Effectiveness of Virtual Tours, Virtual Learning Environment, and Learning Technologies on the Kurdish Language Learning in Senior High School

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Abstract

Language learning has gained global attention with the passage of time that requires the significant focus of recent studies and policymakers. Thus, the present study examines the impact of virtual tours, virtual learning environments and learning technologies on language learning in the Kurdish region. The study also investigates the moderating role of institutional support among virtual tours, virtual learning environments, learning technologies, and language learning in the Kurdish region. The article used the survey questionnaires to collect the data from the students of second language learning institutions. The article also used the Smart-PLS to check the data reliability and associations among variables. The outcomes indicated that the virtual tours, virtual learning environment, and learning technologies have a positive linkages with language learning in the Kurdish region. The results also indicated that institutional support significantly moderates among virtual tours, virtual learning environments, learning technologies, and language learning in the Kurdish region. The study guides the regulators in establishing regulations related to improve language learning using virtual tours, virtual learning environments, and learning technologies.

Keywords: *Virtual tours, virtual learning environment, learning technologies, institutional support, language learning, Kurdish region*

Introduction

Over the past few decades, there have been numerous changes witnessed by this globe and one of the prominent ones is the exchange of people for different purposes like tourism, education, business, and living. The percentage of such exchanges is quite high in the cases of developing countries. People from developing countries prefer to settle in developed economies with the view to have a better life. There is a thorough process needed for such an exchange process. The processes vary according to the nature of travel. Whether it is business, culture, education or any other related exchange of people one of the prime factors is the learning of a foreign language (Amin & Sharif, 2020; Kakabra, 2015). Learning a second language involves more than just picking up new vocabulary it also involves picking up a new way of thinking about the world (Amin & Sharif, 2020). There are several bilingual individuals. Learning a new language always signifies that we have embarked on a fresh life journey with a distinct perspective. We can comprehend a great deal about a nation's culture and way of life if we understand and speak its language (Muhammed, 2017). Speaking of two languages means one individual holds two

speaking and thinking approaches. It's quite tough at the time of learning particularly for people in developing countries due to fewer resources for education (Alizadeh, 2019).

The English curriculum in Iraq has been based on English for Iraq volumes 6, 7, and 8, with an emphasis on exercises, grammar, sounds, and dialogues, since the 1970s. But in 2007, the Kurdistan Regional Government (KRG) made the decision to create a new English language curriculum for secondary and high schools called Sunrise, which focuses on the four fundamental abilities of speaking, reading, writing, and listening (Anu, 2022; Ghafar & Amin, 2022). Effective oral communication is a challenge for English as a Foreign Language learners (Aynur, 2021). It is anticipated that a language learner will ultimately acquire fluency in that language. It is frequently expected of speakers of that language to be very proficient in verbal communication. The main goal of learning English for many people is to improve their oral communication abilities (Ali & Anwar, 2021). One of the English language skills that any learner of a foreign language must acquire is the ability to talk in the language. The most common query from anyone looking to learn more about their English language proficiency is whether or not they speak it. One of the main tasks for most language learners when studying a foreign language is to get better at speaking (Jacksi, Ali, & Azzat, 2023). Success is determined by the ability to have a conversation in the language. Vocabulary is used by humans for thinking and idea expression, information sharing, and communication.

Despite that, the Kurdish region is facing numerous issues pertaining to language learning. Accordingly, literature also proposed that there are numerous factors which result in affecting language learning such as technology adopted, virtual tours (Alizadeh, 2019), learning environment (Gulbinskienė, Masoodi, & Šliogerienė, 2017), institutional culture (Hannan & Silver, 2000), institutional environment (Norwani, 2005), faculty competence (Volchenkova, 2015), institutional support (Goodman et al., 2022), student motivation (Esra & Sevilen, 2021), student mentoring (O'Dowd, Sauro, & Spector-Cohen, 2020), learning technologies (Shadiev & Yang, 2020) and student abilities (Huang, Hew, & Fryer, 2022). However, the present worked on factors like institutional support, virtual tours, language learning environment and learning technology which results in effect the of language learning.

Some literature gaps being addressed through this study are like the model comprised of variables like virtual tours, virtual learning environment, learning technology and language learning with the moderating effect of institutional support, particularly in the Kurdish region has not been explored in recent times. Further, 1) Parmaxi (2023) and Oldendorff (2021) explored the nexus amid virtual tours and language learning, hence, the same relationship is also explored with the addition of factors like language learning environment and learning technology by also adding the institutional support moderating effect in the Kurdish region, 2) Gulbinskienė et al. (2017) and Mortazavi et al. (2021) explored the nexus amid language learning environment and language learning, hence, the same relationship is also explored with the addition of factors like virtual tours and learning technology by also adding the institutional support moderating effect in the Kurdish region, 3) Shadiev and Yang (2020) and Suwija et al. (2022) explored the nexus amid learning technologies and language learning, hence, the same relationship is also explored with the addition of factors like virtual tours and language learning environment by also adding the institutional support moderating effect in the Kurdish region, 4) Nuseir, Aljumah, and El Refae (2022), Suwija et al. (2022) and Wu et al. (2023) explored the institutional support moderating effect in different nexus, however, it will also be employed as a moderating variable in the nexus amid virtual tours, language learning environment, learning technology and language learning particularly in the Kurdish region. In terms of significance, the current study will 1) highlight the importance of language learning across the

globe with the view to bring the world closer by travelling across, 2) add the literature on the topic of language learning particularly in the Kurdish region, 3) help the professionals associated with the language learning to understand the industry need and to work on the steps needed to bring sustainability in this sector, 4) also assist the professionals associated with the language learning to understand the difficulties faced by this education section.

Literature Review

Virtual tours have been used in recent years to provide learners with an immersive experience to explore the digital world that is fully independent of their actual surroundings. Students can study English vocabulary, speaking, reading comprehension, and writing in an interesting and collaborative manner when new technologies develop. For decades, virtual tours in tourist education have been employed to present consumers with a computer-mediated experience in 3D-simulated or immersive surroundings. Virtual tours have begun to gain appeal across disciplines such as language and geography as a result of the virtual reality (VR) trend. Literature proposed that there is a nexus amid virtual tours and language learning. In this context, Oldendorff (2021) explored the nexus amid virtual tours and language learning. The study conducted a virtual workshop. The data of school students aged between 10 to 18 was taken as a sample. The investigation concluded that the ability to pique learners' attention in field trials and entice them to utilize the target language in natural conversation. Using the right technologies, learners may take an active role in generating virtual tours in a variety of settings, shifting from being consumers to creators of learning resources. Similarly, Parmaxi (2023) conducted a literature review of the nexus amid virtual reality and language learning. The study reviewed 26 articles on language learning. The articles were published in the tenure from 2015 to 2018. The papers were downloaded from Google Scholar, Sage, Tailor & Francis and other related search engines. After a critical review of the papers, the study concluded that virtual reality plays a vital role in language learning. Further, it helps the students to a better understanding of the concept. The study recommended that language learning institutions should adopt the concept of the virtual tour. The decided hypothesis is as under:

H1: *Virtual tours have an association with language learning in the Kurdish Region.*

Environment is the key to success irrespective of the matter whether it's a business, education institution or any other institution. One of the prime factors which employees or any other stakeholder noticed at the earliest is the institutional environment. But in the case of educational institutions, the importance of the environment is enhanced as there are a number of approaches under one shade to learn numerous things at a time. If they are not satisfied with the environment then they can't produce good results but on the other side, the environment results in good performance of the students. There is a nexus amid a virtual learning environment and language learning. In this context, Gulbinskienė et al. (2017) explored the nexus amid a virtual learning environment and language skills. The investigation was carried out on the population of Lithuanian universities. The study used the data of 160 students as a sample. The sample data was collected with the help of questionnaires. The study used the simple random sampling technique. The results of the study revealed that there is a significant nexus amid virtual learning environments and language skills. Further, the virtual learning environment results in an increase in the language skills of the students. The study recommended that the institutions should maintain a healthy learning environment particularly the virtual learning environment with the view to uplifting the students' language learning performance. Similarly, Mortazavi et al. (2021) explored the nexus amid e-learning, virtual learning environments and language learning. The results of the study revealed that

there is a significant nexus amid e-learning, virtual learning environments and language learning. Further, the e-learning, virtual learning environment results in an increase in language learning in the students. The study recommended that the language learning institutions should maintain a healthy learning environment particularly the virtual learning environment with the view to uplifting the students' language learning performance. Moreover, Mortazavi et al. (2021) explored the nexus amid e-learning, virtual learning environments and language learning. The decided hypothesis is as under:

H2: *Virtual learning environment has an association with language learning in the Kurdish Region.*

Usually, visualization helps the students for a better understanding of the concept. It's one of the keys that the modern era educational institutions are preferring the virtual tours for learning to have good performance from their students. Sometimes, despite that the desired outcome is not achieved like the good performance from students. In such cases, educational institutions can resolve the issue by providing support in the form of tracing and removing the bugs which cause weak the nexus of virtual tours and learning by acting as moderators. In this context, Shadiev and Yang (2020) conducted a review of the literature on the nexus amid technology enhances language learning and teaching. The study reviews a total of 398 research articles on the topic of technology, language learning and teaching. The reviewed articles were downloaded from Google Scholar, SAGE, Tailor & Francis and other related research engines. The results concluded after the review proposed that there is a strong nexus amid technology enhances language learning and teaching. Further, the adoption of technology enhances both the students as well and teachers' performance, particularly in language learning. Similarly, Shadiev and Wang (2022) conducted a review of the literature on the nexus amid technology-supported language learning particularly in the 22nd century. The study reviewed a total of 34 research articles on the topic of technology and language learning. The reviewed articles were downloaded from Google Scholar, SAGE, Tailor & Francis and other related research engines. The selected articles were published during the tenure of 2011 to 2022. The results concluded after the review proposed that there is a strong nexus amid technology and language learning. Further, the adoption of technology enhances both the students as well and teachers' performance, particularly in language learning. The decided hypothesis is as under:

H3: *Learning technology has an association with language learning in the Kurdish Region.*

It has been witnessed that many educational institutions fail to produce good results in terms of student performance. Although the institution has fully adopted all the modern-era educational technologies. In such a scenario it's the educational institution which traces the causes which results in weakening the nexus amid virtual tours and language learning being moderators. In this context, Nuseir et al. (2022) explored whether institutional support can act as a significant moderator in the nexus between E-learning, M-learning, D-learning and students performance. The investigation was carried out on the population of UAS. The study used a sample of 250 students as a sample. The results received from the analysis concluded that there is a clear nexus amid E-learning, M-learning, D-learning and student performance. Further, institutional support acts as a significant moderator in the nexus amid E-learning, M-learning, D-learning and students' performance. Similarly, Falola et al. (2018) explored whether institutional support can act as a significant moderator in the nexus between faculty commitment and job responsibilities. The sample data was collected with the help of questionnaires. The study used the simple random sampling technique for sampling. The results received from the analysis concluded that there is a clear nexus amid faculty commitment and job responsibilities. Further, institutional support acts as a significant moderator in the nexus amid faculty commitment and job responsibilities. The decided hypothesis is as under:

H4: *Institutional support moderates the nexus amid virtual tours and language learning in the Kurdish Region.*

Every educational institution ensures to provide the best learning environment with the aim of having the best results for their students. Usually, it works but a number of times despite the good learning environment the student's learning performance does not get uplifted. In such a scenario institutional support is vital as the concerned institution traces the issues and overcomes them to get good learning performance from their students. In such a scenario the institutional support as moderator. In this context, Lukman et al. (2021) explored whether institutional support can act as a significant moderator in the nexus between diaspora students and entrepreneurial intentions. The investigation was carried out on the population of Ghana. The study used the simple random sampling technique for sampling. The results received from the analysis concluded that there is a clear nexus amid diaspora students and entrepreneurial intentions. Further, institutional support acts as a significant moderator in the nexus amid diaspora students and entrepreneurial intentions. Similarly, Suwija et al. (2022) explored whether institutional support can act as a significant moderator in the nexus between positive character-building abilities, and moral education. The study used the simple random sampling technique for sampling. The results received from the analysis concluded that there is a clear nexus amid positive character building abilities, and moral education. Further, institutional support acts as a significant moderator in the nexus amid positive character building abilities, and moral education. The decided hypothesis is as under:

H5: *Institutional support moderates the nexus amid the virtual learning environment and language learning in the Kurdish Region.*

With the passage of time, the education sector of the world is also getting advanced. One of the major influencing factors in developing economies is distance learning as it provides easy access to society irrespective of the physical distance. It's the modern-era learning technologies which ensure distance learning. Likewise, language learning is one of the important elements of the education sector with the view to exchange of the students. Now the students of one country can easily learn the other country's language by adopting education technology allowed by that institution by avoiding any physical travelling. Despite the adoption of modern learning technologies, the outcome of language learning of achieved. One of the vital factors in overcoming this gap is institutional support. The institution ensured the tracking of the gap which resulted in not achieving the desired results by acting as moderator. In the moderation context, Wu et al. (2023) explored whether institutional support can act as a significant moderator in the nexus between bribery, female-led start-ups and product innovation performance. The investigation was carried out on the population of China. The study used the simple random sampling technique for sampling. Further, institutional support acts as a significant moderator in the nexus amid bribery, female-led start-ups and product innovation performance. Similarly, Gao (2022) explored whether institutional support can act as a significant moderator in the nexus between overcoming mental health stigma through awareness and inclusive pedagogy. The investigation was carried out on the population of China. The study used the simple random sampling technique for sampling. The results received from the analysis concluded that there is a clear nexus amid overcoming mental health stigma through awareness and inclusive pedagogy. Further, institutional support acts as a significant moderator in the nexus amid overcoming mental health stigma through awareness and inclusive pedagogy. The decided hypothesis is as under:

H6: *Institutional support moderates the nexus amid learning technology and language learning in the Kurdish Region.*

Research Methodology

The study examines the impact of virtual tours, virtual learning environments and learning technologies on language learning and also investigates the moderating role of institutional support among virtual tours, virtual learning environments, learning technologies, and language learning in the Kurdish region. The article used the survey questionnaires to collect the data from the students of second language learning institutions. These surveys were taken from the past literature such as virtual tours has five items (El-Said & Aziz, 2022), virtual learning environment has six questions (Lacka, Wong, & Haddoud, 2021), learning technologies has five items (Geng, Law, & Niu, 2019), institutional support has six items (Li, Bonn, & Ye, 2019) and language learning has five questions (Wang, Derakhshan, & Zhang, 2021).

In addition, the study selected the students of second language learning institutions as respondents. The study also used simple random sampling while selecting the students. The surveys were distributed with the help of personal visits to the institutions. The researchers distributed 522 surveys but only 299 valid responses were received. These valid responses have approximately 57.28 percent response rate. Moreover, the article also used the smart-PLS to check the data reliability and associations among variables. It is the best statistical tool for the analyses of primary data because it provides the best results while using complex models and large data sets (Hair et al., 2017). Finally, three predictors were used in the study such as virtual tour (VR), virtual learning environment (VLE) and learning technologies (LT). In addition, the study also used one moderating construct such as institutional support (IS) and one predictive construct such as language learning (LL). These constructs are given in Figure 1.

Figure 1: Research framework
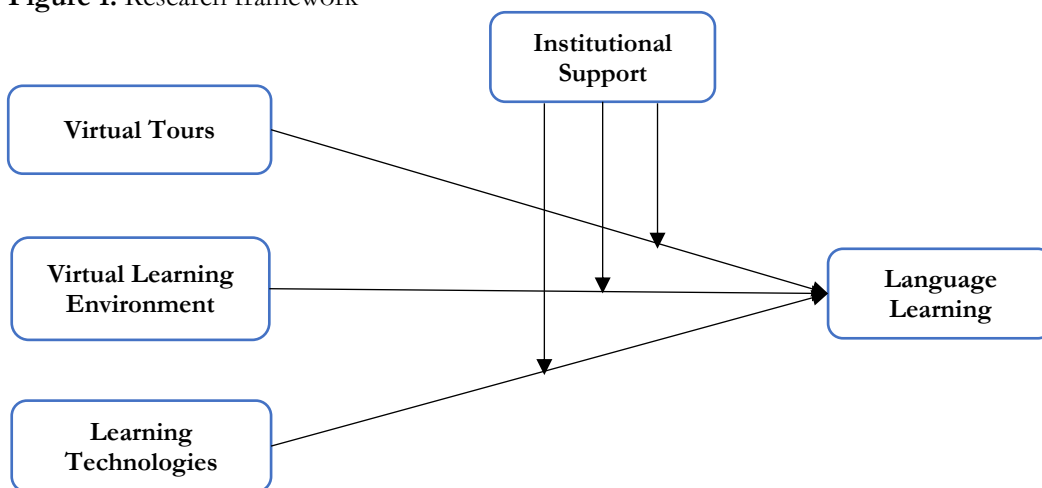
Research Findings

The study examines the correlation among items often called convergent validity. It is checked with the help of Alpha along with composite reliability and both the test show higher than 0.70 values. In addition, it is also checked with the help of factor loadings along with average variance extracted (AVE) and both the test show higher than 0.50 values. These values show a high correlation among items and proved convergent validity as valid. These outcomes are shown in Table 1.

Table 1: Convergent validity

Constructs	Items			Loadings	CR	AVE	MSV	ASV
Virtual Tours	VT1	<---	VT	0.987	0.916	0.691	0.410	0.134
	VT2	<---	VT	0.702				
	VT3	<---	VT	0.717				
	VT4	<---	VT	0.986				
	VT5	<---	VT	0.708				
Virtual Learning Environment	VLE1	<---	VLE	0.826	0.880	0.597	0.396	0.320
	VLE2	<---	VLE	0.860				
	VLE4	<---	VLE	0.829				
	VLE5	<---	VLE	0.619				
	VLE6	<---	VLE	0.703				
Learning Technologies	LT1	<---	LT.	0.996	0.936	0.754	0.696	0.258
	LT2	<---	LT.	0.632				
	LT3	<---	LT.	0.998				
	LT4	<---	LT.	0.630				
	LT5	<---	LT.	0.992				
Institutional Support	IS1	<---	IS	0.794	0.908	0.664	0.410	0.234
	IS2	<---	IS	0.854				
	IS3	<---	IS	0.831				
	IS4	<---	IS	0.794				
	IS6	<---	IS	0.798				
Language Learning	LL1	<---	LL	0.528	0.837	0.514	0.286	0.173
	LL2	<---	LL	0.814				
	LL3	<---	LL	0.607				
	LL4	<---	LL	0.799				
	LL5	<---	LL	0.787				

The study also examines the correlation among variables often called discriminant validity. It is checked with the help of Fornell Larcker and first value is larger than the other values in the same column. These values show a low correlation among variables and proved discriminant validity as valid. These outcomes are shown in Table 2.

Table 2: Discriminant validity

	IS	VT	VLE	LT.	LL
IS	0.815				
VT	0.640	0.831			
VLE	0.470	0.277	0.773		
LT.	0.351	0.141	0.534	0.868	
LL	0.426	0.174	0.535	0.440	0.717

The study also examines the model good fitness. It is checked with the help of TLI and CFI and both the tests show larger than 0.90 values. In addition, it is also examined using RMSEA and results exposed less than 0.05 values. These values show model is good fit. These outcomes are shown in Table 3.

Table 3: Model good fitness

Selected Indices	Result	Acceptable level of fit
TLI	0.955	TLI > 0.90
CFI	0.964	CFI > 0.90
RMSEA	0.001	RMSEA < 0.05 good; 0.05 to 0.10 acceptable

Figure 2: Measurement assessment model
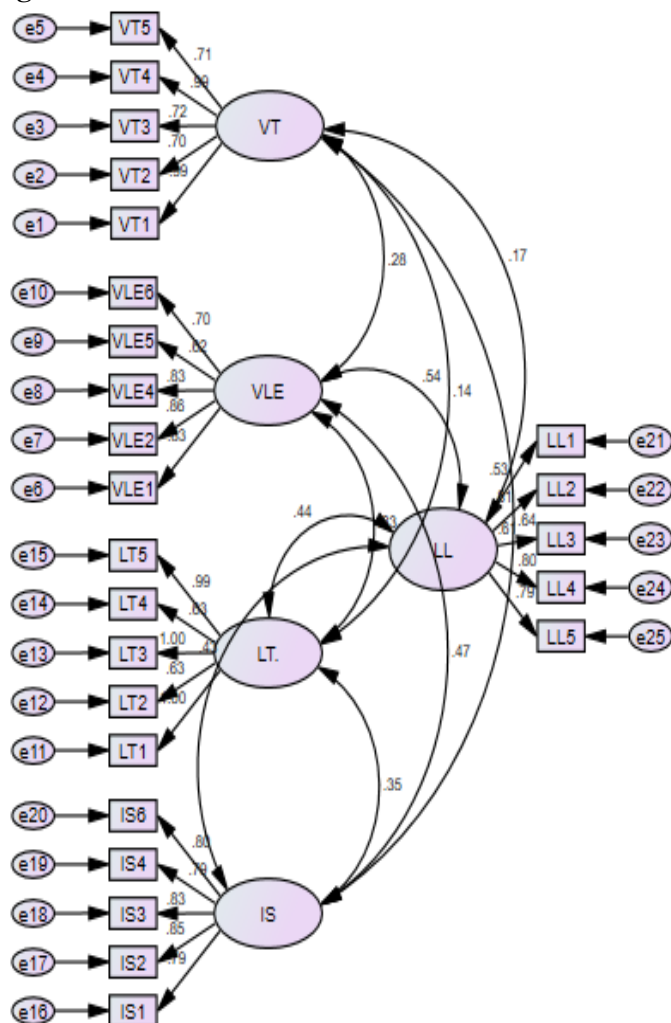
The outcomes indicated that the virtual tours, virtual learning environment, and learning technologies have a positive linkages with language learning in the Kurdish region and accept H1, H2 and H3. The results also indicated that institutional support significantly moderates among virtual tours, virtual learning environments, learning technologies, and language learning in the Kurdish region and accept H4, H5 and H6. These results are given in Table 4.

Table 4: Path analysis

Relationships			Beta	S.E.	C.R.	P
Language Learning	<---	Virtual Tours	0.549	0.037	14.993	0.000
Language Learning	<---	Learning Technologies	0.087	0.034	2.583	0.010
Language Learning	<---	Virtual Learning Environment	0.113	0.040	2.826	0.005
Language Learning	<---	Institutional Support	0.463	0.037	12.636	0.000
Language Learning	<---	VT x IS	0.139	0.006	21.643	0.000
Language Learning	<---	LT x IS	0.062	0.007	9.549	0.000
Language Learning	<---	VLE x IS	0.030	0.007	4.330	0.000

Figure 3: Structural assessment model
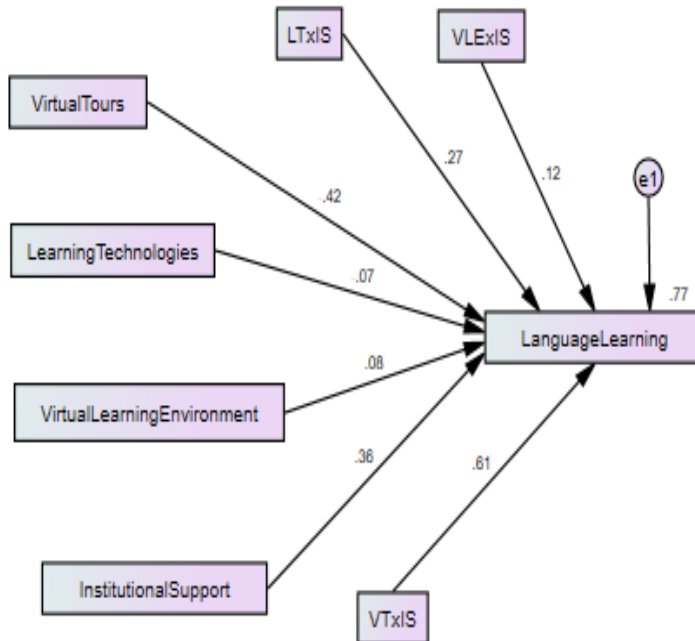
Discussions

The results showed that virtual tours have a positive linkage with language learning. These results are in line with Gessinger et al. (2021), which indicates that if the students interact with virtual tutors while taking language classes, they may find an efficient tutor and learn the languages more effectively. These results are supported by Rusmiyanto et al. (2023), which highlights that if virtual tutors are introduced to students during the course of teaching a foreign language, students may have guidance and strategies. As a result, students may learn the language well. The results showed that virtual learning environment have a positive linkage with language learning. These results are in line with Parmaxi (2023), which indicates that when institutions develop a virtual learning environment, they may follow the course of the syllabus without any break, and enables students perform better in learning a language. These results are supported by Yusny et al. (2021), which states that a virtual learning environment increases access to experts in language teaching and thereby, students learn a language fast.

The results showed that learning technology have a positive linkage with language learning. These results are in line with Cai, Pan, and Liu (2022), which proclaims that when the tutors make their students reach different types of learning technologies and assist them in interacting with these technologies, students may learn more about a language. These results are supported by Alakrash and Abdul Razak (2021), which explains that using learning technologies, students are in a better position to learn minutely about the grammar, sentence structure, and phonics of a language. Hence, learning technology improves language learning. The results showed that institutional support is a significant moderator between virtual tours and language learning. These results are in line with Manegre and Sabiri (2022), which implies that when the firm tend to represent them as supportive in their policies, they also focus on students off-time learning. Thus, they encourage, the adoption of virtual tours, and the use virtual tutors improves

language learning. These results are supported by Daud, Teo, and Zain (2020), which claims that with the supportive behavior, institutions start use of virtual tutors and increases their contribution to language learning.

The results showed that institutional support is a significant moderator between virtual learning environment and language learning. These results are in line with Al-Nofaie (2020), which proclaims that the educational institutions where supportive behavior is adopted towards students, virtual learning environment is preferred and thereby, language learning is improved. These results also agree with Prodanović and Gavranović (2021), which indicates that the institutional support improves the relationship between virtual learning environment and language learning. The results showed that institutional support is a significant moderator between learning technology and language learning. These results are supported by Shadiev and Yang (2020), which confirms that institutional support strengthens a relationship between learning technology and language learning. These results are in line with Qiu et al. (2023), which posits that if the educational institutions are supportive, they form their policies with the consideration students learning. As a result, learning technology promotes and students can better learn a language.

Implications

The current study has great significance to Kurdish region and similar others where the interaction with the foreigners is greater in frequency as the major concern of the study is the second or third language learning. The study presents guidelines for the language tutors how to promote language learning. The study posits that the virtual tutors must be introduced to candidates wanting language learning so that the language learning can be accelerated. The study also guides that the institutions specific to teach languages, must provide virtual learning environment to learners in order to improve their performance in language learning. The study also suggests that innovative and effective learning technologies must be applied so that students do their best in learning a language. There is also a guideline that language teaching institutions must be supportive. It would encourage virtual tutors' adoption and motivate students for better language learning. The study implies that the concerned educational institutions should be supportive. In this way, the presence of virtual learning environment is possible and language learning can be improved. Moreover, the study conveys that institutions behavior to learners must be supportive. It would encourage language technology use and creates chances for better language learning. The study guides the regulators in establishing regulations related to improve language learning using virtual tours, virtual learning environments, and learning technologies.

Conclusion

The research began with the aim to analyze the influences of virtual tutors, virtual learning environment, and learning technology on language learning. It was also aimed to check the role of institutional support between virtual tutors, virtual learning environment, learning technology, and language learning. Quantitative data, as per empirical analysis requirement, were collected from Kurdish region. The results showed that virtual tutors, virtual learning environment, and learning technology have positive association with language learning. The study revealed that when the learners interested in language learning have facility of virtual tutors and use these programs during course, they may get rid of misconceptions, the lack of understanding, and lack of confidence. So, the learners may better learn a language. The study

also concluded that when innovation is brought and virtual learning environment is assured for students, the learners may have ability to learn a language with good outcomes. Similarly, if the technological tools designed for assisting the learning processes, learners learn better and show the performance accordingly. The results also stated that institutional support is a significant moderator between virtual tutors, virtual learning environment, learning technology, and language learning. In the presence of institutional support, the adoption of virtual tutors, virtual learning environment, and learning technology is encouraged. This all results in improved language learning.

Limitations

There are several limitations associated with the current study and there is requirement from future researchers to overcome these limitations. Only the role of technological factors like virtual tutors, virtual learning environment, and learning technology in language learning has been analyzed. In order to improve the scope of the study, researchers must also include more factors in research framework. In this study, only one moderator like institutional support between virtual tutors, virtual learning environment, learning technology, and language learning has been used. In further literature, researchers must also examine at least one mediator between virtual tutors, virtual learning environment, learning technology, and language learning.

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