

Malaysian Non-Arabic speaking learners' readiness in a virtual second language learning environment

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ABSTRACT

Readiness is an important indicator of learners' willingness to engage productively in a virtual learning environment. Low readiness is believed to be the main reason behind virtual learning failure. The purpose of this present study is to investigate the effects of online readiness on learners' learning satisfaction and performance in a virtual second language learning environment on a sample of 203 Malaysian Non-Arabic Speaking Learners using a cross-sectional survey. This study further explored which dimension of readiness is found to be the strongest predictor of their level of satisfaction and performance. Partial least square structural equation modeling (PLS-SEM) analysis examined the predictive relationships between readiness, satisfaction, and performance. The results proved that online readiness was statistically a significant predictor of their learning satisfaction and performance, indicating computer and internet self-efficacy in performing activities in the virtual learning environment as the strongest predictor. By identifying the most influential predictors, this groundbreaking study recognizes which key elements of the virtual learning environment language learners would need more to relish learning and achieve their goals. This study offers critical insights that have not been previously explored by conducting a comprehensive analysis of the factors influencing learning satisfaction and performance. The findings, therefore, highlight the paramount importance of assessing the readiness of online learners and their learning environment, providing valuable guidance for higher education institutions seeking to enhance the success of VLLE. In addition, this study sets a precedent for future research in the field. It underscores the need for ongoing efforts to improve virtual language learning environments to serve students' needs better.

Keywords: Learning satisfaction; non-Arabic speaking learners; online readiness; student performance; virtual language learning environment

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INTRODUCTION

Virtual learning environments used for language-learning purposes (VLLE) have attracted the attention of a significant segment of language professionals researchers and appear to offer very promising places to approach the type of naturalistic learning that occurs in real life takes place (Mroz, 2014). VLLE has just commenced possessing the same popularity that is already being experienced in other disciplines in the recent period (Zou et al.,

2021). Virtual language learning environments (VLLE) emerge in assorted forms like games, platforms, and social networks (Mroz, 2014). It is different from face-to-face courses in which the structure of delivery may be synchronous, asynchronous, or both, called bichronous, by means of a variety of technologies. VLLE offers unique learning management system features, pleasant and attractive learning, and boosting assignments that enhance student participation, motivation, self-

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discipline, and autonomy in an online learning environment. These features could dramatically improve student interaction in an online learning environment (Rojabi, 2020).

VLLE is relevant in language learning as it creates a great chance for excellent education as it increases the space of the physical learning environment, offers chances to stretch the thought of instructors and learners alike, and can serve the present-day learning needs of the current digital generation (Gamble, 2018). Given 'Generation Z' who are very familiar with technology, this is a serious concern (Adnan, 2021). According to Shahroom and Hussin (2018), things have gotten more complicated as a result of today's generation having a solid foundation in digital literacy. They also have distinct understanding, expression, and communication styles and personalities that lean toward innovative learning including images, audio, video, recreation, and games. The new generation is more likely to learn from modern and technology-friendly alternatives and the Internet (Daud & Ghani, 2019).

Furthermore, VLLE is flexible and adaptable and allows improved, customized, and reliable resources. It can benefit from communicative tasks and multilingual communities. Finally, it can promote and leverage independent learning and scope (Dhawan, 2020; Goertler, 2019). Many linguists consider that VLLE can produce a learning environment similar to the culture of the target language, and consequently, this can further facilitate language learning (Mroz, 2014). Concerning teaching non-Arabic speaking learners, VLLE is undoubtedly imperative as it contributes to far-reaching effects on student learning. Previous researchers found a positive relationship between a virtual learning environment and Arabic language learning to expand the reach in expressing language. Learners' language skills which are speaking, listening, reading, and writing skills can be fostered when VLLE is used (Mohammed, 2022).

Learning through VLLE can change learners' responsibilities shift from passive to active, and their independent learning includes retrieving knowledge, engaging in conversation, and assessing and interpreting content. It involves more than just allowing students to study. Previous researchers found a positive relationship between virtual learning environments and Arabic language learning to expand the reach in expressing language. VLLE motivates students to study Arabic by enlarging their vocabulary and learning new knowledge, specifically in a foreign language setting (Ghani et al., 2016; Jalaluddin, 2016). VLLE provides students with broad opportunities to independently learn a language and sharpen their skills using one of the many available digital media outlets (Arifin et al., 2021). It also encourages their use of logic, knowledge-seeking, and perseverance in everyday

situations (Mohd et al, 2019). Students in VLLE scored higher on pronunciation, understanding, syntax, articulacy, and terminology. Students commonly enjoyed the virtual classroom and discovered it was easy to use, useful, and effective (Hamouda, 2020).

Those previous studies show that it is undeniable that VLLE has brought many benefits to language learning and can be used effectively to develop the language skills of language learners, as postulated by several online researchers (Adas & Bakir, 2013; Arifin et al., 2021; Ghani et al., 2016; Ghazizadeh & Fatemipour, 2017; Hamouda, 2020; Jalaluddin, 2016; Mohammed, 2022; Mohd et al, 2019). Thus, VLLE endures as one of the utmost meaningful implementations that have long been at the forefront of revolutionizing education practices due to its advantage in terms of space, time, and resources (Nwagwu, 2020). VLLE, as the contemporary way of language learning, can provide new insights to learners and allow for new pedagogies that enhance learner-managed learning that could produce real improvements, not just floundering in the potential excitement. Online language learning is dissimilar from online learning of other subjects. Unlike other subjects, language is both a means of teaching and the subject matter of virtual learning. Throughout the learning process, learners are supposed to listen, speak, read, and write in the language they are learning. Therefore, the success of the language course determines whether the online learning environment can provide learners with opportunities to use the language and whether learners feel free to use it online (Zou et al., 2021).

Nonetheless, some cynics are concerned that VLLE may be more challenging because learners are forced to toe the line in the new virtual environment classrooms (Sanchez Gordon & Luj'an-Mora, 2014). It is also seen as an unsuitable learning environment for more reliant learners since virtual learning obliges students to consider fresh and new ways and practices to prepare, participate and utilize higher levels of self-direction and self-reliance. In other words, learners must be ready, well organized, and possess a high degree of self-determination to keep pace with the course. As stated by Erarslan and Arslan (2020), learners ought to acquire the practices of e-autonomous learning in the virtual course because it requires learners' conscious and extra effort to succeed. The concern is whether or not students will be able to participate well in this virtual language learning environment. This relates to online readiness, where the learners are ready and believe they can take on the task by using the virtual learning environment.

It has previously been reported that Asian language learners prefer traditional classrooms and are more inclined to practice their receptive than conversational skills (Abas et al., 2004; Lean et al.,

2020). This is not a good sign as conversational skills are obviously vital and are related to improved language growth contributing to the growing body of work linking language learning. In Arabic language learning, among the factors of weak conversational skills among learners are they have no confidence in using the Arabic language and the influence of the first language (Abdullahi & Rouyan, 2018). In addition, students often have learning disabilities that involve a range of factors. A negative feeling is an emotion that students sometimes express about their learning experience. This can be fear, uneasiness, demotivation, apprehension, or unwillingness to use technology (Yunus et al., 2016). Thus, online readiness is essential for learners in terms of skill, understanding, and various characteristics of emotional, social, and physical prospects to succeed in learning via VLLE (Yurdugül & Demir, 2017). Promoting learning readiness is essential for successful online learning.

In the Malaysian higher educational context, readiness for virtual learning can be critical to the successful implementation of virtual learning among students. Some research has been conducted on readiness for a virtual language learning environment (Abas et al., 2004; Adams et al., 2018; Subramaniam et al., 2019;). These studies, however, are not specifically focused on undergraduate language learning, and they assessed diverse competencies. The findings revealed that students are only moderately ready. One research also asserted that not all students are ready to take part in online learning (Mardhiyana et al., 2018). Rafiee and Abbasian-Naghneh (2021) further suggested future studies investigating language learners' success, satisfaction, and learning outcome in a virtual learning environment. Therefore, further studies are still needed due to inadequate studies conducted specifically among undergraduates to infer the readiness for online language learning (Adam et al., 2018; Yu, 2018).

Additionally, an important area of study for success in VLLE is often called online readiness (Roblyer et al., 2008; Yu, 2018). Readiness means that students are prepared to learn effectively online (Demir & Horzum, 2013; Wei & Chou, 2020). Undoubtedly, online readiness was also significant in students' perceptions, satisfaction, and performance (Engin, 2017; Ilgaz & Gulbahar, 2020; Wei & Chou, 2020). Each student has different levels of online work skills likely to affect their success, so it was necessary to examine student readiness over time. To the best of the researcher's knowledge, no study has been conducted to assess the readiness of non-Arabic speaking learners for a virtual second language learning environment in the Malaysian higher education context.

Due to challenges in the use of VLLE and the contradiction with the physical environment of

learning, students' learning satisfaction and performance should be pondered and studied in evaluating whether or not the online learning processes are effective and successful (Hamutoglu et al., 2018). Several studies (Ozturk et al., 2018; Torun, 2020; Wu et al., 2010) have been carried out to investigate the aspects of factors affecting student learning satisfaction and performance in online learning instruction. Nevertheless, the previous empirical findings have merely drawn attention to the significance of assessing factors affecting student satisfaction and performance, not the effects (Maqableh et al., 2021; Yunusa & Umar, 2021). Hence, for the reason of the significance of language learners' online readiness and its influence on their satisfaction and performance in this new trend of using VLLE, this study seems imperative and critical especially in the context of Malaysia, particularly in the Arabic Foreign Language classroom. Thus, this study strives to investigate the influence of online readiness on learners' learning satisfaction and performance among Non-Arabic Speaking Learners in a virtual second language learning environment. This study examined the following research questions:

- 1- Is there any positive relationship between non-Arabic speaking learners' online readiness and their levels of learning satisfaction and performance?
- 2- Which dimension of readiness is found to be the strongest predictor in a virtual second language learning environment among Malaysian non-Arabic speaking learners' satisfaction and performance?
- 3- To what extent do non-Arabic speaking learners' online readiness statistically significant in explaining variations in learning satisfaction and performance?

Online learning readiness

Students must comprehend the complexities of an online environment including various aspects of the student's role, digital tools, digital resources, and instructional design (Tores Martín et al., 2021). According to Kauffman (2015), an online environment is inappropriate for some students. Some students often express negative feelings such as fear, uneasiness, demotivation, apprehension, or unreadiness about using technology (Yunus et al., 2016). The design of an online environment must consider the features of students that influence whether they succeed or fail in online learning environments. The important thing is learners are willing and believe they can take on the task using an online learning environment. Learners' abilities to succeed in e-learning environments can be described as online readiness.

Online readiness is defined as an essential quality for learners in terms of skill, understanding, and various emotional, social, and physical

characteristics to succeed in online learning environments (Yurdugül & Demir, 2017). Learners' readiness was initially proposed by Warner et al. (1998). Then, McVay (2000) improved it and proposed two aspects of online readiness: comfort with e-learning and self-management of learning. Afterward, Hung et al. (2010) expanded the conceptual domain of learner readiness into five dimensions. First, computer and Internet self-efficacy (CISE), is described as online learners' ability to exhibit appropriate computer and internet skills to take on activities in the virtual learning environment. Learners with low confidence in the use of computers and the Internet may be less engaged in the learning activities and have fewer opportunities to interact with the instructor or classmates. Tsai and Tsai. (2003) and Wei and Chou (2020) comparably discovered that CISE is critical to online learning and intrinsically linked to learner performance and how their self-efficacy influences students' success in online discussions and academic performance in utilizing computers and the Internet.

Second, online communication self-efficacy (OCSE) refers to the judgment of the students about their ability in using online tools to express themselves and to communicate effectively in online environments by asking questions, giving responses, and participating in discussions. Since the virtual environment for learning a second language is more than just using a computer for study purposes, students' adjustment to the online classroom will be supported by having OCSE and ultimately contribute to students' success in virtual learning (Miao et al., 2020). Third, the dimension of self-directed learning (SDL) is based on the self-direct learner's characteristics that refer to the ability of learners to understand learning needs, establish learning goals, ascertain resources and materials for learning, employ the right learning initiatives and strategies, and assess learning outcomes. Therefore, to make real progress in a virtual environment for language learning, students should build their self-directed learning techniques (Lian et al., 2021).

Next, the motivation for learning (ML) dimension is built upon the basis of both intrinsic and extrinsic motivational aspects which refers to the learning attitude of online learners. Hsu et al. (2019) and Hung et al. (2010) have remarkably reported that ML is fundamental for students to maintain concentration and yield better outcomes or high academic performance compared to individuals who have no desire to study. The final dimension of online readiness is learner control (LC) which shows how learners can direct their learning experiences and process as well as how they control their efforts in learning (Thongsri et al., 2021). Rafique et al. (2021) reported students who had more control over their learning during online instruction did better than those who were not. Learners with high

learning control can regulate their learning by choosing the most appropriate steps and exercises and ultimately achieve better learning outcomes.

Torres Martin et al. (2020) argued that research needs to track student readiness over this period because technology has changed the way online courses are delivered. We must admit that not all students are good applicants for online language learning, particularly who lack the motivation and self-discipline required to take accountability for their learning. Online learners must allocate enough time to keep up with the course, seek help when needed, and be willing to learn despite physical (space and time) and psychological (emotional) isolation from their peers (Russell & MurphyJudy, 2020). Related to using a VLLE in the language learning process, one of the challenges of virtual classrooms is the potential for technical difficulties (Al-Kathiri, 2015; Cesa-Bianchi et al., 2020). The number of students who found the use of the Internet and related resources useless, confusing, and overwhelming decreased significantly after experiencing it. Even today's learners, known as digital natives, are skilled at using the devices and applications they typically use for communication or entertainment but still struggle with the tools and programs that serve more academic purposes.

Concerning non-Arabic speaking learners, an evaluation regarding the influence of online readiness is a commitment to ensure the quality of language learning via VLLE is achieved. Research is still needed on the readiness of undergraduate students to adopt VLLE, particularly in Arabic language teaching (Hashim et al., 2018). Today's language learners are expected to engage and interact in their online learning environment as it contains the communication dimension as well as interaction and discussions between teachers and students or between students (Kessler, 2018). However, previous studies mentioned that non-Arabic speaking learners are not used to online lecturing and testing due to the traditional teaching methods that are still used even now used in many higher institutions by some Arabic teachers (Adnan & Uddin, 2021). Research also disclosed that most non-Arabic speaking learners would just sit, listen, and take notes during class (Al Muhsin & Mustafa, 2020). This situation has resulted in a lack of interest in learning Arabic, and glitches in dealing with the online features environment (Ghazali et al., 2020) and achieving meaningful learning in a virtual learning environment (Lian et al., 2021).

Students' Learning Satisfaction and Performance on the Use of VLLE

Research on VLLE in Arabic teaching in Malaysia found that only 5% to 15% of students can complete their studies using VLLE (Norliza & Mohamad Sahari, 2016). Moreover, many of non-Arabic speaking learners cope with varying complexities in

learning due to insufficient interaction and online activities among students and lecturers (Ejreaw & Drus, 2017), incompetency using different forms of IT (Ghazal, 2018), and dissatisfaction with multimedia teaching content and the material provided by teachers, as they claimed that the material available in their learning platform is displeasing and uninteresting (Rozilawati et al., 2018). These problems usually occur mainly through considerations around learners' environmental feelings and experience, convenience, support, and individual capabilities and differences. These individual differences in terms of motivation-related factors cannot be ignored to create a working VLLE. All these feelings, reactions, and experiences that non-Arabic speaking learners go through are significant because these can potentially produce dissatisfaction in the learning process and decrease their level of performance. Thus, the critical issue now is to elucidate how VLLE can effectively benefit non-Arabic speaking learners and will satisfy learners in enhancing their learning. Requirements for higher education and online learning are rising, so it is essential to explore the influential factors related to the motivation-related factors that are readiness dimension that influences non-Arabic speaking learners' learning satisfaction and performance.

Learning satisfaction is a crucial driver that is always used to measure student learning attainment in the online education environment (Dang et al., 2016). Learning satisfaction reveals how learners view their overall online learning experience and are significantly related to student success in online learning. Prior studies (Horzum et al., 2015; Kuo et al., 2014) revealed many influencing factors on student performance or satisfaction in a virtual learning environment, but insufficient research has investigated the readiness dimension (Wei & Chou, 2020). Literature has unveiled that online readiness is associated with learning satisfaction (Kumar, 2021; Wei & Chou, 2020). Students with high confidence and technology-related knowledge and proficiencies are more likely to engage in online learning to attain outcomes (Thongsri et al., 2021). Yet, there is an inadequate understanding of how different dimensions of readiness influence overall satisfaction in the virtual second-language learning environment (Sarfraz et al., 2022).

Apart from that, student performance is undoubtedly also a critical aspect in the context of education that decides the success and failure of educational institutions. Performance is defined as a summary of the hard work of students and teachers and reflects students' interest in learning a course (Mensink & King, 2020). In addition, learner performance is measured as the learner's after-effects, which should be monitored to see how they are performing in learning. Student performance in a virtual learning environment was found to be

positively related to student readiness. Many researchers agree that students' online readiness is a critical marker in performing and accomplishing e-learning classes effectively (Demir & Yurdugül, 2015). On the other hand, unreadiness for e-learning will lead to collapse and failure in virtual learning environments (Engin, 2017). Wei and Chou (2020) empirically found that online learning readiness affects students' online learning performance. The study of Yavuzalp and Bahcivan (2021) similarly indicated that undergraduate students' readiness for online learning was a predictor of their attainment.

Therefore, learner readiness characteristics to use virtual learning environments emerge as an essential construct in many studies (Kumar, 2021; Yavuzalp & Bahcivan, 2021; Yurdugül & Demir, 2017). As stated by Wei and Chou (2020), there is a need to explore online learning readiness from the students' perception due to the limited data from the students' side. Ascertaining learners' learning satisfaction and performance will verify whether the dimension of readiness in utilizing VLLE has a real substantial impact on the learning of non-Arabic speakers in the context of higher education institutions or not. Since the implementation of VLLE is still considered a new experience in higher education, the development of studies that measure student satisfaction and performance is still under discussion (Müller & Mildenerger., 2021). Thus, investigating the factors affecting learning satisfaction and performance in the context of a virtual language learning environment is significant and should be highlighted (Yunusa & Umar, 2021; Maqableh & Jaradat, 2021).

METHOD

The Research Design

The design of this study is a correlational design which is a type of non-experimental research. The quantitative approach was utilized in this study by implementing a cross-sectional survey. The cross-sectional survey investigated the extent of the relationship between a scope of factors of online readiness and learners' learning satisfaction and performance. Three (3) variables were used in this study: online readiness, learners' learning satisfaction, and performance. The researcher employed a correlational statistical test called a correlation coefficient to characterize and evaluate the strength of the association between multiple independent variables. Apart from investigating the relationships, this study seeks to predict an outcome or effect of online readiness on learners' learning satisfaction and performance in a virtual second language learning environment among Malaysian non-Arabic speaking learners. The Partial Least Square Structural Equation Modeling (PLS-SEM) was employed, and a conceptual model was designed in this study to explain the association

between the variables. This model displaying the relationship between the constructs can be seen in Figure 1.

Respondents

Two hundred three (203) of non-Arabic speaking learners gave their consent to participate in this study out of 420 students in the first place. All the participants also completed one Arabic language online course in the semester 2, 2021/2022 session offered as an elective subject at the university. Few studies have focused on learning other languages as a second or foreign language (Zou et al., 2021), and to the best of the researcher's knowledge, limited studies have been conducted to assess the readiness of non-Arabic speaking learners in VLLE by using PLS-SEM analysis. Therefore, the researchers took this opportunity to conduct the study with non-Arabic speaking learners to get a rough idea of their readiness for online Arabic language learning.

These 203 students have come forward to fill out the survey instrument using the systematic random sampling method. They have different backgrounds of various races and religions. They also came from multiple places throughout Malaysia. They consist of diverse ethnic communities such as Malays, Chinese, Indians, and Others. The respondents are all 'Generation Z' ranging from age 20 – 23 years old and from diverse major studies (i.e., Science and Humanities). However, the populations are homogeneous as they have equal expected value and variance for variables of interest concerning the characteristic under study.

Instruments

To address the research questions, three instruments were adapted from previously used tools, with some items modified to align with the study's objectives of evaluating students' online readiness, learning satisfaction, and performance in Virtual Language Learning Environments (VLLE). The first instrument was an adapted version of the Online Learning Readiness Scale (OLRS) developed and validated by Hung et al. (2010). The OLRs evaluates online learner readiness from five dimensions. Computer and Internet self-efficacy (CISE) covers learners' proficiency in demonstrating computer and internet skills necessary for engaging in activities within the VLLE. Online communication self-efficacy (OCSE) encompasses learners' ability to express themselves and communicate effectively in online environments using various tools such as asking questions, giving responses, and participating in discussions. Self-directed learning (SDL) includes learners' ability to identify their learning needs, set goals, locate resources, employ effective strategies, and assess their learning outcomes. Motivation for learning (ML) refers to the driving force behind learners' engagement with and commitment to their learning

activities and learner control (LC) indicates how much control learners have over their learning experiences and processes. OLRs was selected for its all-encompassing learner readiness, comprehensively covering all five critical dimensions of readiness, and was specifically designed to assess student readiness for online study at higher education institutions. Additionally, it has been widely used to explore the dimension of online readiness and its impact on students' overall academic experience. The second instrument used in this study to measure learning satisfaction was a 10-item student satisfaction survey adapted from two previous studies by Lewis (2011) which assessed various components linked to learning such as learning needs, objectives, goals, and interests, and Khalid (2014), which assessed content quality, discussion, recommendation, and overall course satisfaction. The third instrument used in the study to evaluate learning performance was a 10-item survey adapted from Alanzi et al. (2020) measuring the level of perceived learning and performance effectiveness in achieving knowledge, tasks, and goals using a VLLE. The instruments to generate quantitative data were based on a Likert scale questionnaire. All participants were asked to choose the answer that best expresses their agreement with a statement, typically in five points of 'strongly agree' (5), 'agree' (4), 'not sure' (3), then 'not agree' (2), and finally, 'strongly disagree', at (1).

FINDINGS

The study examined the influence of online readiness on students' learning satisfaction and performance in a virtual language learning environment for Arabic as a foreign language course. By using PLS-SEM, this research reviewed the measurement items' validity and reliability, and the measurement model's suitability before considering the result from the structural model.

Reliability and Validity

The results of the PLS analysis are presented in Table 1 and Figure 1. To examine the fitness of the measurement model, item reliability, convergent, and discriminant validity are conducted. The reliability in this present study was measured through Cronbach's Alpha and Composite Reliability (CR). As for convergent validity, Average Variance Extracted (AVE) was analyzed. Fornell and Larcker (1981) recommend that the composite reliability (CR) of a measurement model should be at least 0.7 and the Average Variance Extracted (AVE) of each construct should be at least 0.5. As shown in Table 1, good internal consistency and convergent validity were achieved as Cronbach's Alpha and Composite Reliability (CR) standards are exceeding 0.7, indicating internal consistency, and all Average Variance Extracted

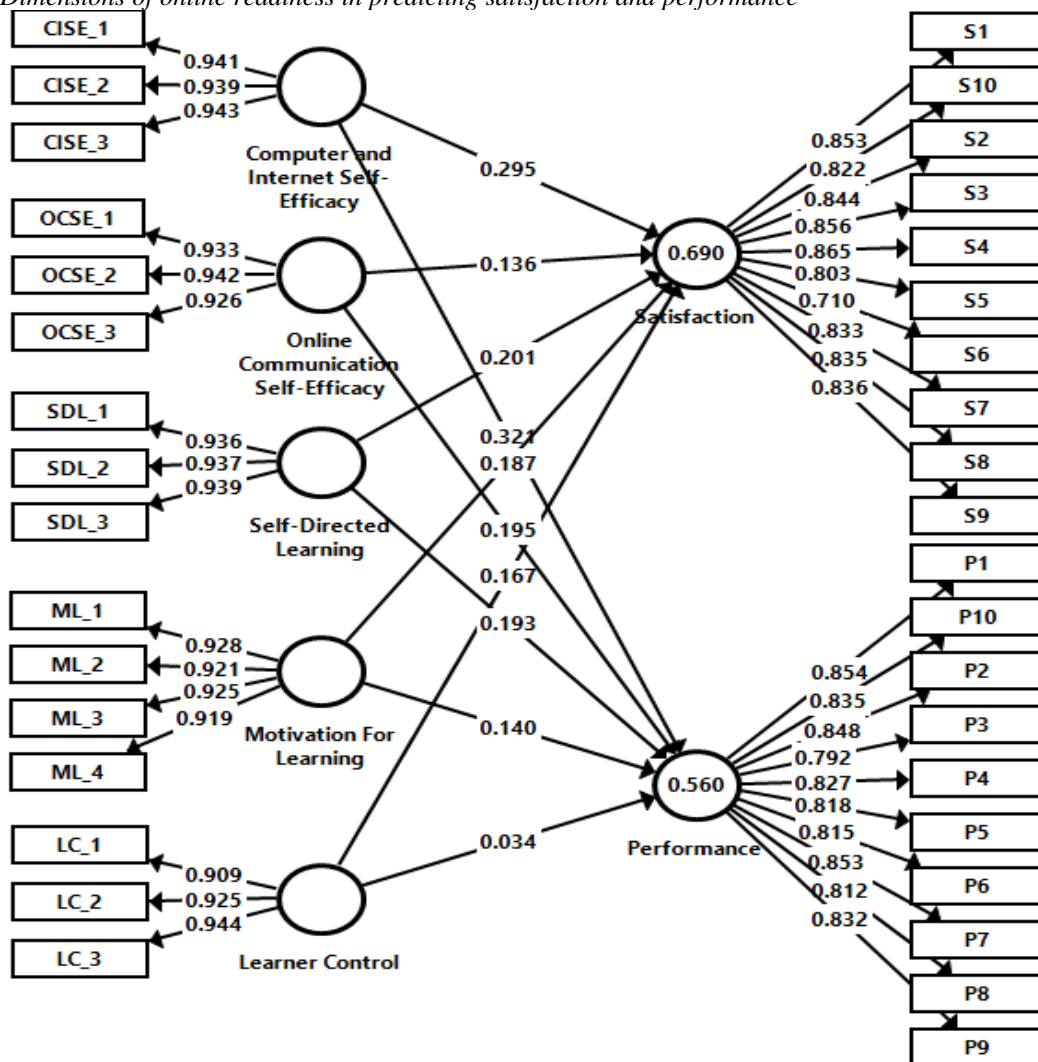
(AVE) also are surpassing 0.5, which supported convergent validity. Furthermore, the square roots of AVE values were more than the inter-correlation

values, which confirms the discriminant validity (Fornell & Larcker, 1981).

Table 1
Reliability and validity measure

	Cronbach's Alpha	CR	AVE	CISE	LC	ML	OCSE	P	S	SDL
CISE	0.935	0.959	0.886	0.941						
LC	0.917	0.948	0.852	0.645	0.926					
ML	0.942	0.959	0.858	0.662	0.616	0.923				
OCSE	0.927	0.953	0.872	0.587	0.599	0.582	0.934			
Performance	0.949	0.956	0.687	0.672	0.577	0.605	0.609	0.829		
Satisfaction	0.948	0.956	0.684	0.733	0.692	0.687	0.647	0.817	0.827	
SDL	0.931	0.956	0.879	0.633	0.689	0.612	0.644	0.630	0.704	0.938

Figure 1
Dimensions of online readiness in predicting satisfaction and performance



Model Goodness of Fit

The PLS-SEM results in this study suggested a good fit by observing the value of SRMR as this is a measure of the estimated model fit. Chen (2007) explained that SRMR is the value of the standard of standardized residuals between the observed and the hypothesized covariance matrices. According to Hu

and Bentler (1998) in Hussain et al. (2018) if $SRMR = <0.08$ then the study has a good fit, with the lower SRMR being a better fit. Table 2 shows that the SRMR of this study model was 0.66, showing that this study model had a good fit, while the chi-square was equal to 1164.780 and an NFI equal to 0.848 was also accounted for.

Table 2
Model fit summary

Estimated Model	
SRMR	0.066
d_ULS	2.936
d_G	1.083
Chi-Square	1164.780
NFI	0.848

Is there any positive relationship between non-Arabic speaking learners' online readiness and their levels of learning satisfaction and performance?

Following RQ1, this study investigated the correlation between online readiness, learning satisfaction, and performance. The result is presented in Table 3 below. The correlation matrix (represented with the sign of r) with a value of more

than 0.3 was advised by Tabachnick and Fidell (2007). In this study, a quick scan indicated that most of the coefficients are observed to be moderate, with values greater than 0.3. The finding indicated that online readiness was significantly associated with learning satisfaction and student performance as all correlation factor loadings showed 0.57 and above.

Table 3
Latent Variable Correlations

	CISE	LC	ML	OCSE	Performance	Satisfaction	SDL
CISE	1.000	0.645	0.662	0.587	0.672	0.733	0.633
LC	0.645	1.000	0.616	0.599	0.577	0.692	0.689
ML	0.662	0.616	1.000	0.582	0.605	0.687	0.612
OCSE	0.587	0.599	0.582	1.000	0.609	0.647	0.644
Performance	0.672	0.577	0.605	0.609	1.000	0.817	0.630
Satisfaction	0.733	0.692	0.687	0.647	0.817	1.000	0.704
SDL	0.633	0.689	0.612	0.644	0.630	0.704	1.000

Which dimension of readiness is found to be the strongest predictor among Malaysian non-Arabic speaking learners' learning satisfaction and performance?

This study discovered the dominant constructs of online readiness (CISE, OCSE, SDL, ML, and LC) that can be reflected as the best predictor for non-Arabic speaking learners' learning satisfaction and performance in a virtual second language learning environment. Evaluating the strongest predictor can

be done through the result of the β path coefficient. For the β path coefficient between all the five constructs of CISE, OCSE, SDL, ML, and LC with learning satisfaction, the result indicated that all constructs are significant, in which the strongest predictor is CISE ($\beta = 0.295$ $p < 0.05$). On the other hand, the lowest predictor for learning satisfaction is OCSE ($\beta = 0.136$ $p < 0.05$). Table 4 below showed the ranking of a predictor of students' learning satisfaction.

Table 4
Significant predictor of students' learning satisfaction

No.	Construct	β Path Coefficient	Std. Error	t-value
01	Computer/Internet self-efficacy (CISE)	$\beta = 0.295$ ($p < 0.05$)	0.062	4.739
02	Self-directed learning (SDL)	$\beta = 0.201$ ($p < 0.05$)	0.058	3.456
03	Motivation for learning (ML)	$\beta = 0.187$ ($p < 0.05$)	0.063	2.973
04	Learner control (LC)	$\beta = 0.167$ ($p < 0.05$)	0.054	3.070
05	Online communication self-efficacy (OCSE)	$\beta = 0.136$ ($p < 0.05$)	0.060	2.249

This study further discovered only three dominant constructs of online readiness, which are CISE, OCSE, and SDL, that can be reflected as the best predictor for non-Arabic speaking learners' performance. The strongest predictor also is the CISE ($\beta = 0.321$ $p < 0.05$). On the other hand, two constructs of online readiness were found to be not significant in predicting learning performance which

are ML ($\beta = 0.140$, $p > 0.10$) and LC ($\beta = 0.034$, $p > 0.10$). The result refers to the criterion suggested by Rossiter (2002), which states that for the structural model, all paths should result in a t-statistic value greater than 2. The t-value for these two constructs (ML and LC) was found to be lower than 2. Table 5 showed the ranking of a predictor of students' performance.

Table 5
Significant predictor of students' performance

No.	Construct	β Path Coefficient	Std. Error	t-value
01	Computer/Internet self-efficacy (CISE)	$\beta = 0.321$ ($p < 0.05$)	0.061	5.275
02	Online communication self-efficacy (OCSE)	$\beta = 0.195$ ($p < 0.05$)	0.075	2.620
03	Self-directed learning (SDL)	$\beta = 0.193$ ($p < 0.05$)	0.071	2.726
04	Motivation for learning (ML)	$\beta = 0.140$ ($p > 0.10$)	0.083	1.684
05	Learner control (LC)	$B = 0.034$ ($p > 0.10$)	0.072	0.463

To what extent do non-Arabic speaking learners' online readiness statistically significant in explaining variations in learning satisfaction and performance?

Figure 1 shows factor loadings, β path coefficients, and R² values. All the item loadings on their respective constructs were measured above 0.50, and all were significant at $p < .001$. All five factors of online readiness were significant in predicting learners' learning satisfaction and only three factors of online readiness were significant in predicting performance in a virtual second language learning environment. While variance explained (R²) is the proportion of variation in the endogenous latent construct that is predictable from the exogenous latent constructs. R² values of 0.25, 0.50, and 0.75, respectively, are weak, moderate, and strong, according to a general rule of thumb (Hair et al., 2010). As the model portrayed in Figure 1, the coefficient of determination R² values in this study was moderate. R² values of online readiness in predicting learning satisfaction is 0.690 (R² = 0.690) and 0.560 in predicting performance (R² = 0.560). In other words, about 69% of the moderate change in learner satisfaction was due to all five factors of online readiness, and about 56% of the moderate change in learner performance was due to three factors of online readiness in the model.

DISCUSSION

Relationships between Online Readiness and Learning Satisfaction and Performance.

This study explores the relationship between online readiness and learning satisfaction and the performance of non-Arabic speaking learners in a virtual second language learning environment. From the result of the analysis of the data, it is found that all five factors are crucial that positively correlated to learners' learning satisfaction and performance in the context of virtual language learning. The findings align with the results reported by other researchers, such as Liaw and Huang (2013), Yilmaz (2017), Demir and Horzum (2013), Cigdem and Ozturk (2016), Topal (2016), Geng (2019), Wei and Chou (2020), Thongsri et al. (2021), and Kumar (2021). These studies also found a positive relationship between online readiness and learners' learning satisfaction and performance. Those studies showed that online readiness is a important common factor across language learners as well as other learners in different disciplines. However, most

studies focus on learning English as a foreign language rather than learning other languages as a second or foreign language, especially Arabic as a foreign language. This finding thus brings a new theoretical contribution to research with non-Arabic-speaking learners.

Moreover, online readiness dimensions assessed in this study are considered critical elements in online language learning related to the nature and ability of learners to participate and respond to online learning activities. Recent research (Rafiee & Abbasian, 2019; Martin & Bolliger, 2018) proclaimed that the prerequisite to ensure the success of a virtual second language course is that the learners are ready for their virtual learning. Thus, learning readiness must be achieved by learners before conducting learning activities. If the states of learners are not well prepared, then the process of learning will not run well (Mohd et al., 2015). To be ready in a virtual second language learning environment is very important as the feature and flexibility of virtual learning require different attributes of learners such as knowledge of technology use, time management and organization, and communication using online technologies. These qualities are needed so that students will have high confidence and be more likely to engage effectively in virtual learning to achieve outcomes. It can be concluded that the online readiness dimension is an imperative component in the operation of online language learning that moderately affects learners' learning satisfaction and performance. Possession of online readiness positively supports the further advancement and quality of online language learning and improves the interaction quality in e-learning contexts.

Dominant Factor of Online Readiness.

This study also identified the dominant factor that highly predicts learners' learning satisfaction and performance. In terms of learning satisfaction, the findings of this study empirically indicated that CISE was the strongest predictor, followed by SDL, ML, LC, and OCSE as the lowest predictor. On the other hand, in terms of student performance, this study indicated only three dimensions of online readiness were significant, of which CISE still is the strongest predictor, followed by OCSE and SDL. In virtual language learning environments (VLLE), learners require a specific set of skills to successfully engage with the learning activities and achieve learning outcomes. Technical skills such as

CISE, as well as OCSE, are crucial for learners in VLLE. Additionally, learners need to possess the ability to manage their learning through SDL. These skills are the reason why only three out of the five domains can predict learning performance in VLLE. ML and LC, while important for influencing learning satisfaction, may not necessarily translate into better performance outcomes because they do not directly measure learners' ability to acquire and apply knowledge and skills. Motivation and control can facilitate learning, but they may not guarantee successful learning outcomes. The result of this study are striking: it was found that the factor of CISE had the strongest influence on learning satisfaction and performance in the virtual language learning context. This highlights the crucial role that CISE plays in facilitating successful language learning through online platforms. Having the ability to demonstrate appropriate computer and internet skills is crucial for learners to engage effectively with the VLLE and achieve better performance outcomes. The results indicate that learners with higher levels of CISE are more likely to experience greater satisfaction and achieve better performance outcomes with VLLE because they possess the necessary skills to navigate the technology and overcome technical challenges. This finding is consistent with most studies (Sarfraz et al., 2022; Wei & Chou, 2020; Yilmaz, 2017) that similarly found computer and internet self-efficacy as a significant factor in predicting student satisfaction and student performance. However, these studies were converging in medical, computing, and Internet literacy, unrelated to language learning. Hence, this finding contributes to the literature by examining learners' online readiness using a virtual language learning environment. The study observed that learners were confident in utilizing basic technology and applications to perform online course-related tasks. They could benefit from their online learning content and navigating course management software for online learning. They also have the confidence to use online tools for course communication, such as viewing an attachment from an incoming message on their VLE as they are considered 'Generation Z' who are familiar with the technology. Learners with higher CISE towards virtual learning are usually considered to be more motivated, more persistent, and better achievers while learners with lower CISE are thought to hold negative perceptions related to requested tasks. This could be a possible reason for the finding of this present study that found the CISE dimension of online readiness highly predicts learning satisfaction and performance in the virtual second language learning environment. Since practically all learning activities in online learning must be carried out using a computer and the Internet, students who are very comfortable using these tools may find it easier to do well in class.

In addition, the OCSE dimension of online readiness was correspondingly found a significant predictor of learning satisfaction and performance in this study. OCSE reflects learners' willingness and confidence in online interactions with teachers and peers. It also describes how well people can express their feelings in e-learning environments and measure their understanding of the communication language and culture (Demir, 2015; Hong et al., 2017). This study found that learners use online tools to communicate effectively through commenting, asking, answering, and discussing. Previous studies have shown that students who can direct their learning and communicate effectively with peers or teachers to improve understanding gain learning satisfaction and demonstrate stronger academic performance (Yilmaz, 2017). Moreover, the virtual second language learning environment is not entirely about having a computer with which to study. More prominently, it obliges certain skills and online learning self-efficacy. This virtual platform delivers information in a different way that requires students to use technology and communicate virtually while declining disruptions in the new environment (Aguilera, 2020). Therefore, possessing OCSE will support students with the transition to the virtual learning environment and ultimately contribute to students' success in virtual learning (Miao et al., 2020).

What is more, the finding observed that learning satisfaction and performance of the non-Arabic speaking learners in this study similarly being influenced by the SDL dimension. SDL is one of the student-related factors that are crucial in the concept of readiness for online learning. SDL aims at the abilities and skills of the learners to direct their learning. SDL and learning strategies were integral mechanisms in virtual learning settings. In this study, learners were found to be able to take full accountability for their self-learning and progress in terms of learning needs, initiatives, and activities. They are also able to learn and go as slow or as fast as they need to accomplish learning. The finding of this study is in line with Cigdem and Ozturk (2016) and Torun (2020) who empirically found that learners' self-direction is the critical predictor of students' achievement in the virtual learning environment. Self-directed learners know how to learn, initiate and reflect on their learning, and how to use time management skills efficiently so they can make efficient use of their time and resources available online. Higher self-directed learning readiness cultivates higher knowledge and information direction-finding skills. Therefore, learners should develop self-directed learning skills to achieve meaningful learning in a virtual language learning environment (Lian et al., 2021).

Another important finding in this study is that ML and LC dimensions of online readiness influence learners' learning satisfaction. This

finding was supported by Wei and Chou (2020) who found that students with higher readiness levels in self-directed learning, motivation for learning, and learning control reported greater satisfaction with the online course. Contrary to expectations, this study did not find ML and LC as significant predictor that influences students' performance. Previous studies conducted on online learning revealed that there are significant relationships between motivation and students' success and performance (Bilgic et al., 2011; Saade et al., 2007). As mentioned by Kusel (2020), successful online learners acquire higher motivation for learning and advanced levels of learner control. Many studies have recognized the importance of students' motivation and learner control in the online learning environment (e.g., Chen & Jang, 2010; Khalilzadeh & Khodi, 2021). This finding put forward that, it is more likely to have high learning satisfaction when students have a higher motivation for learning and perform an outstanding job in the activities with or without the presence of an instructor, sharing ideas and participating more actively in their online learning. Besides, this finding showed that learning satisfaction will be enhanced if online learners can control their learning process based on their learning needs.

The Effect of Online Readiness on Learning Satisfaction and Performance

Ultimately, this study furthermore examines the effects of the five dimensions of online readiness on learners' learning satisfaction and performance. The finding showed that all the dimensions of online readiness were positively found to be significant predictors of learners' learning satisfaction. The value of R2 for learning satisfaction is (R2 = 0.690). This means online readiness can influence a 69% variance in learners' learning satisfaction in the context of virtual learning. This is quite a huge effect on learners as it is indicated as more than half the percentage or proportion of entire learning satisfaction of the students. As a result, online readiness is demonstrated to be a critical predictor that can give impact learners' learning satisfaction. This study revealed that the technical skills of CISE on OCSE are necessary for successful engagement in virtual language learning environments (VLLE), which can lead to higher learning satisfaction. Additionally, SDL and ML can enhance satisfaction by allowing learners to set their own goals and feel in control of their learning experience. LC can also contribute to learning satisfaction by giving learners autonomy and ownership over their learning process. All of these factors work together to create a positive learning environment and increase learning satisfaction in VLLE. This finding was in line with the finding reported by Yilmaz (2017). His study verified learners' online readiness dimensions were correlated to their satisfaction and motivation.

He further highlighted it is essential to investigate learners' readiness and postulate them with instructions to enhance their skills and know-how in virtual learning. Even so, this finding was dissimilar to Kumar (2021) who found that only three dimensions of online readiness: SDL, LC, and OCSE can influence satisfaction in online learning.

In terms of learning performance, the result from data analysis indicated that only three dimensions of online readiness CISE, OCSE, and SDL were positively found as critical factors in predicting students' performance. The dimension of ML and LC, on the other hand, were insignificant, and do not predict students' performance in the virtual second language learning environment. The value of R2 for performance is (R2 = 0.560). It means online readiness can explain 56% of the variance in students' performance. This study revealed that CISE, OCSE, and SDL are specific technical skills that learners need to engage in learning activities in virtual language learning environments (VLLE). When learners have high levels of these skills, they are more likely to be able to effectively use the technology and tools needed to succeed in these environments. In contrast, ML and LC may not directly measure learners' ability to acquire and apply knowledge and skills, which are critical components of learning performance. While motivation and control can facilitate learning, they may not guarantee successful learning outcomes. Noticeably, the findings of the current study are different from those of prior studies (e.g., Bernard et al., 2004; Hung, 2012; and Cigdem & Ozturk, 2016) indicating that CISE did not significantly predict students' learning performance. Furthermore, the study done by Ilgaz and Gülbahar (2020) also indicated that ML was found as the most important structure before online learning since it is the utmost significant variable of the learning process. They also revealed that ML is the most important dimension and the only significant predictor that influences student outcomes in online learning.

This finding is consistent with previous research and highlights the importance of specific technical skills in VLLEs. Recent studies have shown that technical skills and self-directed learning play a critical role in predicting learning performance in virtual language learning environments (VLLEs). In a 2022 study by Li, CISE, OCSE, as well as SDL, were found to be significant predictors of Chinese language learning performance in a VLLE, while ML and LC were not. Similarly, in a 2021 study by Liu and Shirley, CISE and OCSE were found to be significant predictors of performance in a virtual English language learning environment. These recent studies emphasize the importance of technical skills and self-directed learning for success in VLLE and suggest that motivation and control alone may not be enough. Therefore, educators and instructional

designers should prioritize the development of these skills and provide learners with opportunities for self-directed learning to enhance their learning performance in VLLEs.

This study emphasizes that readiness is an imperative factor in the online language learning process that moderately affects learners' learning satisfaction and performance. A prerequisite for the success of virtual language courses is the readiness or students' commitment to study online. Therefore, the dimension of online readiness needs to be further deliberated, since learning a language in a virtual setting is more individual and independent. The results from this study provide an understanding of how online readiness affects learners' learning satisfaction and performance and offer some practical implications for improving learners' online readiness. Online readiness dimensions assessed in this study are considered critical elements in the process of online language learning. Recent previous research (Rafiee & Abbasian, 2019; Martin & Bolliger, 2018; Mehran et al., 2017) proclaimed that the prerequisite to ensure the success of a virtual second language course is that the learners are ready for their virtual learning. This is because, virtual settings might be tougher and demand students to be more independent than compel higher levels of self-direction, superfluous determination, and efforts to succeed (Erarslan & Arslan, 2020). Even though the finding of this study showed the effects of online readiness on learners' learning satisfaction are larger than learners' performance, this study stresses the significance of online readiness as the key component of an effective virtual language learning environment. It is recommended that a combination of numerous practices ought to endeavor so that the levels of readiness for virtual language learning environments can be increased from time to time.

Looking at the positive effects of online readiness on learners' learning satisfaction and performance, therefore, it is very important to consider online readiness dimensions as well as the low predictors to put room for improvement for better virtual language teaching and learning environment. The result of this study suggests that the use of technological tools in virtual language classrooms should be more attractive and not complicated for language learners. As an alternative, it is recommended to use an attractive feature in a virtual language learning environment to improve learners' self-efficacy in online communication by applying rich audio-visual techniques while improving the language learners' learning level (Rafiee & Abbasian-Naghneh, 2021). Torun (2020) suggests that appropriate content and materials, tools, and activities can increase the motivation and self-efficacy of online communication in online learning. On the learner side, they need to have strong technical skills and work efficiently with

these tools. This provides instructors with the underlying foundations to design the instructional context, instructional strategy, instructional framework, and assessment methodology to improve student online learning satisfaction and performance. Instructors should consider different approaches to encourage collaborative learning among students. Alternatively, additional efforts can be taken to raise students' desire for online learning, for instance, by creating extra educational activities such as virtual games to improve their readiness for learning (Bovermann et al., 2018). Additionally, this study explores whether students' online readiness influences the productivity of online learning. This is attained by recognizing the various readiness dimensions' strengths and becoming aware of any learning flaws.

In the context of Arabic language learning, online readiness is critical not only for learners to access and utilize the diverse resources available in VLLE but also for their satisfaction and performance. Each dimension of online readiness possesses unique characteristics and makes a distinct contribution to learners' satisfaction and performance in virtual language learning environments. When learners possess the necessary technical and self-directed learning skills, as well as motivation for learning and control over their learning, they can actively engage in the learning process, participate in virtual interactions, and utilize multimedia resources to enhance their Arabic language skills. This engagement and use of resources can result in higher levels of satisfaction with the learning experience, as learners feel more in control of their learning and can utilize a variety of resources to achieve their language learning goals. Overall, online readiness is essential for learners to take full advantage of the rich and diverse learning opportunities provided by VLLE, and also to promote satisfaction and performance in Arabic language learning.

CONCLUSION

The importance of online readiness in virtual language learning environments (VLLE) cannot be overstated, particularly in the context of Arabic language learning. The main objective of the present study was to investigate the influence of online readiness among Non-Arabic Speaking Learners on their learning satisfaction and performance in the virtual language learning environment, with a focus on the Malaysian higher education context. For this purpose, a model was proposed that examined the relationship between online readiness dimensions of CISE, OCSE, SDL, ML, LC, and learning satisfaction and performance. This study sheds light on the significant influence of online readiness dimensions, including computer and internet self-efficacy (CISE), online communication self-efficacy

(OCSE), self-directed learning (SDL), motivation for learning (ML), and learner control (LC), on the learning satisfaction and performance of non-Arabic speaking learners. The study's findings emphasize the critical role of online readiness in Arabic language teaching practices and underscore the need for universities to prioritize the assessment and development of the identified areas for the highest level of satisfaction and performance in virtual learning contexts. The implications of this study are far-reaching, offering valuable insights for practitioners in Arabic language teaching and e-learning education, as well as for learners from diverse backgrounds and faculties seeking to adapt to virtual language learning environments. The practical and empirical contributions of this study provide a valuable framework for understanding how Malaysian undergraduates adapt to VLE and the strengths and weaknesses of their online readiness across diverse academic disciplines. By identifying the factors that contribute to success in online learning, this study has the potential to inform the development of effective language learning programs that meet learners' needs and expectations, ultimately enhancing their ability to communicate effectively in Arabic. However, the study acknowledges the potential need for additional data sources, for example, the attendance rate, frequency of use, and duration of students and further research to supplement the current findings. Additionally, this study emphasizes the role of students' online readiness in contributing to the success of online learning and identifying the strengths and weaknesses of their learning process. Overall, the findings offer important insights for language learning practitioners, particularly in e-learning education, to enhance the virtual Arabic language learning environment and improve students' satisfaction and performance.

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