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Differentiated Instruction and Its Impact on ESL Pre-University Students' Language Attitude

Instrucción diferenciada y su impacto en la actitud lingüística de los estudiantes preuniversitarios de ESL

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ABSTRACT

Modern education has acknowledged the importance of differentiating lessons to meet multifarious needs for learning within a single classroom. The diverse needs are especially evident in language classrooms as they are often comprised of learners with different levels of proficiency and motivated by different learning triggers. This study examines the impacts of differentiated instruction (DI) on ESL students' language attitude in a tertiary education setting following a four-week classroom intervention. Through the longitudinal study, 21 second semester students (age 18) from a matriculation college in South Peninsular, Malaysia were involved. The student-participants' English language attitude was measured through three constructs, namely cognitive, affective, and behavioural and was analysed and reported separately before they were amalgamated to form a general report of language attitude. Through a purposive sampling, the participants were selected and their learning styles were using Grasha-Reichmann Scale Survey prior to the intervention. Driven by the learning style preference test results, differentiated learning activities were designed to accommodate the different types of learning style preference. The intervention, which spanned four weeks, included a pre- and post-test based on Gardner's Attitude and Motivation Test Battery to measure and re-measure the participants' language attitude. The findings revealed no statistically significant difference between the mean scores of the pre- and post-test. However, a new pattern was identified when the three constructs were ranked as opposed to previous studies. Some pedagogical implications were discussed at the end of the paper for ESL instructors to consider in enriching their teaching repertoire.

Keywords: differentiated instruction, tertiary education, ESL context, language attitude, effects.

RESUMEN

La educación moderna ha reconocido la importancia de diferenciar las lecciones para satisfacer las múltiples necesidades de aprendizaje dentro de un solo salón de clases. Las diversas necesidades son especialmente evidentes en las aulas de idiomas, ya que a menudo están formadas por alumnos con diferentes niveles de competencia y motivados por diferentes factores desencadenantes del aprendizaje. Este estudio examina los impactos de la instrucción diferenciada (DI) en la actitud lingüística de los estudiantes de ESL en un entorno de educación terciaria después de una intervención en el aula de cuatro semanas. A través del estudio longitudinal, participaron 21 estudiantes del segundo semestre (18 años) de una universidad de matriculación en el sur de la península de Malasia. La actitud del idioma inglés de los estudiantes participantes se midió a través de tres constructos, a saber, cognitivo, afectivo y conductual, y se analizó e informó por separado antes de fusionarse para formar un informe general de la actitud del idioma. A través de una muestra intencional, los participantes fueron seleccionados y sus estilos de aprendizaje estaban utilizando la Encuesta de Escala Grasha-Reichmann antes de la intervención. Impulsados por los resultados de las pruebas de preferencia de estilo de aprendizaje, las actividades de aprendizaje diferenciadas se diseñaron para acomodar los diferentes tipos de preferencia de estilo de aprendizaje. La intervención, que duró cuatro semanas, incluyó una prueba previa y posterior basada en la Batería de prueba de actitud y motivación de Gardner para medir y volver a medir la actitud lingüística de los participantes. Los hallazgos no revelaron diferencias estadísticamente significativas entre las puntuaciones medias de la prueba previa y posterior. Sin embargo, se identificó un nuevo patrón cuando las tres construcciones se clasificaron en comparación con estudios anteriores. Se discutieron algunas implicaciones pedagógicas al final del documento para que los instructores de ESL las tengan en cuenta al enriquecer su repertorio de enseñanza.

Palabras clave: instrucción diferenciada, educación terciaria, contexto de ESL, actitud lingüística, efectos.

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1. INTRODUCTION

A mixed-ability classroom consists of students with varying degrees of notional learning capability as well as learning needs, interests, and styles (Alhashmi & Bayan Elyas 2018). In order to reach out to most if not all the students within a single classroom, a teacher needs to embrace the notion that students are naturally predisposed with different strengths and weaknesses. Consequently, they learn at a different pace and possibly different preferred learning pathways. Differentiated instruction (DI) is a teaching philosophy that changes educators' way of viewing teaching and accommodating learning needs of various students in a single classroom and scholars (e.g. Alavinia & Viyani 2018; Tomlinson & Imbeau 2010) indicate that when implemented in lessons DI has helped to accommodate students' various notional abilities and learning preferences. When referred to as a teaching philosophy, what it really means is that DI requires teachers to rethink one's classroom practices and lessons, resulting in a continuous process of adaptation in the classroom (Tomlinson & Imbeau, 2010). By relying on it, teachers acknowledge the truth that they need to continuously reflect and adjust lessons and classroom practices that suit their students' needs and differences.

Nevertheless, scholars have suggested that the notion of DI has been misinterpreted by many teachers and school leaders (Tomlinson & Imbeau 2010) as being only a set of instruction. While it is true that DI is an instructional approach, it is still connected to other elements such as supportive learning environment, excellent curriculum, evaluation, and flexible classroom management. Tomlinson (2000) suggests that in differentiated lessons, teachers use several methods to deliver curriculum content, conduct suitable activities or processes that match students' learning preferences to help students understand the lessons taught, and offer various options for students are able to demonstrate what they have understood. In other words, teachers are able to adequately challenge the students by creatively crafting the content (curriculum), process (teaching and learning activities) and product (homework or assignments) to meet students where they are in a learning continuum. The implementation of DI is suitable for any subjects and past studies suggest that it is especially useful for subjects such as languages, mathematics, sciences, and special education (Alavinia & Viyani, 2018; Alhashmi & Elyas 2018; Aliakbari & Haghighi, 2014; Altintas & Ozdemir, 2014; Bal, 2016; Cannon, 2017; Chamberlin & Powers, 2010; Fadzil, Kamarudin, Hasrul, Kamarulzaman, & Ishak, 2018; Gaitas & Alves-Martins, 2017; Kamarudin, 2017; Kamarulzaman, Azman, & Zahidi, 2018; Magayon & Tan, 2016; Moreno & Moreno, 2015; Muhammad, Nizan, Saali, Hasrul, & Fadzil, 2017; Ocampo, 2018; Scott, 2012; Siddiqui & Alghamdi (2017); Valiandes, 2015; Zola, 2017).

Meanwhile, learning is a continuous process and attitude forms an integral aspect to determine learning performance and eventually, success. In second language learning, Dornyei (2005) suggests that second language learners' attitudes towards the target language influence how successful the learning of it will be. Scholars define attitude as a mental disposition that comprises complex turmoil of feelings, or other tendencies that have given a person a certain readiness that may lead him or her to act for or against something (Chave, 1928; Droba, 1933; Singh, 2014). Katz (1960) and Gardner (1985) are researchers who categorize attitude into 3 components, which are cognitive, affective and behavioural. The first component refers to the mental process and beliefs about an object and in the context of this study, it is the learning of English language. It explains how learners view and think about the knowledge they garner. A person's cognitive attitude is demonstrated as one 1) connects existing knowledge with newly developed knowledge, b) creates new knowledge, c) checks new knowledge, and d) applies the newly developed knowledge in other situations (Katz, 1960). The affective construct represents the emotions that result in the learning of English such as the likes and dislikes and/or trust and distrust towards a language, the native speakers, and their culture. Finally, the behavioural construct describes the specific actions that a learner undertakes when learning a target language (Garcia-Santillan et al., 2012).

Thus, DI is a teaching approach that is integrated in the present intervention study by involving a less commonly investigated group of participants – the ESL learners at a tertiary education setting. A differentiated learning module was developed based on their learning style preferences and validated by DI experts prior to its implementation in English lessons for 12 hours, spanning four weeks. The differentiated lessons were hypothesised to positively impact the students' English language attitude, a variable that is also not commonly reported in the literature of DI.

2. LITERATURE REVIEW

Differentiated Instruction and Zone of Proximal Development

The implementation of DI is in line with the principles of the Zone of Proximal Development (ZPD) concept which stems from Vygotsky's sociocultural theory. It promotes the concept of students as active participants in the quest for knowledge and teachers are merely the facilitators of their learning achievement. Langford (2005) claims that Vygotsky's theory postulates that children express their needs and interests through self-chosen project work and have the autonomy to choose one's preferred essay topics and books for subjects or learning modules. Teachers' roles are mainly to advise whenever the students face any learning problems such as the inability to find relevant facts or data when at a loss for ideas and information. However, it imposes some unforeseen challenges when teachers may find it difficult to assist because of lack of relevant resources. Vygotsky saw the need to differentiate between what a learner can or cannot do without assistance (Siyepu, 2013). Besides, teachers are also important in the process of learning at any level of development. Vygotsky believed that the facilitation of new information is not warranted by a becoming level of development but rather it should be encouraged through instruction to be further developed. Thus, the cooperation between the teacher and students will trigger students' higher psychological functions (Alves, 2014). The notion can be manifested in the form of differentiated lessons that position teachers as facilitators who need to meet students where they are in terms of learning capability and who offer learning pathways that they are able to choose from. Through this practice, learning autonomy flourishes as students are encouraged to eventually acquire knowledge through their own effort.

Studies on Differentiated Instruction and Language Attitude

On reviewing the literature, there is a burgeoning number of studies across the world as it is considerably a new field of research but out of these, none was found to have investigated Malaysian tertiary students. DI is a teaching approach that influences positive impacts on students' achievement especially in language classrooms comprising of learners with varying abilities. Beasley & Beck (2017) argue that differentiated instruction strategy is strongly needed by learners because of their multifarious nature of language learning styles. They also mentioned that teacher-respondents in the study strongly felt the need to differentiate based on learning styles, due to two main reasons: 1) much precious time was wasted when teachers used less effective practice and 2) less significant impact on student achievement was detected when using the traditional teaching methods whereby all students received the same treatment despite their varying learning abilities.

DI has been found to be of a particular significance when used as a form of intervention in reading comprehension class. Aliakbari & Haghghi (2014) found significant impact of DI in promoting both male and female elementary students' reading comprehension regardless of the different socio-economic background, learning styles preferences, and learning profiles. The finding concurs with a study by Bhlood (2013) who found positive impacts on English reading comprehension skills among ninth graders' at Gaza UNRWA Schools and revealed that the learners in the treatment group outperformed those in the control group. However, a study by Alhashmi & Bayan Elyas (2018) at King Abdul-Aziz University found that the performance by both control and experimental groups was not statistically different. Nevertheless, the student-participants were noted to claim that DI helped to increase their motivation, easy access to learning, and learning autonomy.

Out of the increasing number of studies that have reported empirical evidence on differentiated instruction until now, only three studies were found that included Malaysian learners. Hamidah et al. (2011) explored some English instructors' view on a writing programme designed for Malaysia's academically gifted learners at a secondary education level that looked at the implementation of differentiated instruction in ESL writing classroom. Meanwhile, Kamarulzaman, Azman, and Zahidi (2015) carried out a qualitative study to investigate the impacts of differentiated instruction on learners' achievement while also exploring the challenges by English teachers when planning lessons at the School of Gifted Learners in Malaysia. Another study by Najiba et al. (2014) was a study carried out at a high-performing school to measure the impacts of differentiated learning on the learners' motivation in Arabic lessons.

When learning a second or foreign language, attitude is one of the most important elements to determine the success of the endeavour. The literature records a number of attitudinal studies that examine the role of attitude in ESL learning. Malekmahmudi and Malekmahmudi (2018) evaluated the EFL learning language attitude of human sciences and medical sciences students in Iran through a questionnaire survey. The findings revealed that the participants' gender had no significant influence on the behavioural, cognitive and emotional constructs of attitude but their field of study was reported to have affected the behavioural and cognitive aspects in learning English. On the contrary, Munir and Rehman's (2015) study of secondary school students in Pakistan revealed that the female participants were more positive in the cognitive and behavioural constructs as compared to the males. They also found that the field of study played a role and the science stream participants showed more significant positive attitudes in learning English as compared to arts stream students. More studies have reported a display of positive attitudes by ESL learners. Eshghinejad (2016) studied students at Kashan University and recorded positive attitudes across the three aspects. Similarly, a study by Setianengsih et al. (2017) indicated that 55 grade tenth and eleventh grade students at a rural area in Sambas displayed positive language attitudes in learning English. However, a common pattern identified from these past studies is that the affective aspect seemed low and it is suggested to have affected the process of learning English.

In the Malaysian setting, Siti Sukainah and Melor (2014) found a display of high motivation and positive attitudes towards English had no direct impact on students' efforts in improving their language proficiency. The participants were also revealed to only put efforts to learn and improve English which was limited to the classrooms. They found that no efforts were carried out at home for the purpose of improving their English proficiency. Ironically, Thang and Nurjanah (2011) found that students with higher language proficiency displayed more efforts to better themselves than the weak ones. The researchers found a pattern that prevails as the cognitive component was the construct with the highest mean score. This was followed by the affective and the behavioural construct was the lowest and this concurs with the findings by a more recent study by Nur-Ehsan et al. (2018). The study managed to document yet another case of positive language attitude among ESL learners in a secondary education context. The findings also revealed that the field of study had no influence on students' attitude as no significant mean differences between the science stream and social science stream students were found.

Past studies (e.g. Nur-Ehsan et al. 2018, Salem et al., 2017; Samsiah et al., 2009) have revealed the significance of teaching strategies in influencing second language learners' attitude. Ismail, Abdullah, and Ghani (2014) argue that pedagogical strategies could even motivate learners who were found to display negative attitudes when learning English. Practicality is another trait that helped to boost learners' passion to learn the language. When they realized the importance of learning English in practice, their attitude improved. A more conducive classroom environment and teachers' attitude are also of paramount importance to facilitate a better display of attitude and achievement by their learners (Choy & Troudi, 2006; Lim Chi Yin et al., 2019). The present study hypothesizes that through differentiated lessons, the research participants' language attitude across the three constructs would improve.

3. METHODOLOGY

The present study employed a quasi-experimental design to measure the impacts of the classroom intervention

through a pre- and post-test. Kirk (2007) suggests that the design would enable researchers to compare the means between the same test that is administered twice and to measure them with the same precision. The null hypothesis of the study is: *There is no significant difference between the mean scores of the pre- and post-test of pre-university students' English language attitude.*

The research population is all the students at 14 matriculation colleges across Malaysia. For the purpose of conducting this study, a matriculation college in Southern Peninsular Malaysia was chosen involving Semester II students. The college educates a total of 123 students from the second semester who formed 6 classes. An intact classroom was recruited for the study comprising 21 students through purposive sampling. Even though the study intended to recruit a higher number of research samples, only one classroom was involved due to the strict access outlined by the college administration to minimise learning interruption as well as to accommodate the limited availability of facility.

The study involved three main phases: needs analysis, intervention development, and implementation of intervention. Prior to designing the intervention programme, a survey was carried out using Grasha-Reichmann learning scale to identify the research participants' language learning style preference. The instrument was originally designed to be used by secondary school and college students to find out how they interacted with course instructors and other students. The practice helped to promote an optimal teaching and learning environment by helping teachers to develop sensitivity to students' learning needs. The survey that was used consists of 60 questions with 6 scales that represent the learning style construct: Independent, Dependent, Avoidant, Participant, Collaborative, and Competitive (Grasha & Riechmann, 1989). Findings from the survey were analysed to drive the development of teaching and learning activities in the differentiated module.

In the second phase, a total of 12 lesson plans were created primarily on reading skills. The teaching materials (reading texts and worksheet) used in the study were provided by the course instructor but the teaching and learning activities were differentiated to accommodate the students' needs. The practice ensured that the lessons prepared would adhere to the syllabus outlined by the matriculation division under the Ministry of Education Malaysia. The course instructor involved was first introduced to the philosophy of DI and the importance of the philosophy for the students. She was later briefed on the content of the lessons and was trained for several hours. The first author was informed that the lecturer had once attended a course on DI in 2017 and the input received helped to shape her perspective prior to the intervention programme.

In the final phase, the language attitude test was distributed to all research participants during their English lessons. Before it was carried out, the students were briefed on the research purposes and procedures, and they were also promised anonymity. The students were also reminded that they were free to withdraw from participating in the study. The language attitude questionnaire was adapted from Gardner (1985) and Mohamad Jafre et al. (2012). It consists of 45 questions that test students' language attitude based on three components, namely cognitive, affective and behavioural with 5-likert points. To validate the adapted questionnaire, help was sought from English lecturers of *Universiti Kebangsaan Malaysia* and Negeri Sembilan Matriculation College. The questionnaire was emended to accommodate the given comments before it was piloted at the research site with another class of 31 second semester students. The Cronbach's Alpha for the cognitive component was 0.583, the behavioural component index was 0.561, and the affective component 0.642. All the indexes suggest acceptable consistency as each value exceeds 0.3 (Gliem & Gliem, 2003). The questionnaire was first distributed during the pre-test and later the post-test. In each stage, the research participants were given 15 minutes to fill in the questionnaire. The intervention began after the pre-test was completed and the implementation of the differentiated module was carried out by the research participants' English instructors. The intervention was carried out during their English contact hours for three hours per week, totalling to 12 hours throughout the intervention period.

The data were analysed using SPSS Version 23 to report the descriptive and inferential statistics. The descriptive statistical analysis was carried out to calculate the mean of all three constructs of language attitude in both the pre- and post-tests. Meanwhile, inferential statistical analysis was carried out to estimate the significance of mean score gain in the research participants' language attitude.

4. FINDINGS AND DISCUSSION

Table 1 indicates that the lowest mean score in the pre-test across the language attitude constructs was from the affective construct ($M=3.58$, $SD=0.34$) which is reported to be of moderate level. Cognitive was the construct with the highest mean score ($M= 4.00$, $SD = 0.38$) and the second highest was the behavioural construct ($M= 3.90$, $SD = 0.30$). When the three constructs are accumulated leading to an overall report of the language attitude, the participants' mean score before the intervention ($M=3.83$, $SD=0.30$) was high. It suggests that the students, as a whole, had a positive language attitude towards the English language.

Table 1: Mean Value and Standard Deviation of the Student-participants' Language Attitude (Pre-Test)

	Mean	SD	Level
Cognitive	4.00	0.38	High
Affective	3.58	0.34	Moderate
Behavioural	3.90	0.30	High
Overall (Students' Language Attitude)	3.83	0.28	High

(Level: Low = 1.00 – 2.33, Moderate = 2.34 – 3.66, High = 3.67 – 5.00)

Data from the post-test are shown in Table 2. The mean score of the affective construct was found to be moderate ($M= 3.64$, $SD = 0.42$) while the cognitive construct is relatively high ($M= 4.03$, $SD = 0.34$) as well as the behavioural construct ($M= 3.97$, $SD = 0.28$). The same pattern found in the pre-test prevails in the post-test – the cognitive construct was reported to be the highest, followed by the behavioural and affective constructs.

Table 2: Mean Value and Standard Deviation of Student-participants' Language Attitude (Post-Test)

	Mean	SD	Level
Cognitive	4.03	0.34	High
Affective	3.64	0.42	Moderate
Behavioural	3.97	0.28	High
Overall (ESL Students' Language Attitude)	3.88	0.32	High

(Level: Low = 1.00 – 2.33, Moderate = 2.34 – 3.66, High = 3.67 – 5.00)

With the data from the pre- and post-test, the paired samples t -test was run to determine the mean score gain significance so as to accept or reject the null hypothesis of the study. As indicated in Table 3, the p -value ($p= 0.254$) for the data was $p>0.05$. Thus, the two-tailed paired-samples t -test suggests that the participants had no statistically significant gain score in the post-test ($M=3.88$, $SD=0.32$) than the pre-test ($M=3.83$, $SD=0.28$) and the null hypothesis that there was no difference is accepted, $t(20)=-1.174$, $p \geq 0.05$. Upon estimation, the value of d from the data was 0.256, suggesting that the intervention led to a small effect size (Sullivan & Feinn, 2012).

Table 3 T-test (Mean score difference between Pre-Test and Post-Test of Student-participants' Language Attitude)

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Post-Test – Pre-Test	.05397	.21065	.04597	-.04192	.14986	-1.174	20	.254

The study was carried out at one of the matriculation colleges in Southern Peninsular Malaysia involving second semester students (age 18). The participants indicated a positive language attitude in general which concurs with findings from previous international studies (e.g. Eshghinejad, 2016; Setianengsih et al., 2017) and Malaysian studies (e.g. Nur-Ehsan et al., 2018; Thang & Nurjanah, 2011; Siti Sukainah & Melor, 2014). However, there appears to be a different pattern when the three specific constructs of language attitude were measured. In contrast to findings by Nur-Ehsan et al. (2018) and Thang and Nurjanah (2011) who found that the behavioural construct seemed to be the lowest out of the three, the present study revealed that affective to be the lowest. The two studies recruited secondary school ESL learners as participants while this study involved learners in a tertiary education setting. The ESL tertiary students believed that learning English was very important for their studies and their future job. It is followed by their behavioural attitude which was found to be high. However, the mean value of the affective component that refers to their emotions was moderate for both the pre- and post-test, suggesting that they were either not happy with how they learnt English in class or they did not have favourable feelings towards English and its community. Despite having a moderate affective attitude, the adult learners managed to be in charge of their studies, indicating that a lower display of affective attitude than the remaining two constructs did not hinder the adult learners from forcing themselves to complete language tasks so as to improve their English proficiency.

Based on the findings, it can be suggested that the approach employed managed to increase the mean scores of participants' language attitude post-test, albeit an increase that was not statistically significant. It was most likely due to the short intervention period (four weeks) and the students were exposed to the approach only for a total of 12 hours as compared to a previous experimental study by Siddiqui & Alghamdi (2017), for example, took 10 weeks to report statistically significant learning gain. Therefore, a longer intervention is envisioned to increase the success rate of the students' learning process.

5. CONCLUSION AND IMPLICATION

In conclusion, the present study shows that the Malaysian ESL tertiary learners were with a generally positive language attitude towards the English language but with new insights. Despite the affective construct being the lowest and of only moderate mean value, it did not affect the adult learners' determination to continue carrying out tasks to improve their language proficiency. More studies are necessary to explore the findings further through qualitative lens in order to obtain richer data that explain the phenomenon. The study also suggests the need for a longer intervention period for a differentiated module to bring an impact to any variable. However, as noted in the methodology section, obtaining permission for a longitudinal study proves to remain a challenge for Malaysian researchers. The challenge needs to also be understood and investigated in order to suggest some solutions; as the country strives to become a more progressive and scientific nation, evidence-based practice needs to dominate teachers' lesson planning, development and implementation across Malaysia to ensure that students are exposed to teaching strategies that have been tested highly effective or at least yielded positive results from ESL learners.

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