

Beyond Majors: Exploring the Diversity of Learning Styles Among University Students in English Foreign Language Classroom

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ABSTRACT

Despite a growing body of research on learning styles in English as a Foreign Language (EFL) contexts, a significant gap remains on understanding the learning styles of university students. While primary and secondary education have been well-studied, the unique academic demands, learning environments, and motivations of university students have been largely overlooked, potentially hindering effective teaching and student success. Recognizing the continued relevance of learning styles in higher education, this study aimed at investigating the learning styles of non-English University students in English classroom through a descriptive quantitative design. Guided by Neil Fleming's VARK framework, the study combines questionnaire data on students' self-reported learning style preferences with classroom observations of actual learning behaviors of 31 respondents. The data were analyzed using descriptive statistics. Results revealed a diverse range of learning styles among the participants. Notably, a majority (over 50%) displayed a preference for multimodal style, followed by kinesthetic, auditory, and read-write styles. However, classroom observations portrayed a contrast, with students predominantly relying on their single preferred style in response to the limited range of teaching activities offered. This suggests a potential mismatch between students' diverse learning styles and the pedagogical methods employed. Further, these results hold valuable implications for EFL teachers to highlight the need of providing English courses that incorporate a variety of teaching methods and activities that are customized to students' different learning styles.

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1. INTRODUCTION

University classrooms for English as a Foreign Language (EFL) are vibrant microcosms, teeming with students from diverse backgrounds, cultures, and educational experiences. This heterogeneity extends beyond language acquisition goals, encompassing the unique ways students engage with knowledge and navigate the learning journey. These differences, often hidden beneath the surface of shared goals, are akin to a labyrinth of paths to mastery, waiting to be explored and understood. This inherent heterogeneity extends to their preferred approaches to learning.

Gardner's Theory of Multiple Intelligences (Gardner & Hatch, 1989) proposes that individuals possess distinct intelligences, influencing their preferred learning pathways. Some students learn best through active movement. The others might only have to listen to their teacher's lecturer. It indicates that everyone is unique in the way they learn. Just as fingerprints, learning styles are unique, encompassing preferences for visual, auditory, kinesthetic, and other modalities. This issue is related to the concept of learning style, which describes as the ways in which an individual approaches a range of materials which categorized in a number of different ways (visual, auditory, and kinesthetic, impulsive and reflective, right brain and left brain, etc.) (Gardner & Hatch, 1989). It is concerned with how one learns at his or her best and how they learn the majority of the time (Kolb and Kolb, 2013).

Kolb's Learning Style Inventory (1985) and Felder-Silverman's Index of Learning Styles (1993) categorize learners based on their preferences for processing information (concrete vs. abstract), perceiving information (visual vs. auditory), and interacting with information (active vs. reflective). Fleming's VARK model (1987), in the same vein, offers a valuable lens through which to explore this diversity. It identifies four distinct learning styles: Visual (the representation of information in charts, graphs, and flow charts), Aural (preference for information that is spoken or heard), Read/Write (preference for information displayed as words, either read or written), and Kinesthetic (perceptual preference related to the use of experience and practice) (Fleming & Bonwell, 2019).

Given the diverse student body in today's education, especially in teaching English to university students, English language instructors are expected to better understand various students' learning styles (Chen, Jones & Moreland, 2014). Moreover, university students present a more heterogeneous landscape which students come from different cultural and educational background, learning style, life experiences, motivation and goals. However, research on university students' learning styles remains inadequate when compared to lower-level education. Since learning process is individualistic, influenced by a person's cognitive ability, physiological state, motivation, and emotion, as well as interactions between the instructional environment and the teacher (Keefe, 1987; as cited in Shih, Liu & Sanchez, 2013), teachers need to adapt to some changes in their teaching, in this context is dealing with the different students learning style.

Several studies examine the EFL learning style are reported. First, study by Nunan in EFL contexts highlight the usefulness of employing learning style models to understand and address diverse learning needs (Nunan, 1991). Fleming (2001; as cited in Renner, Laumer, & Weitzel, 2015), shows that learners have better learning outcomes when they are trained using their preferred learning methods and activities. As a result, Kabaruga (2015, as cited in Rinekso, 2021) asserts that matching learning style and teaching style is required in order to accommodate students' diverse learning preferences (Karabuga, 2015; as cited in Rinekso, 2021). It also

has an impact on students' English proficiency and motivation to learn (Toyama & Yamazaki, 2020). Thus, it is possible to achieve success by assigning a variety of language learning tasks to students with varying learning styles (Cohen, 2003 as cited in Nel, 2008). Materials should be chosen from a variety of sources in order to meet the diverse interests of the students (Nel, 2008). Thus, recognizing these variations allows educators to move beyond a "one-size-fits-all" approach and design learning activities that resonate with different student types. However, the number of studies examining university students' learning style are still limited.

Considering the problems mentioned earlier and the great impact of learning style on university students' language proficiency, learning style is important to be emphasized in English language teaching and learning in Indonesian context. Most successful language learner, however, are expected to be able to accommodate different learning styles in order to process information or to choose the best language learning style preference (Ariani, Valiantien & Rachmawaty, 2021; Brown, 2021; Cohen, 2009; Kolb & Kolb, 2013). Therefore, the present study sought to shed light on university students' learning style in English Foreign Language classroom. It is expected that the findings of this study will put forward salient points for the awareness of learning style in Indonesian contexts, which in turn will be beneficial for the improvement of effective teaching and learning process to promote better learning outcomes.

2. METHODOLOGY

Research Design

To answer the research questions; what are the University Students's preferred learning styles in English language learning classroom, this present study was conducted using a descriptive quantitative approach. Quantitative research is a method used to examine objective theories by investigating at the correlations between variables (Creswell & Creswell, 2018). The purpose of this descriptive research is to analyze the university students' learning style in learning English through questionnaires and observation. The descriptive research provided the facts exactly as they were. Research that uses descriptive quantitative methods describes the collected data accurately to examine it. This study used a descriptive approach since its goal was to explain the facts, particularly as they relate to university students learning style preferences in English language learning, rather than to test the hypothesis.

Data Collection

This study was carried out to investigate university students' learning styles in English classroom. This study included 31 students of English Enrichment Program (EEP). This is a program is designed for non-English students and lasted for four semesters. There are 8 levels which are varied from Starter, Elementary, Pre-intermediate, Intermediate, Upper-intermediate, Low-advanced, Mid-advanced, and High-advanced. EEP consist of non-English students from many different majors. This was extremely relevant to this study because it could capture specific information to reveal how non-English students learn English. The data were collected in December 2023. To address the formulated research questions, this study gathered the data primarily from questionnaires and observation.

The VARK questionnaire version 8.02 was used in this study to assess learning styles. It has gained huge popularity because of its face validity and simplicity (Chandrasekara, 2018; Widharyanto & Binawan, 2020). The questionnaire consisted of 16 items that provided information about how students take in and give out information, resulting in a profile of their learning preferences. For each item, this instrument provided four options that describe the Visual, Aural, Read/Write, or Kinesthetic learning styles.

Following the completion of the questionnaire, observation was used to gather data. It was served to capture certain questions since it allows us to observe the participants' action and how things look (Fraenkel & Wallen, 1993). In this present study, observation was used to see what actually happened in the classroom in regard

with students' learning style and English language learning.

Data Analysis

The questionnaire data was analyzed using Fleming's VARK learning style framework. The students' learning style profile was calculated per item and then measured using the Fleming and Bonwell (2019) measurement criteria, which were then grouped into the types of VARK learning style. The observation data were captured in recording and field notes. The data were then transcribed, open coded, thematised, and streamlined in accordance with the research question. The data from questionnaire and observation were then presented in the form of a diagram and a description.

Table 1. Characteristics of respondents based on gender

Gender	N	%
Male	7	22,6%
Female	24	77,4%
Total	31	100%

3. RESULTS AND DISCUSSIONS

3.1 RESULTS

31 university students; 7 males (22,6%) and 24 females (77,4%) returned the completed questionnaire voluntarily. The responses were tallied and assessed for learning style preference, gender difference in learning style preference and correlation between learning styles (Table 2).

Table 2. University Students' Learning Style in English Classroom

<i>VARK Model</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>
<i>Unimodal</i>			
<i>Visual</i>	0	0	0
<i>Auditory</i>	2	2	4
<i>Read/write</i>	1	2	3
<i>Kinesthetic</i>	2	5	7
<i>Total</i>	5	9	14 (45,16%)
<i>Multimodal</i>			
<i>Bimodal</i>	2	4	6
<i>Trimoda</i>	0	5	5
<i>Quadmodal</i>	0	6	6
<i>Total</i>	2	15	17 (54,83%)

14 students or approximately 45% from the total [(5 males and 9 females)] preferred unimodal learning. Among the unimodal learners, 4 students preferred auditory, 3 students preferred read-write, 7 students preferred kinesthetic mode of learning, while visual mode remain zero students. Subsequently, seventeen students or nearly 55% from the total (2 males and 15 females) preferred multimodal learning. Among the multimodal learners 6 students preferred bimodal, 5 preferred trimodal and 6 preferred quadmodal learning. It indicated that multimodal became the predominant learning style compared to single learning style preferences. The detailed classification of the university students' learning style in learning English are shown in the diagram below.

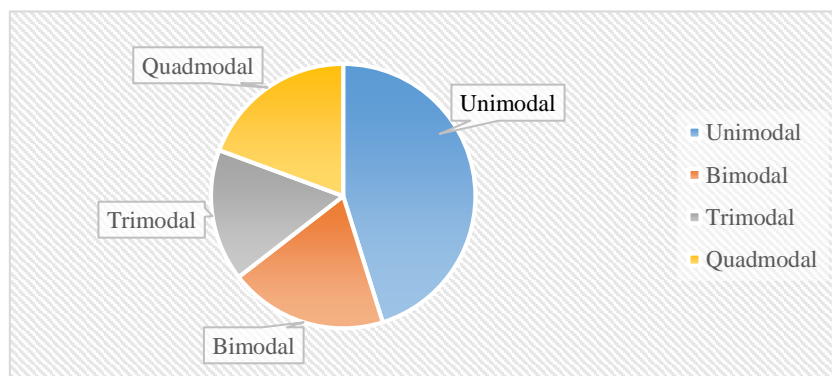


Figure 3. The model of students learning style

Figure 3 displayed the majority of university students have more than one learning style to cope with English language learning. It showed that students can have multi-mode learning preferences which fall into unimodal, bimodal, trimodal, and quad-modal. According to the results of the VARK questionnaire, unimodal students; were in total about 45,2%. Subsequently, nearly 55% were categorized into multimodal learners which fell into bimodal, trimodal, and quad-modal. Bimodal students were counted nearly 19,3%. Trimodal students were counted about 16,1%. Meanwhile quad-modal students who possess all four learning styles equally were counted 19,4%. Figure 4 depicts the detailed outcome.

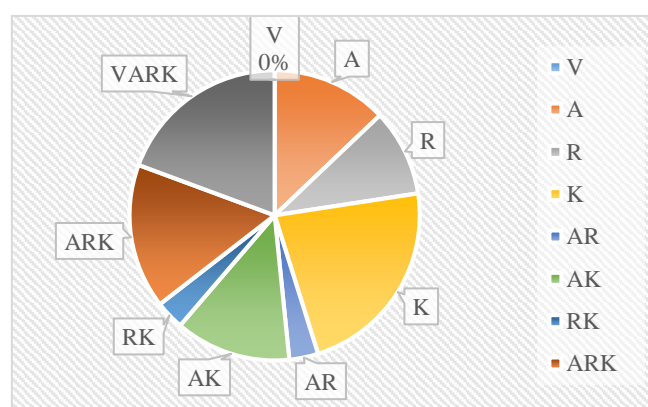


Figure 4. Distribution of VARK learning style of Non-EFL University Students

The distribution of learning styles among university students in learning English as presented in Figure 4 showed that 45,2% of participants have only one modality, with 12,9% preferring auditory learning styles, 9,7% preferring read-write style and the remaining 22,6% being kinesthetic learners. Students who have two major learning styles were also found. Those are 3,2% bimodal [auditory-read/write], 12,9% bimodal [auditory-kinesthetic], and 3,2% bimodal [read/write-kinesthetic]. 16,1% of participants considered as trimodal which have three major learning preferences [auditory-reading/writing-kinesthetic]. The rest 19,4% of participants belong to quad-modal which have the four learning styles [visual-auditory-reading/writing-kinesthetic]. In general, university students' learning style.

Observation was used to see the students' actual action in the classroom related to university students' learning style in English classroom. It was also intended to gain more information and draw some pedagogical implications. The observation revealed that the teacher provides a variety of activities for the students regarding English learning. However, there were several issues that needed to be addressed specifically. Figure 5 showed that the most common activities used by the English teacher was only suit for several students' preferred learning

style. As shown above, auditory style was most facilitated by the teacher, followed by visual and read-write respectfully.

Observation result showed quite different which showed in the Table 3 below.

Table 3. Learning activities observed in English classroom

Learning activities observed	Visual	Power Points
		<i>Picture Aids</i>
	Auditory	Listening
		Lecturing
		Discussion
	Read-write	Reading Materials
		Writing
	Kinesthetic	Mobile Assisted Game

However, kinesthetic learners seemed to be the least learners who were facilitated by the teacher. The students' responds were also observed which showed that the students tend to have passive engagement even though the teacher had already designed several different activities. This also indicated that students did not fully utilize their learning style, which was only demonstrated (auditory and read-write style) in English language learning which indicate.

3.2 DISCUSSION

3.1 University Students' Learning Style Preferences in Learning English

This study investigated the distribution and prevalence of learning styles among university students through the lens of the VARK model (Visual, Auditory, Read/Write, Kinesthetic). The findings demonstrated a diverse range of learning preferences, with students relying on different sensory channels for optimal information processing. It can be classified as; unimodal students, who absorb and process information most effectively through one of the four VARKs; bimodal students, who learn best and most effectively through two of the four main sensory channels; trimodal students, who have three strong and prominent learning preferences; and quad-modal students, who have all four learning styles equally. In this research, the university students' learning preferences were all broke down into the four categorize mentioned before. This study captured a wide diversity in learning style preferences among university students, regardless of the gender, with majority of the students (54.83%) preferring multimodal instruction.

Nearly 19.3% (N=6) of students chosed to employ two modes of learning, followed by nearly 19.4% (N=6) preferring quad-modal learning and approximately 16.1% (N=5) of the students had three learning style options. On the other hand, around, students who categorized into unimodal learners were counted around 45.16% (N=14). The Kinesthetic modality was the most preferred unimodal learning style with roughly 22,6% (N=7) of students choosing it, followed by the auditory mode (12.9%, N=4) and 9.7% (N=3) of students preferred read-write style. The majority of college students in this study preferred multimodal learning styles, which refer to those who learn best while utilizing more than one learning modalities. Students who have multimodal style have a balanced set of preferences which implies they want to receive information in a number of modes. These students may become used to the many teaching styles they encounter during the day, or they may choose to use alternate styles like being visual in math and read/write in English (Fleming, 1995).

This finding is in favor with the previous research done by Shah, et al. (2013) and Payaprom and Payaprom (2020) which showed that the majority of students and language learners had multiple learning style preferences. This implies that the university students learn better when they are taught by multiple modes of

information presentation than when a single- mode learning is being used. A possible explanation why students have multiple major and minor perceptual preferences is including the fact that each person has different learning goals to complete depending on how they acquire languages (Cohen & Dörnyei 2002), which calls for different styles in the various contexts. Multiple learning styles are advantageous to students because they allow them to see and accept their learning environment more flexibly (Othman and Amiruddin, 2010). As a result, compared to unimodal learners, students with multimodal learning styles absorb information in many diverse ways, which increases their likelihood of success in language acquisition (Hyland, 1993; as referenced in Payamprom & Payamprom, 2020).

Subsequently, Faisal (2019) verified that there is a statistically significant correlation between students' grades or academic success and their multimodal style. It was recommended that in order to accommodate the four sensory characteristics of the VARK learning style, students need to be exposed to a range of language learning experiences that accommodate to the four sensory aspects of the VARK learning style. This study found a substantial preference for unimodal methods, with detailed kinesthetic techniques being the most favored. These findings were consistent with prior study, which demonstrated kinesthetic learning style as the most favored style in unimodal preferences (Shah, Ahmed, Shenoy, Srikant., 2013; Payaprom & Payaprom, 2020). More recent study by Rafiq, Hardiyanto, and Sumarno (2023) found out that Indonesian students most prominently favored kinesthetic learning style. Fleming and Bonwell (2019) described kinesthetic learning as the learning that occurs via experience and practice.

"Either through experience, example, practice, or simulation," the learner is linked to reality. Fleming and Bonwell referred this style to as "learning by doing". As a result, students who prefer a kinesthetic learning style must be connected to reality through the use of many modalities such as sight, touch, taste, and smell (Fleming & Bonwell, 2019). Learning experiences that most suited kinesthetic style was hands-on work, practical, project, and real-world experience (Fleming & Bonwell, 2019; Othman & Amiruddin, 2010). Students liked to digest information in a kinesthetic manner by walking about the room or engaging in physical activities (Ariani, Valiantien & Rachmawaty, 2021). As kinesthetic learning was found to be the most effective way for university students to cope with English language learning, additional hands-on activities are required. However, the observation result placed the kinesthetic activities as the least among the other three styles.

The kinesthetic characteristics of university student involvement in learning English such as role-playing to help students understand advanced concepts (Shah, Ahmed, Shenoy, Srikant., 2013) or integrating active learning strategies that accommodate multiple learning styles, such as role-playing, debates, games, and discussions in class need to be promoted in the classroom (Payamprom & Payamprom, 2020). This perceptual mode indicates a preference for information that is spoken or heard (Fleming and Bonwell, 2019). It suggested that students pay more attention to the words said by lecturers. They would rather listen than write lecture notes (Othman & Amiruddin, 2010). This finding was similar to Leng and Luan (2020); Payamprom and Payamprom (2020); Shah, Ahmed, Shenoy, Srikant., (2013); which also showed auditory learning style as the second most preferred style in unimodal mode. One of numerous possible explanations why students choose kinesthetic over auditory learning styles is that lecturing might be because lectures, which are typically used as the primary mode of instruction, are either ineffective or unappealing. (Alkooheji & Al-Hattami, 2018).

On the other hand, the results of the observation revealed that teachers tended to instruct their students in an auditory manner. The answer is to always combine kinesthetic and/or visual approaches with it. Using graphs and drawings when speaking, whether to refer to them in a book or to exhibit them in class, is one of the simplest and least demanding ways to include visual aspects into any field. The participants' preferences for reading and writing styles were becoming less significant. Words were usually highly valued by reading and writing students, who favored books, quotations, lists, texts, brochures, handouts, and manuals (Fleming & Bonwell, 2019). This

finding was consistent with Shah, Ahmed, Shenoy, Srikant., (2013), Fitriani (2020) previous study, which showed a less favorable reading/writing style. Although reading and writing skills are the major and most commonly used skills for finding and learning information in various fields and discipline, and although schools start teaching from the very beginning of the educational journey using those styles, students still arrive at university with little interest in using reading and writing skills to acquire knowledge (Alkooheji & Al-Hattami, 2018).

It seems that the students' interest in reading or writing is quite low as it was confirmed in a study by Central Connecticut State University that revealed Indonesia ranked the second last in reading interest. According to the data gathered, visual style was least preferred for university students dealing with English learning. Students that are oriented to this style more likely to benefit from demonstration and can learn through description (Othman & Amiruddin, 2010). This findings were in line with the previous studies which also showed that students valued the single visual learning style preferences as the least preferred style (Shah, Ahmed, Shenoy, Srikant., 2013; Payaprom & Payaprom, 2020). Fleming and Bonwell clearly described that visual preference includes the representation of information in charts, graphs, flow charts, and all the symbolic arrows, circles, hierarchies and other devices that are used to symbolize what might have been provided in words. However, it does not include photographs, movies, videos and animated websites (simulation) which are classified as Kinesthetic learning style.

To accommodate this style, learning materials should incoorporate both demonstration (charts, graphs, flow charts) and description (Fleming & Bonwell, 2019). It might be possible to accomplish this by utilizing mind mapping and picture series (Pinchot & Pullet, 2014). Referring to the result of the students' learning styles, this study revealed that English teachers currently provide a variety of activities in English language learning classroom to their students. However, in terms of learning style, this study revealed that the English teacher did not devote enough time to it. The students subsequently did not pay enough attention on how they learn at their best. It was showed during the observation that the students considered passive in which they only used single learning style during the class. It indicated that not all students recognize the best way for them to learn (Norhasanah, Yusuf, & Suherdi, 2022). It is in line as Wiedarti (2018) said that learning style has gotten little attention from both students and teachers, particularly in the Indonesian environment.

Similarly, Rineksa (2020) reported that teachers were familiar with ideas about teaching style preferences but did not use them in their classrooms. To address the English teacher with the previous issues, there were a number of learning style instruments that were more accurate in assessing students' learning styles. As a result, English language teachers should broaden their perspectives on the actual use of learning styles. and teachers were suggested to guide the students recognize their learning styles.

3.2 Pedagogical Implication for English Language Teaching

The results of learning style preferences of university students in learning English showed that there were a wide range of learning styles, with multi-mode (bimodal, trimodal, and quad-modal), kinesthetic, aural, and read-write style being the minor preferences. The biggest percentage in multi-mode style also demonstrated that the four VARK learning styles existed among university students in regard to English language learning. As the result it indicated that a number of university students in this study have already applied style flexing as they could use more than one learning style (Brown, 2021; Cohen, 2009; Kolb & Kolb, 2013; Leng & Luan, 2020). The significant differences in students' learning style preferences across majors in English language learning were found in the present study indicated that teaching strategies and styles that are best suited for students in one academic major may not work best for others (Payamprom & Payamprom, 2020). Those contrastive differences usually bring about serious problem for language teachers in presenting the material (Masruddin, 2018).

For instance, materials for visual learners may not be suitable for auditory learners and vice versa. An acceptance of learning style differences demands an approach than develops skills through strengths. Subsequently, in foreign language classroom, learning style is one of determinant factor for the success of English learners.

Matching students' learning style preferences to specific learning activities can improve learning outcomes. Therefore, EFL teachers were advised to use a variety of teaching approaches, including multi-sensory, to meet students' various learning styles, allowing them to learn more efficiently (Leng & Luan, 2020; Nel, 2008). To accommodate different learning styles, teachers must first use a learning style instrument to identify their students' learning style preferences at the beginning of the course. Perceptual Learning Style Preferences Questionnaire (PLSPQ), Style Analysis Survey Developments (SAS), Ehrman and Leaver Learning Style Questionnaire, VARK instrument, or Kolb Learning Style Inventory are several learning style instruments that teachers can utilize.

Knowing students' learning preferences assists teachers, since it informs them about the possible benefits of using diverse learning and teaching approaches (Leng & Luan, 2020). Teachers, according to Nell (2008) and Cohen (2003), should select materials from a variety of sources to meet students' diverse interests and assign a variety of language learning tasks to ensure that students of varied learning styles do well and achieve success. Additionally, teachers were also advised to balance their teaching styles in order to fit all of their students' learning styles in order to achieve success in teaching and learning English. Several educators believed that matching learning styles and teaching styles is beneficial to students' learning progress, English proficiency, and motivation to learn (Damrongpanit & Reungtragul, 2013; as cited in Rinekso, 2021; Toyama & Yamazaki, 2020). Successful language learners, according to Brown (2001), are those who understand how to control their language learning style in everyday situations.

Students' ability to use many learning styles to adapt to various scenarios in class is one of the most important aspects for success. Therefore, teachers were also expected to instill students' self-awareness of their learning styles (Brown, 2001; Norhasanah, Yusuf, & Suherdi, 2022).

4. CONCLUSIONS AND SUGGESTIONS

This present study found that when it came to English learning, university students tended to be multi-mode learners, with kinesthetic, auditory, and read-write styles coming in second, third, and fourth respectively. The large percentage of students that used a multi-mode style demonstrated that VARK's four sensory learning modes are used by the students. This study contributed to enriching literature on language learning style as it introduced a new pattern of university students learning style with multimodal and kinesthetic style being the most preferred one. Nevertheless, the teacher had not fully integrated the learning style to its actual use in the classroom. As a result, several implications for teachers are suggested, including (1) assessing students' learning styles using available learning style instruments, (2) balancing their teaching styles to accommodate all their students' learning styles, and (3) instilling students' self-awareness of their learning style. Additionally, one of the success factors of language learning is that students are able to use a multi learning style to adapt to given situations in class.

Therefore, students are also suggested to better understand the way they learn. However, this study is limited in terms of the sample size. Therefore, further investigation needs to be carried out to investigate to what extent the ability of style flexing or use of more than one learning style is linked to the success or failure of learning a foreign language.

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