful. They are challenging, engaging, and worth doing. The tasks may be adjusted for different readiness levels, interests, or learning preferences in a differentiated classroom. The teachers then focus on building a safe, accepted, and supported learning community. The practice of flexible grouping characterises effectiveness in the differentiated classroom. Students can work with a variety of students frequently. Teaching up means raising the 'ceiling' for all students. In a differentiated classroom, all students should be working at a level of complexity just above their comfort levels. Thus, teachers should plan the most complex learning activity that would challenge the most advanced learner in the class. Then modify that activity for students who are currently at lower readiness levels.

However, it was difficult to determine the specific impact of tailoring instruction based on learner readiness versus interests and learning profiles—or whether it is necessary to address all of those factors concurrently. Similarly, fully comprehending teacher-development methods that may help teachers to join the profession with an awareness of student variability and to evolve systematically in responsive teaching. Moreover, Tomlinson [7] mentioned that DI offers a variety of methods for content, process, product, and affect/learning environment. DI is based on the manipulation of four elements: content (what students learn), process (how students make sense of information and concepts), product (how students demonstrate what they've learned), and affect/learning environment (the climate or tone in the classroom). This change is based on an evaluation of student preparation, interest, and learning profile variances.

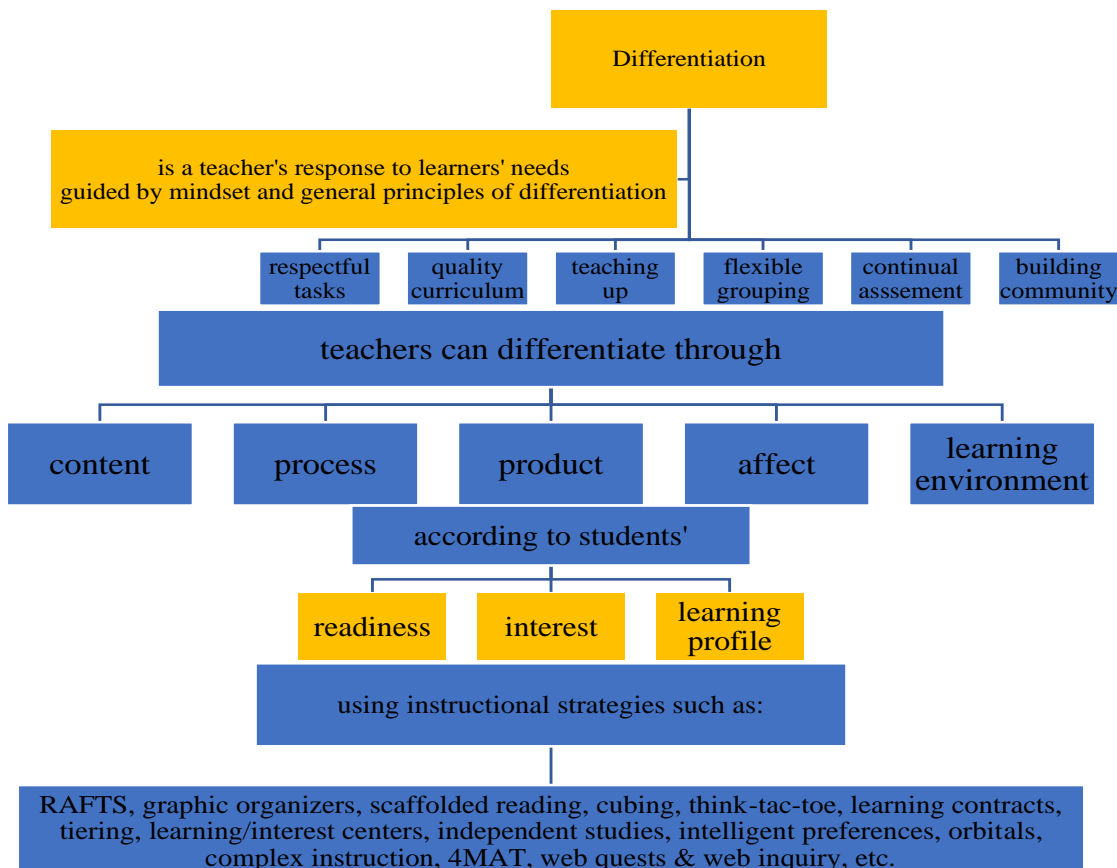


Figure 1. The differentiated instruction model [7]

4. RESEARCH METHODOLOGY

The research method is quantitative and uses a survey based on students' characteristics (constructs of Readiness, Interest, and Learning Profile on the implementation of DI among University Mandarin educators. The questionnaire items have been adjusted according to the suitability of learning Mandarin as a foreign language. Data were analyzed using SPSS version 25 for Windows. In its final form, the questionnaire included two parts.

Part I was designed to gather descriptive information shown to have potential relevance with respect to higher instructional beliefs and actions [21]. Specifically, participants indicated their gender, highest educational degree, years of teaching experience, and graduate/undergraduate course load distribution.

Part II comprises 21 items designed to elicit respondents' beliefs about the importance of students' readiness (12 items), interests (three items), and learning profile characteristics (six items). It included 35 items targeting the degree to which respondents felt prepared to respond to student's readiness, interests and learning profiles in implementing DI. Five response choices were offered for each item in Part II, using the descriptive anchors: strongly disagree, disagree, unsure, agree, and strongly agree.

Demographic Details

This study was conducted in 15 public universities in Malaysia and all Mandarin educators were invited to participate in the study. The study employed the survey of Rock et al. [22] in addition to the questions on educators' experience with online DI in Mandarin as a foreign language and some demographic variables like gender, university types and teaching experience. The number of Mandarin educators who enrolled in this survey was 26. They were recruited by email to participate in a 15~20-min long online survey. 20 of them are males and 6 are females, 23 of them are Malaysian Chinese educators and 3 China Chinese educators. 11 of them are degree holders, 12 are Master's holders and three are Doctorate educators. All of them had completed the survey and agreed to allow their responses to be used for the research.

5. DATA ANALYSIS

The normality of the data was confirmed using Shapiro–Wilks. It was observed that the data did not follow a normal distribution, consequently, the application of non-parametric tests for the analysis and interpretation of the data gathered was considered appropriate in the present investigation. The Mann-Whitney U test was used to ascertain the perception and the belief of the educators on the students' characteristics and differentiation strategies with respect to gender differences. Elements of students' characteristics that consist of readiness, interest and learning profile were investigated. Likewise, the educators' use of DI elements comprising of learning environment, content process and product as well as assessment were also determined. The Mann-Whitney U test is considered appropriate in this study due to its ability to cater to non-normal data distribution as suggested by the preceding researchers [23]. The data analysis was completed using SPSS ver.25 for Windows. All the inferences were set at $p \leq 0.05$.

Educators' beliefs on students' characteristics towards DI implementation based on gender

Table 1 tabulates the educators' belief in students' characteristics of the students' DI implementation. The medium scores and the descriptive and inferential statistics of the variables investigated are shown in the table. A statistically significant difference was observed between the educators on readiness elements ($p = 0.05$). The male educators indicate higher relevance of readiness as compared to their female counterparts. On the other hand, no statistically significant difference was detected between the educators concerning interest and learning profile.

Table 1. Educators' belief in students' characteristics on DI

Variables	Median Rank (Students' Characteristics)			
	Male	Fem	Z statis	P-value*
Readiness	18.75	11.93	-1.93	0.054*
Interest	18.33	12.05	-1.77	0.077
Learning Profile	16.08	12.73	-0.98	0.326

*Mann-Whitney U ($p > 0.05$)

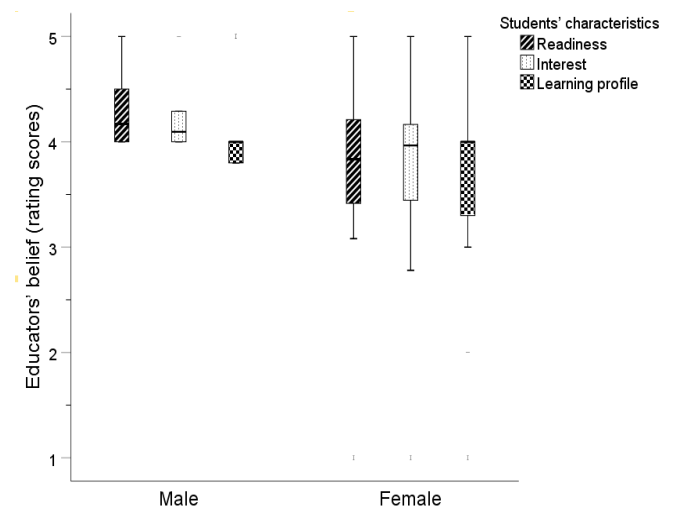


Figure 2. Mandarin educators' perception of students' characteristics on DI implementation

Figure 2 portrays the mean difference plots of the educators' beliefs on the students' characteristics for implementing DI. It could be observed from the boxplots that the belief of the male educators across all students' characteristic elements, i.e., readiness, interest and learning profile are slightly higher in comparison to female educators. This signifies that male educators are more likely to accord more consideration to students' characteristics in DI when compared to their female counterparts.

6. DISCUSSION

The present study has proven that students' characteristics affect Mandarin university educators' perceptions of their DI implementation. There is a significant difference between the educators on readiness elements. These findings are aligned with the author who revealed that personal characteristics and individual circumstances were discovered to influence the levels of readiness in learning a foreign language [8].

In contrary, the study by Reyes [9] found a weak positive correlation between professional and multicultural goals and readiness to learn a foreign language among educators. This suggests that educators who are well-prepared for diversity and inclusion (DI) application are more likely to apply DI in their teaching. This finding highlights the importance of ensuring that educators are adequately trained and prepared to implement DI strategies in the classroom. By providing educators with the necessary skills and knowledge to address diverse student needs, schools can create a more inclusive learning environment that supports the success of all students.

However, in realising the application, there are other factors apart from besides readiness. The male educators indicate a higher level of readiness as compared to the female educators. These findings are in line with Saali's [10] research, who found those male and female students showed significantly different levels of readiness for differentiated instruction. It was also discovered that there was no statistically significant difference detected between the educators concerning interest and learning profile. These results show that male and female teachers have different ideas about how important students' traits are when it comes to readiness, but they have the same ideas about how interest and learning profile affect the implementation of DI. Therefore, all the constructs are perceived as important factors to consider while implementing the DI.

The study surveyed 26 Mandarin foreign language instructors to explore their beliefs about differentiated instruction based on student characteristics. The findings provide valuable insights into how educators in this field approach teaching and learning in diverse language classrooms. Future studies with more balanced gender representation could provide a more comprehensive understanding of the beliefs of Mandarin foreign language educators. Besides, obtaining feedback from instructors on their use of differentiated instruction based on student characteristics in Mandarin foreign language education can be challenging due to factors such as time constraints, lack of incentives, and varying levels of familiarity with the approach. To overcome these challenges, it is suggested that for future studies, researchers could consider using mixed-methods approaches that combine surveys, interviews, and classroom observations to gather more comprehensive data on instructors' beliefs and practices.

This study also showed that Mandarin educators paid more attention to readiness in learning, followed by interest, and lastly, the learning profile. The finding is in line with Hao's research [8], which revealed that there were a few factors that affected readiness, including language beliefs, student perceptions of teacher characteristics, the availability of outside-of-school support and resources, learning performance, study time, and net-surfing time. Interest was found to be the second important construct. This finding confirmed the study cited in the study of Sapan and Mede [14], who revealed an interest related to the effectiveness of DI application. Therefore, university educators should take students' characteristics into account in producing learning experiences that suit their learning needs and preferences as suggested by Minder [15]. Most importantly, educators' knowledge of students' readiness, interest, and learning profile could increase their self-pedagogical practise besides enhancing students' learning performance and satisfaction. A good and lifelong learning experience can be effectively provided if educators try to address every student's learning

needs and maximise their abilities during the instruction process.

In terms of the gender comparison, the current study confirmed that the belief of male educators across all students' characteristic elements, i.e., readiness, interest, and learning profile, is slightly higher in comparison to female educators. This signifies that male educators are more likely to accord more consideration to student characteristics in DI when compared to their female counterparts. The current study does not support the study of Melesse [12], who revealed that female instructors utilised DI more effectively than male teachers. This disparity in results may be attributable to the fact that there was fewer male than female respondents who participated in this research. In order to obtain a clearer picture of how male and female educators practice DI in the classroom, further research is required.

While this study provides valuable insights into the belief of Mandarin foreign language educators in differentiated instruction based on student characteristics, there are certain limitations that must be acknowledged. Firstly, the study only focused on a specific group of educators in Malaysian universities, which limits the generalizability of the findings. Additionally, the study only explored the educators' beliefs and did not examine the actual implementation of differentiated instruction in their classrooms. Furthermore, the study did not take into account the perspectives of students, which could provide a more comprehensive understanding of the effectiveness of differentiated instruction. In terms of future research, it would be beneficial to investigate the actual implementation of differentiated instruction in classrooms and its impact on student learning outcomes. Additionally, examining the perspectives of students and comparing them with the beliefs of educators could provide valuable insights into the effectiveness of differentiated instruction. Overall, while this study provides a foundation for understanding the beliefs of Mandarin foreign language educators regarding differentiated instruction, further research is needed to fully explore its potential in promoting effective language learning.

7. CONCLUSIONS

Overall, the current study demonstrates that the Mandarin educators' perceptions of readiness, interest, and learning profile had a significant impact on the implementation of the DI. On readiness elements, there was a statistically significant difference between educators. Male educators demonstrate greater readiness relevance than female educators. However, no statistically significant difference in interest or learning profiles was found between educators. Male educators' beliefs about all aspects of students' characteristics, such as readiness, interest, and learning profile, are slightly higher than female educators' beliefs. When compared to their female counterparts, male educators are more likely to give consideration to students' characteristics in DI. This demonstrates the significance of student characteristics and the necessity of practitioners' knowledge, expertise, planning, and seriousness in DI implementation. Teachers who have a strong belief in their ability to plan and execute complex and specific teaching tasks will ensure its success.

The use of technology in the 21st century has made it easier to implement differentiated instruction (DI) in classrooms. Teachers can now access formative assessments and adjust content according to individual student needs. There are

various technological tools available that help teachers engage students and match instruction to their instructional level. By implementing DI, educators can produce well-rounded learners who are self-motivated, independent, and competitive in a global context. This study focuses on the significance of differentiated instruction in Malaysian universities for students learning Mandarin as a foreign language. In conclusion, the importance of DI in creating an effective learning environment that meets individual student needs should be acknowledged and embraced by educators, especially in diverse learning settings such as Malaysian universities. The use of technology in the 21st century has made it easier to implement DI and cater to students' individual needs. By providing differentiated instruction, students are more responsible to their own self learning and empowered to become independent and self-motivated learners. In turn, this creates a well-rounded learning experience that equips students with the skills necessary to compete globally. It is, therefore, imperative that educators prioritize implementing DI strategies in their teaching practices to ensure that every student has an equal opportunity to succeed.

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