Exploring the Effects of Blended Learning using WhatsApp on Language Learners' Lexical Competence

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Abstract
In the wake of COVID-19, online learning has achieved new dimensions and affected all fields of education. As such, one of the emerging fields of ELT is Mobile-Assisted Language Learning (MALL). The proposed study adapts the Unified Theory of Acceptance and Use of Technology (UTAUT) to identify factors influencing students' behavioral intention towards WhatsApp for enhancing lexical competence. Three constructs, namely, performance expectancy, social influence, & hedonic motivation, are adopted from the original model, and two new constructs: perceived relevance and collaborative learning are added. A questionnaire was administered to 203 undergraduate students from select Institutes in Rajasthan. Smart-PLS (ver. 3.2.9) and IBM SPSS (ver. 26) are used for data analysis. Empirical testing confirms the significant relationship of social influence (β=.274, p=.002), hedonic motivation (β=0.639, p=.000), and perceived relevance (β=0.138, p=.035) with the behavioral intention to use WhatsApp for enhancing lexical competence; and performance expectancy and collaborative learning are proved as insignificant predictors of behavioral intention. The findings should aid decision-makers in developing ELT practices and teachers in opting for innovative approaches for the benefit of language learners. The originality of the study stems from the inclusion of external factors in the UTAUT model. The ramifications for MALL theory and practice have been examined in light of these findings.

Keywords: WhatsApp, Lexical competence, UTAUT, MALL, ELT, COVID-19.

1. Introduction

Since COVID-19 wrought chaos to the health and lives of people, governments all over the world responded promptly to the worldwide emergency and resorted to various measures to prevent its rapid spread. The most significant amongst these were social distancing and home quarantine (Reimers & Andreas, 2020). Educational services had bunged down temporarily. As a result, online

education supplanted traditional classrooms as the preferred method of instruction. Language instructors, as well as teachers from other fields, were forced to turn to online instruction. This contributed to a significant budge in the perception of education by teachers.

Because of their flexibility and adaptability, mobile devices are rising in popularity among practitioners in educational contexts. Furthermore, the expansion of social networking applications has stemmed from the widespread use of wireless mobile devices. Therefore, some of the commonly used smartphone applications are catching the interest of Gen Z students, especially WhatsApp, which is a free messaging and calling app and allows users to share content like audio, images, video, contacts, and location (Bensalem, 2018). The app's popularity has piqued many language educators who want to see how they might use it to teach particular aspects of L2. One such area of language training that WhatsApp can help with is lexical competence, a vital component of L2 learning (Knight, 1994). However, this potentially powerful app is an educational resource that L2 language practitioners have yet to delve into (Andújar-Vaca & Cruz-Martínez, 2017).

Therefore, the current study proposes to assess the factors influencing WhatsApp for enhancing lexical competence. The study reiterates the fact that the indispensable role of the English language in sustainable development cannot be undermined, as it enhances business and trade and improves an individual's economic conditions. Gen Z needs to be pepped up with language skills to sustain in the "new normal" ushered by COVID-19.

2. Literature Review

2.1 COVID-19 & ICT

Amidst the pandemic, pedagogy has shifted from traditional to online mode. It is not just online learning; "it is rightly referred to as Emergency Remote Teaching (ERT) or Emergency Remote Learning (ERL) or Pandemic Pedagogy" (Rahiem, 2020a). ERT is an unplanned temporary transition in instructional delivery to a different mode (Huang et al., 2021). Regardless of this, technical tools can make pedagogy practical and more straightforward in times of necessity, like the pandemic, which has varying repercussions. While ERT is a temporary answer for colleges, students' participation in online education has been a significant source of concern, and it is worth looking into.

A qualitative research study aimed to explore university students' perspectives on the technical obstacles they faced while using ICT during the pandemic (Rahiem, 2020b). It exposed the following obstacles to technology: computer availability, inaccessible internet, the shortage of technical skills, sharing devices with other family members, internet costs, and insufficient platforms for learning.

COVID has undoubtedly transformed pedagogy and paved the way for a "new normal" (Odeku, 2021). In terms of flexibility, it enables online learning if they have internet access and a computer, even in remote areas. ICT initiatives have now increased and brought tremendous pedagogical values, contributed much to the learning skills of hybrid pedagogical students, and boosted their online learning skills. The uncertainties of virtual learning can be eliminated if instructors develop well-planned blended pedagogies.

2.2 Mobile-Assisted Language Learning (MALL)

The technical improvements over the years have extended the frontiers for mobile technologies into ESL education. Now it is possible to break free from the confines of time and space while teaching and to study languages, and it has made learning "more fun and interactive" (Demouy et al., 2015, p.19). Over the last 20 years, mobile technologies such as smartphones and computers (PCs) have steadily been incorporated into instructive situations. They have evolved into an excellent learning tool for regular and outdoor informal learning (Sung et al., 2016).

With the development of increasingly mobilized, portable and personalized education media, the learning process is changing rapidly (Sobral, 2020). Higher education institutions must leverage possibilities and acclimatize to the way people interact and use technology simultaneously. Generation Z regularly uses mobile applications as the most active technology in the educational process. M-learning has also become an expansive environment for students, guaranteeing continuous existence and complete access to learning materials. Research conducted by Sun & Gao (2019) explored the relationships between critical technology adoption variables, intrinsic motivation, and students' behavioral intention towards MALL. It indicated that sound instructional design, compatible with and promoting the mission of language learning, was necessary to enhance the intention of students to use mobiles. Moving aesthetically from mixed to remote models and vice versa can be made possible through mobile learning (Zhampeissova et al., 2020). However, mobile learning does not replace the existing e-learning or conventional learning classes; it is here to supplement and enrich.

2.3 WhatsApp

Social networking sites (SNS) are mobile applications designed to make communication and collaboration easier for global citizens (Ma'ruf et al., 2019). Integration of SNS in education could facilitate complete utilization of its potential. This capability, which, in conjunction with its multimedia capabilities, enables cooperative synchronous and asynchronous communication and encompasses the functionality of SNSs on a broad scale. The introduction of SNS in classes has provided certain learning benefits, such as reduced anxiety, increased efficiency, high scores, and improved social relationships (Pursel & Xie, 2014; Hamid et al., 2015). One of the benefits gained through SNS is lexical skills (Ma'ruf et al., 2019).

The most popular of these applications, which have many features of social networking services, is the instant messaging application called WhatsApp. In the recent past, the rising popularity of smartphones in the market has led to the increasing usage of WhatsApp as a medium for interaction. WhatsApp study, albeit still in its early stages, has shown prospective for enhancing lexical skills. It is the most frequently used medium that enables learners to actively participate in classroom activities (Soria et al., 2020). The opportunity to access different learning materials anytime and anywhere enhances students' ability to create their understanding (Amry, 2014).

Bouhnik and Deshen (2014) argue that while WhatsApp is a moderately new educational instrument, it has parallelly positive features with preceding technical tools already introduced. They also state that there are also multiple advantages from a theoretical point of view, such as easy availability of materials and the prospect of ubiquitous learning. WhatsApp supports peer

collaboration for learning; hence, allowing individuals to regulate and control their knowledge (Rambe & Bere, 2013).

All studies have, however, not reported positive results. In the case of grammar and spelling, the detrimental effects of this technique were reported. The use of these technologies incentivizes the misuse of ungrammatical and inaccurate abbreviations and acronyms, which might lead to improper use of language (Salem, 2013). Technophobia and insufficient 21st-century technological skills are other hindrances to MALL. Unquestionably, online teaching challenges educators in creating a caring virtual classroom that encourages students to collaborate and connect (Toquero, 2020). However, there are more pros than cons to it. WhatsApp has also been proven effective for encouraging lexical competence in second language learning, as demonstrated in many studies that address this skill (Jafari & Chalak, 2016; Hamad, 2017).

As the literature suggests, the researches in the area of MALL have geared up. Still, the efficacy of improving lexical competence through WhatsApp, particularly among Indian students, has yet to be investigated thoroughly. Several studies have adopted UTAUT to gauge the user intention to use technology. The current study is unique because it embraces and extends the model to test the factors influencing WhatsApp for enhancing lexical competence of students, which to the best of the researchers' ability is a novel conceptualization.

2.4 Unified Theory of Acceptance and Use of Technology (UTAUT)

Venkatesh et al. (2003) created the UTAUT model, synthesizing eight models, including the Theory of reasoned action, Theory of planned behavior, Technology acceptance model, Combined TAM-TPB, Innovation diffusion theory, Model of personal computer utilization, Social cognitive theory, and Motivational model. Six constructs are considered to be direct predictors of user acceptability or user behavior, according to the UTAUT2 model, as follows: effort, facilitating conditions, hedonic motivation, social influence, habit, and price. UTAUT has been used in computer assessment systems (Terzis & Economides, 2011), e-learning systems (Chen, 2011), web 2.0 technologies (Jong & Wang, 2009; Huang et al., 2013), social media (Gruzd et al., 2012) and digital-learning environments (Pynoo et al., 2011).

The proposed study extends the UTAUT model to identify constructs driving Gen Z to use WhatsApp to enhance lexical competence. Constructs from previous models are used while adding two new variables: perceived relevance and collaborative learning. Fig. 1 proposes the conceptual model of the research and table 1 displays the anticipated hypotheses of the study, along with the definition of constructs and their sources of adoption.

The proposed research questions are:

1) Does there exist behavioral intention on the part of students towards using WhatsApp for enhancing lexical competence?

2) Which are the factors affecting the behavioral intention of students towards WhatsApp for enhancing lexical competence?
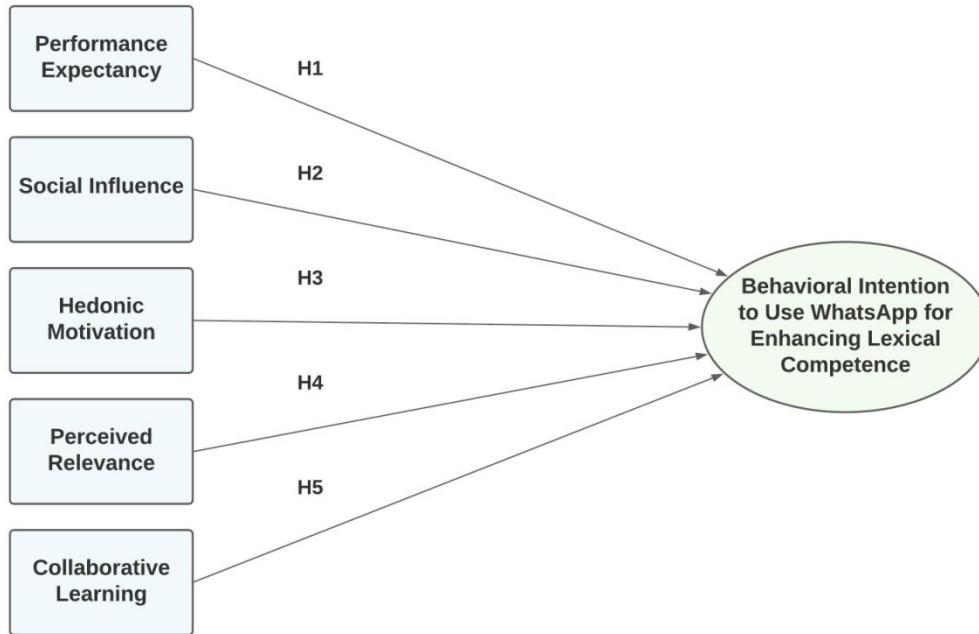
Figure 1: Proposed conceptual model

Table 1**:** Constructs & Hypotheses

Construct	Definition	Hypothesis	Adapted/ modified from Source
Performance Expectancy (PE)	It is the magnitude to which using a system seems beneficial to an individual (Venkatesh et al., 2003).	H1-PE has a significant association with behavioral intention towards using WhatsApp for enhancing lexical competence.	(Botero et al., 2018)
Social Influence (SI)	It's the extent to which someone believes that other people think the new system should be applied (Venkatesh et al., 2003).	H2- SI has a significant association with behavioral intention towards using WhatsApp for enhancing lexical competence.	(Naveed et al., 2020)
Hedonic Motivation (HM)	It is the extent to which one derives enjoyment from using technology. (Amadin & Obienu, 2016).	H3-HM has a significant association with behavioral intention towards using WhatsApp for enhancing lexical competence.	(Escobar-Rodríguez et al., 2013)

Perceived Relevance (PR)	It is the measure to which a system can help to perform something with better efficiency. (López-Nicolás et al., 2008).	H4-PR has a significant association with behavioral intention towards using WhatsApp for enhancing lexical competence.	(Escobar-Rodríguez et al., 2013)
Collaborative learning (CL)	It consists of learner interactions to build up knowledge (Liu & Huang, 2015).	H5-CL has a significant association with behavioral intention towards using WhatsApp for enhancing lexical competence.	Author's own

3. Materials and Methods

3.1 Study Design and Sample

By quantitatively evaluating the proposed conceptual paradigm of adoption and use of WhatsApp, the research is empirical. Employing non-probability convenience sampling, the study was conducted with undergraduate students enrolled in various courses in reputed Institutes in Rajasthan. The questionnaire was circulated amongst 288 students, of which 203 responded, which is deemed the final sample for the research; as such, the response rate is 70%.

3.2 Research Instrument and Pilot Study

The questionnaire formulated by the researchers has two parts to it. Part A comprises the demographic data: the student's age, gender, the field of study, and so on. Part B is split into six sub-categories. They were PE, HM, SI, PR and CL, and BI. 5- point Likert scale has been used to elicit responses from the participants. The instrument was piloted on 30 students. All the inconsistent items were removed from the questionnaire after obtaining the pilot results. Some statements were redundant and incomprehensible by students; therefore, some were paraphrased, and some were omitted from the questionnaire.

3.3 Data Collection & Analysis

The final data is obtained electronically via survey method using Google forms during February 2021. The google forms were shared with the participants via WhatsApp, and the responses were received within a month of circulating the forms. It is analyzed using the IBM SPSS ver. 26. The model is empirically validated using structured equation modeling (SEM) with SmartPLS (v.3.2.9). Outer loading is used to check the predictor's reliability, and Cronbach's alpha is administered to check the data's reliability. The Forner Larker criterion (1981), cross-loadings, and Hensler criterion define discriminant validity.

4. Results

4.1 Analysis of Demographic data

Table 2: Demographics of Respondents

Character	Frequency	Percentage
Age		
Below 18	12	5.9%
18-20	160	79.2%
Above 20	30	14.9%
Gender		
Male	148	72.3%
Female	55	26.7%
Field of study		
Bachelor of Arts	0	0%
Bachelor of Commerce	1	0.5%
Bachelor of Science	9	4.4%
Bachelor of Technology	189	93.6%
Others	3	1.5%
The daily amount of WhatsApp usage		
1-2 hours	20	9.9%
2-4 hours	52	25.7%
More than 4 hours	130	64.4%

Table 2 reflects the demographics of the respondents. Out of the 203 participants, 161 (79.2%) were between 18 and 20 years. 148 (72.9%) were male undergraduate students, while 55 (27.1%) were female participants. 190 (93.6%) of them were students of Bachelor of Technology. A majority of the students (64.4%) reported their everyday mobile usage to be above 4 hours.

4.2 Instrument Measures

Table 3 indicates the reliability measurements of the instrument. An α value of 0.8 designates a very decent level of reliability (Thomas et al., 2013). It ranged between 0.811 - 1.00 for all the subscales in the study. If the outer load is greater than 0.70, it is appropriate to retain the indicators, which is valid for the given values in the table (Escobar-Rodríguez et al., 2013). Composite reliability measures exceeding the standard benchmark of 0.06 (López-Nicolás et al., 2008) and AVE ≥ 0.50 indicate an adequate value for all constructs (Fornell & Larcker, 1981). Another gauge known as rho_A is recognized, wherein rho_A> 0.7 is considered suitable (Dijkstra & Henseler, 2015). Hence, all the constructs were deemed right for the study.

Table 3: Reliability Measurements

Construct	Items	Outer loadings	Cronbach's Alpha	rho_A	Composite Reliability	AVE
BI	BI2	0.809	0.837	0.842	0.839	0.723
	BI3	0.889				
CL	CL1	0.831	0.899	0.899	0.899	0.690
	CL2	0.839				
	CL3	0.845				
	CL4	0.807				
HM	HM1	0.798	0.811	0.813	0.811	0.589
	HM2	0.777				
	HM3	0.725				
PE	PE1	0.768	0.883	0.887	0.881	0.651
	PE2	0.849				
	PE3	0.715				
	PE4	0.884				

PR	PR2	1.000	1.000	1.000	1.000	1.000
SI	SI3	1.000	1.000	1.000	1.000	1.000

Fornell-Larcker criterion, cross-loadings, and HTMT (as depicted in tables 4,5,& 6 respectively), establish the discriminant validity of the instrument: (1) when compared with the other values, the transverse values are highest for a construct (Fornell & Larcker, 1981), (2) each item loads the utmost on its allied construct (Hair et al., 2012), (3) the correlation value for the equivalent construct is lesser than the appropriate value (HTMT < 0.90) (Henseler et al., 2015).

Table 4: Fornell–Larcker discriminant Validity

	BI	CL	HM	PE	PR	SI
BI	0.850					
CL	0.431	0.830				
HM	0.724	0.566	0.767			
PE	0.362	0.597	0.612	0.807		
PR	0.330	0.350	0.243	0.179	1.000	
SI	0.548	0.235	0.451	0.300	0.175	1.000

Table 5: Cross Loadings

	BI	CL	HM	PE	PR	SI
BI2	0.809	0.335	0.590	0.266	0.290	0.450
BI3	0.889	0.396	0.639	0.346	0.273	0.481
CL1	0.358	0.831	0.520	0.422	0.243	0.110
CL2	0.362	0.839	0.479	0.527	0.274	0.236
CL3	0.364	0.845	0.442	0.532	0.330	0.193
CL4	0.348	0.807	0.440	0.503	0.318	0.242
HM1	0.578	0.452	0.798	0.475	0.198	0.343

HM2	0.562	0.405	0.777	0.477	0.197	0.343
HM3	0.524	0.448	0.725	0.457	0.162	0.355
PE1	0.278	0.451	0.472	0.768	0.120	0.202
PE2	0.307	0.525	0.513	0.849	0.155	0.218
PE3	0.259	0.458	0.462	0.715	0.110	0.208
PE4	0.320	0.493	0.527	0.884	0.183	0.328
PR2	0.330	0.350	0.243	0.179	1.000	0.175
SI3	0.548	0.235	0.451	0.300	0.175	1.000

Table 6: Heterotrait-Monotrait Ratio

	BI	CL	HM	PE	PR	SI
BI						
CL	0.431					
HM	0.724	0.567				
PE	0.359	0.596	0.610			
PR	0.332	0.351	0.242	0.176		
SI	0.549	0.235	0.452	0.296	0.175	

Table 7 reveals the model fit statistics. A suitable fit is depicted with Standardized Root Mean Square Residual (SRMR) ≤ 0.08. The underlying endogenous variables' coefficient of determination (R2) must be greater than 0.2, which is 0.6 for the given variables (Deraman et al., 2019). Q2 = 0.377, and Q2 > 0 implies that the model is predictive (Stone, 1974).

Table 7: Model Fit

	Saturated Model	Estimated Model	Q² (=1- SSE/SSO)
SRMR	0.041	0.041	0.384
NFI	0.887	0.887	

		R Square	R Square Adjusted
R2	BI	0.621	0.611

The research employs bootstrapping technique which is a non-parametric procedure that arbitrarily extracts several subsamples (for example, 5000) with substitution from the real data set. Firstly, the data is bootstrapped in PLS. The results of bootstrapping are employed independently in the second step to estimate the underlying PLS path model. The distribution of the path coefficients for the inner path model is provided by the various model estimations (Nitzl et al., 2016). Table 8 explicitly exhibits the hypotheses' results. The hypotheses with a p-value < 0.05 and t-value > 1.96 are accepted (Al Athmay et al., 2016).

Table 8: Hypothesis Testing

Hypothesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Results
PE -> BI	-0.171	-0.169	0.106	1.613	0.107	Rejected
SI -> BI	0.274	0.271	0.087	3.150	0.002	Accepted
HM -> BI	0.639	0.653	0.136	4.679	0.000	Accepted
PR -> BI	0.138	0.143	0.065	2.115	0.035	Accepted
CL -> BI	0.059	0.046	0.122	0.486	0.627	Rejected

Hypothesis 1, 'PE has a significant association with BI towards using WhatsApp for enhancing lexical competence,' is rejected (β=-0.171, t=1.613, p=0.107), implying that PE and BI are not significantly associated with each other. The ultimate aim to achieve some benefit in their performance does not affect learners' behavioral intention for using mobile phones.

Hypothesis 2, 'SI has a significant association with BI towards using WhatsApp for enhancing lexical competence,' is accepted (β= 0.274, t=3.150, p=0.002), so social influence and behavioral intention were significantly related to each other. Students' behavioral intention is affected because those vital to them believe that they must use WhatsApp to enhance lexical competence.

Hypothesis 3, 'HM has a significant association with BI towards using WhatsApp for enhancing lexical competence,' is also accepted (β=0.639, t=4.679, p=0.000), suggesting hedonic

motivation and behavioral intention are related significantly. Students' behavioral intention is to derive pleasure/ fun by using WhatsApp to enhance lexical competence.

Hypothesis 4, 'PR has a significant association with BI towards using WhatsApp for enhancing lexical competence,' is accepted ($\beta=0.138$, $t=2.115$, $p=0.035$), therefore perceived relevance and behavioral intention are related significantly. Students' behavioral intention towards WhatsApp for enhancing lexical competence is affected by the degree to which a device can make it simpler & faster to perform a function.

Hypothesis 5, 'CL has a significant association with BI towards using WhatsApp for enhancing lexical competence,' is rejected ($\beta=0.059$, $t=0.486$, $p=0.627$), implying that collaborative learning and behavioral intention are not significantly related. Group partnerships between students and teachers do not impact students' behavioral intention towards WhatsApp.
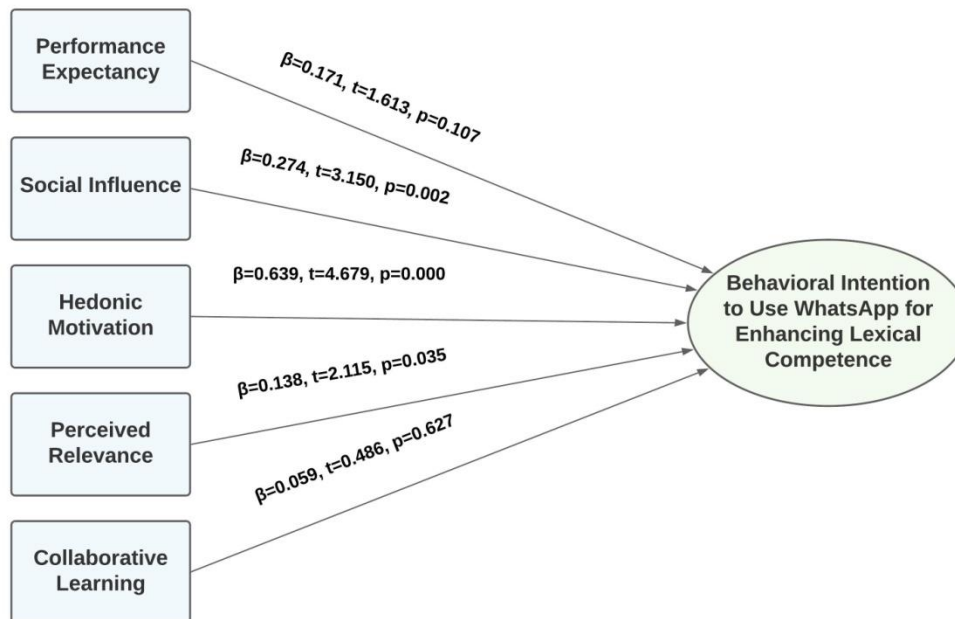

Figure 2: Research Model

5. Discussion

By adapting the UTAUT model, this paper sought to understand students' acceptance of WhatsApp (for enhancing lexical competence). Our findings indicate that the main predictors of the students' BI to use WhatsApp for enhancing lexical competence are SI, HM, and PR. These three constructs have shown a significant relationship with BI. The effect of PE is unswerving with the results from Attuquayefio and Addo (2014). Still, it contradicts the results from the original hypothesis by Venkatesh et al., (2003) and other studies, including Fagan (2019) and Naveed et al. (2020). This suggests that the rise in job advantage does not affect students' intentions of using WhatsApp. One plausible explanation of the low significance of CL could be that students do not

always seem to enjoy learning in groups with peers. The instructors must promote peer learning amongst students as it breaks the monotony of studying in isolation and enables immediate access, which helps instructors, students, and peer groups form stronger bonds.

The effect of the other three constructs, HM, PR, and SI, on BI to use of WhatsApp was significant and in line with the predictions of the original authors. HM significantly relates to BI, which aligns with Amadin and Obienu's (2016) research and contradicts the study by Fagan (2019). Students are likely to gain more hedonic motivation if the platforms for learning are quick and straightforward; this is where the assistance of language trainers comes to play. PR is significantly associated with BI, which means that students do not just think of it as a trend and habitual app, but rather a handy learning platform, which opposes the findings by Rodríguez et al. (2014), and Mena et al. (2017). The consequence of SI on MALL differs considerably in previous studies. Some studies suggest a link between the two (Botero et al., 2018), while other studies show no positive association between these factors (Fagan, 2019). The present study tends to the first group and predicts a significant association between SI and BI, which suggests that the opinions of referents who recommend WhatsApp for lexical skills play an imperative role in the choices individuals make. Thus the study posits answers to the two research questions projected by the researchers: there does exist behavioral intention on the part of students towards using WhatsApp for enhancing lexical competence, and the factors affecting BI are identified to be HM, SI, and PR.

6. Theoretical & Practical Implications

The study presents a novel research model to identify the effect of select factors on behavioral intention towards using WhatsApp for enhancing lexical competence. Therefore, a new model is developed by extending the existing UTAUT model, which can be further re-used and re-tested by other researchers in varied contexts and geographical settings to detect the influencing factors of MALL or any application in particular.

Given the discoveries, it is suggested that language trainers consider incorporating WhatsApp in their curriculum for enhancing students' lexical competence. It will allow them to reach more students via virtual means, particularly introverted students who may hesitate to participate in offline interaction. It is recommended that students are highly motivated to use WhatsApp and perceive it as a learning tool, not just a fun activity. Their social circle also influences their intentions. However, educators must keep a keen eye on their students to get the most out of online learning.

7. Limitations of the Study and Future Scope

Due to the sample size, area, sampling process, etc., the survey findings cannot be generalized to varied populations; secondly, most participants were male. Additionally, the study examined factors affecting students' voluntary acceptance of WhatsApp for enhancing lexical competence; therefore, it may not be suitable in situations wherein students participate in pre-structured MALL activities.

Future research should include more extensive, more varied, and gender-balanced samples. This research examined students' behavioral intentions at a specified period; however, a longitudinal study is recommended because people's perceptions tend to change over time. Further studies can expand this research by including the moderators of the UTAUT2 (e.g., age, experience, gender, voluntariness) that are excluded in this study. The model's ability to anticipate might be improved if these factors are included.

8. Conclusion

The study presents a novel research model that can assist in detecting the factors influencing the acceptance and use of WhatsApp for enhancing lexical competence. The developed model was tested empirically, and the data of 203 students were analyzed using IBM SPSS (ver. 26) and Smart-PLS (ver. 3.2.9). As mobile learning gains momentum in the classroom, it's becoming increasingly essential to comprehend factors that influence students' use of mobile devices for L2 acquisition. Essentially, the present research uncovered that behavioral factors, namely, SI, HM, and PR, are significantly associated with BI to use of WhatsApp, but PE and CL are not mainly related to BI; therefore, their effect is neglected. The present investigation makes an innovative and original contribution by adapting the widely acclaimed technology acceptance model, UTAUT, in ELT, and more specifically in the context of WhatsApp, a globally popular application on smartphones. However, the research on its utility and effectiveness in instructive settings is still in its early stages. It is advocated that the merits of MALL should be marketed to students to let them adopt the system, with the educational community assuming a prominent role.

References

AL Athmay, A. A. A., Fantazy, K., & Kumar, V. (2016). E-government Adoption and User's Satisfaction: An Empirical Investigation. *EuroMed Journal of Business*, *11*(1), 57–83. https://doi.org/10.1108/EMJB-05-2014-0016

Amadin, F. I., & Obienu, A. C. (2016). Intention to Use University E-mail System based on Modified UTAUT Model: Perspectives of University of Benin Postgraduate Students. *ISTEAMS Multidisciplinary Cross_Border Conference*, *August 2017*.

Amry, A. B. (2014). The Impact of WhatApp Mobile Social Learning on the Achievement and Attitudes of Female Students Compared with Face to Face Learning in the Classroom. *European Scientific Journal*, *10*(22), 116–136. http://eujournal.org/index.php/esj/article/view/3909

Andújar-Vaca, A., & Cruz-Martínez, M. S. (2017). Mobile Instant Messaging: Whatsapp and its Potential to Develop Oral Skills. *Media Education Research Journal*, *25*(50), 43–52. https://doi.org/10.3916/C50-2017-04

Attuquayefio, S. N., & Addo, H. (2014). Using the UTAUT Model to Analyze Students ' ICT Adoption. *International Journal of Education and Development Using Information and Communication Technology*, *10*(3), 75–86.

Bensalem, E. (2018). The Impact of WhatsApp on EFL students' Vocabulary Learning. *Arab World English Journal*, *9*(1), 23–38. https://doi.org/10.24093/awej/vol9no1.2

Botero, G. G., Questier, F., Cincinnato, S., He, T., & Zhu, C. (2018). Acceptance and Usage of Mobile Assisted Language Learning by Higher Education Students. *Journal of Computing in Higher Education*, *30*(3), 426–451. https://doi.org/10.1007/s12528-018-9177-1

Bouhnik, D., & Deshen, M. (2014). WhatsApp Goes to School: Mobile Instant Messaging between Teachers and Students. *Journal of Information Technology Education: Research*, *13*, 217–231. https://doi.org/10.28945/2051

Chen, J. L. (2011). The Effects of Education Compatibility and Technological Expectancy on E-learning Acceptance. *Computers and Education*, *57*(2), 1501–1511. https://doi.org/10.1016/j.compedu.2011.02.009

Demouy, V., Jones, A., Kan, Q., Kukulska-hulme, A., & Eardley, A. (2015). Why and How Do Distance Learners Use Mobile Devices. *The EUROCALL Review*, *23*(2), 10–24.

Deraman, R., Wang, C., Yap, J. B. H., Li, H., & Mohd-Rahim, F. A. (2019). Developing Internet Online Procurement Frameworks for Construction Firms. *Future Internet*, *11*(6), 1–22. https://doi.org/10.3390/FI11060136

Dijkstra, T. K., & Henseler, J. (2015). Consistent and Asymptotically Normal PLS Estimators for Linear Structural Equations. *Computational Statistics and Data Analysis*, *81*, 10–23. https://doi.org/10.1016/j.csda.2014.07.008

Escobar-Rodríguez, T., Carvajal-Trujillo, E., & Monge-Lozano, P. (2013). Factors That Drive Students To Use Facebook As a Learning Tool. an Extension of the Utaut. *IX Jornada De Docencia En Contabilidad Buenas Practicas Docentes En Materia Contable Dentro Del Eees*, 135–152.

Escobar-Rodríguez, T., Carvajal-Trujillo, E., & Monge-Lozano, P. (2014). Factors that Influence the Perceived Advantages and Relevance of Facebook as a Learning Tool: An Extension of the UTAUT. *Australasian Journal of Educational Technology*, *30*(2), 136–151. https://doi.org/10.14742/ajet.585

Fagan, M. H. (2019). Factors Influencing Student Acceptance of Mobile Learning in Higher Education. *Computers in the Schools*, *36*(2), 105–121. https://doi.org/10.1080/07380569.2019.1603051

Fornell, C., & Larcker, D. (1981). Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and statistics. *Journal of Marketing Research*, *18*(3), 382-388.

Gruzd, A., Staves, K., & Wilk, A. (2012). Connected Scholars: Examining the Role of Social Media in Research Practices of Faculty Using the UTAUT Model. *Computers in Human Behavior*, *28*(6), 2340–2350. https://doi.org/10.1016/j.chb.2012.07.004

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An Assessment of the Use of Partial Least Squares Structural Equation Modeling in Marketing Research. *Journal of the Academy of Marketing Science*, *40*(3), 414–433. https://doi.org/10.1007/s11747-011-0261-6

Hamad, M. M. (2017). Using WhatsApp to Enhance Students' Learning of English Language "Experience to Share." *Higher Education Studies*, *7*(4), 74. https://doi.org/10.5539/hes.v7n4p74

Hamid, S., Waycott, J., Kurnia, S., & Chang, S. (2015). Understanding Students' Perceptions of the Benefits of Online Social Networking Use for Teaching and Learning. *Internet and Higher Education*, *26*, 1–9. https://doi.org/10.1016/j.iheduc.2015.02.004

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A New Criterion for Assessing Discriminant Validity in Variance-Based Structural Equation Modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

Huang, M., Shi, Y., & Yang, X. (2021). Emergency Remote Teaching of English as a Foreign Language during COVID-19: Perspectives from a University in China. *International Journal of Educational Research and Innovation*, *15*, 400–418.

Huang, W. H. D., Hood, D. W., & Yoo, S. J. (2013). Gender Divide and Acceptance of Collaborative Web 2.0 Applications for Learning in Higher Education. *Internet and Higher Education*, *16*(1), 57–65. https://doi.org/10.1016/j.iheduc.2012.02.001

Jafari, S., & Chalak, A. (2016). The Role of WhatsApp in Teaching Vocabulary to Iranian EFL Learners at Junior High School. *English Language Teaching*, *9*(8), 85. https://doi.org/10.5539/elt.v9n8p85

Jong, D., & Wang, T. (2009). Student Acceptance of Web-based Learning System. *Information Systems Journal*, *8*, 533–536. http://www.academypublisher.net/proc/wisa09/papers/wisa09p533.pdf

Knight, S. (1994). Dictionary Use While Reading: The Effects On Comprehension and Vocabulary Acquisition For Students Of Different Verbal Abilities. *The Modern Language Journal*, *78*(3), 285–299. https://doi.org/10.1111/j.1540-4781.1994.tb02043.x

Liu, Y. C., & Huang, Y. M. (2015). Using the UTAUT Model to Examine the Acceptance Behavior of Synchronous Collaboration to Support Peer Translation. *JALT CALL Journal*, *11*(1), 77–91. https://doi.org/10.29140/jaltcall.v11n1.185

López-Nicolás, C., Molina-Castillo, F. J., & Bouwman, H. (2008). An Assessment of Advanced Mobile Services Acceptance: Contributions from TAM and Diffusion Theory Models. *Information and Management*, *45*(6), 359–364. https://doi.org/10.1016/j.im.2008.05.001

Ma'ruf, Z., Fadilah, N., Basofi, P., & Akmal. (2019). English Students' Perceptions of Using Whatsapp in Paragraph Writing Class. *International Journal of Scientific and Technology Research*, *8*(10), 3054–3059.

Mena, A.-S., Parreño, J.-M., & Manzano, J.-A. (2017). The Role of Perceived Relevance and Attention in Teachers' Attitude and Intention to Use Educational Video Games. *International Journal of Emerging Technologies in Learning (IJET)*, *12*(03), 154–168. http://online-journals.org/index.php/i-jet/article/view/6505

Naveed, Q. N., Alam, M. M., & Tairan, N. (2020). Structural Equation Modeling for Mobile Learning Acceptance by University Students: An Empirical Study. *Sustainability*, *12*(20), 8618. https://doi.org/10.3390/su12208618

Nitzl, C., Roldan, J. L., & Cepeda, G. (2016). Mediation Analysis in Partial Least Squares Path Modelling, Helping Researchers Discuss More Sophisticated Models. *Industrial Management and Data Systems*, *116*(9), 1849–1864. https://doi.org/10.1108/IMDS-07-2015-0302

Odeku, K. S. (2021). Conducting Law Pedagogy Using Virtual Classroom in the Era of COVID-19 Pandemic: Opportunities and Existing Obstacles. *Journal of Educational and Social Research*, *11*(1), 101. https://doi.org/10.36941/jesr-2021-0011

Pursel, B. K., & Xie, H. (2014). Patterns and Pedagogy: Exploring Student Blog Use in Higher Education. *Contemporary Educational Technology*, *5*(2), 96–109. https://doi.org/10.30935/cedtech/6118

Pynoo, B., Devolder, P., Tondeur, J., Van Braak, J., Duyck, W., & Duyck, P. (2011). Predicting Secondary School Teachers' Acceptance and Use of a Digital Learning Environment: A Cross-sectional Study. *Computers in Human Behavior*, *27*(1), 568–575. https://doi.org/10.1016/j.chb.2010.10.005

Rahiem, M. D. H. (2020a). Technological Barriers and Challenges in the Use of ICT during the COVID-19 Emergency Remote Learning. *Universal Journal of Educational Research*, *8*(11B), 6124–6133.

https://doi.org/10.13189/ujer.2020.082248

Rahiem, M. D. H. (2020b). The Emergency Remote Learning Experience of University Students in Indonesia amidst the COVID-19 Crisis. *International Journal of Learning, Teaching and Educational Research*, *19*(6), 1–26. https://doi.org/10.26803/ijlter.19.6.1

Rambe, P., & Bere, A. (2013). Using Mobile Instant Messaging to Leverage Learner Participation and Transform Pedagogy at a South African University of Technology. *British Journal of Educational Technology*, *44*(4), 544–561. https://doi.org/10.1111/bjet.12057

Reimers, F. M., & Andreas, S. (2020). A Framework to Guide an Education Response to the COVID - 19 Pandemic of 2020. *Oecd*, 1–40.

Salem, A. A. M. S. (2013). The Impact of Technology (BBM and WhatsApp applications) on English Linguistics in Kuwait. *International Journal of Applied Linguistics and English Literature*, *2*(4), 64–69. https://doi.org/10.7575/aiac.ijalel.v.2n.4p.64

Sobral, S. R. (2020). Mobile Learning in Higher Education: A Bibliometric Review. *International Journal of Interactive Mobile Technologies*, *14*(11), 153–170. https://doi.org/10.3991/ijim.v14i11.13973

Soria, S., Gutiérrez-Colón, M., & Frumuselu, A. D. (2020). Feedback and Mobile Instant Messaging: Using Whatsapp as a Feedback Tool in EFL. *International Journal of Instruction*, *13*(1), 797–812. https://doi.org/10.29333/iji.2020.13151a

Stone, M. (1974). Cross-Validatory Choice and Assessment of Statistical Predictions. *Journal of the Royal Statistical Society: Series B (Methodological)*, *36*(2), 111–133. https://doi.org/10.1111/j.2517-6161.1974.tb00994.x

Sun, Y., & Gao, F. (2019). An Investigation of the Influence of Intrinsic Motivation on Students' Intention to Use Mobile Devices in Language Learning. *Educational Technology Research and Development*, *68*(3), 1181–1198. https://doi.org/10.1007/s11423-019-09733-9

Terzis, V., & Economides, A. A. (2011). The Acceptance and Use of Computer based Assessment. *Computers and Education*, *56*(4), 1032–1044. https://doi.org/10.1016/j.compedu.2010.11.017

Thomas, T., Singh, L., & Gaffar, K. (2013). The Utility of the UTAUT Model in Explaining Mobile Learning Adoption in Higher Education in Guyana. *Journal of Education and Development Using Information and Communication Technology (IJEDICT)*, *9*(3), 71–85.

Toquero, C. M. (2020). Emergency Remote Education Experiment amid COVID-19 Pandemic. *IJERI: International Journal of Educational Research and Innovation*, *15*, 162–176. https://doi.org/10.46661/ijeri.5113

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly: Management Information Systems*, *27*(3), 425–478. https://doi.org/10.2307/30036540

Zhampeissova, K., Kosareva, I., & Borisova, U. (2020). Collaborative Mobile Learning with Smartphones in Higher Education. *International Journal of Interactive Mobile Technologies (IJIM)*, *14*(21), 4. https://doi.org/10.3991/ijim.v14i21.18461