



Risk-Taking, TAM Model, and Technology Integration: Impact on EFL College Students' Behavioral Intentions

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Abstract: The rapid advancement of technology has opened up new avenues for language learning, and understanding the factors that impact students' behavioural intentions is crucial for the effective integration of technology in EFL classrooms. The present study investigates the influence of risk-taking behaviour and the Technology Acceptance Model (TAM) in enhancing the behavioural intention of English as a Foreign Language (EFL) students through the integration of technology. The study utilized a quantitative research approach, employing surveys and data analysis techniques to test reliability using the PLS-SEM program tool to gather and analyze data from a sample of 75 EFL college students. The participants were assessed during the continuous assessment of the course based on their risk-taking tendencies, as well as their perceptions and attitudes towards technology acceptance according to the TAM framework. The study's findings are intended to offer important new understandings of the correlation between risk-taking behaviour and TAM characteristics (perceived usefulness and perceived ease of use), and EFL college students' behavioural intention. Additionally, the research aims to identify the factors that positively influence students' intention to adopt and utilize technology in their language learning process. The implications of this study can contribute to the development of effective strategies for educators and institutions to enhance EFL college students' behavioural intention through technology integration. By understanding the role of risk-taking behaviour and TAM variables, educators can design instructional approaches that align with students' preferences and promote active engagement in the learning process.

Keywords: Technology Integration, Behavior Intention, Risk-Taking, EFL College Students.

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Introduction

Technology has been used in education more and more in recent years, opening up new possibilities for instruction and learning whether or not it is user-friendly and acceptable ([Pikhart & Al-Obaydi 2023](#)). The field of education (EFL) is not an exception, as educators and institutions strive to leverage technology to enhance language learning outcomes ([Chan et al., 2022](#)). However, understanding the numerous elements that influence students' behavior intention toward technology uptake and utilization is necessary for the essential integration of technology in EFL classrooms ([Chiang, 2020](#); [Torres, 2022](#)).

The rapid advancement of technology has significantly influenced various aspects of education, including language learning ([Szymkowiak et al., 2021](#)). Traditional methods of language instruction are being augmented or even replaced by digital tools and platforms, offering new opportunities for active engagement and personalized learning experiences. Although the idea of online learning is not new, the online programs implemented during the period of COVID-19 are unique, and all strategies for systematic and ongoing online education should consider this distinction ([Bozkurt & Sharma, 2020](#); [Murphy, 2020](#)). Technology has recently made unprecedented advancements at the same rate as how widely it is used. In other words, technology has significantly improved the quality of our lives by catering to all of our diverse and numerous needs and by providing access to the most fantastic and priceless tools and resources that can be utilized for a range of jobs. In connection with that, most teachers lack the skills, abilities, and knowledge required for effective online language training ([Pikhart et al., 2022](#); [Russell, 2020](#)). However, the successful integration of technology in EFL classrooms is contingent upon students' willingness and intention to adopt and utilize technology for language learning purposes ([Dirjal et al., 2022](#); [Voinohovska & Doncheva, 2022](#)).

One key factor that may influence students' behavior intention is risk-taking behavior ([Beghetto et al., 2021](#)). Risk-taking generally refers to individuals' willingness to engage in uncertain situations, take chances, and explore new opportunities despite the potential for negative outcomes ([Zinn, 2019](#)). In the context of language instruction, students' persistent attempts to take chances during lectures can aid in the clarification of risk-taking ([Al-Obaydi, 2020](#)). This case can express the requirements students must meet to be successful second-language speakers. As a result of their readiness to take risks and make mistakes, high-risk takers, according to [Beebe and Lachmann \(2015\)](#), are better second-language communicators. In the context of technology integration, risk-taking behavior becomes particularly relevant as students may perceive adopting new technologies as a risk, fearing unfamiliarity, technical

challenges, or reduced control over their learning experience. Among many variables such as anxiety and motivation, [Al-Obaydi and Pikhart \(2022\)](#) studied the influence of using visually-based teaching techniques via a technology-based teaching environment and gained very positive results on students' risk-taking. This leads to the conclusion that understanding the role of risk-taking behavior can provide valuable insights into the factors that hinder or facilitate students' intention to adopt and utilize technology in their language learning process.

Moreover, the Technology Acceptance Model (TAM) provides a framework for understanding individuals' acceptance and use of technology ([Tao et al., 2022](#)). According to the TAM model, people's intentions to acquire and use technology are significantly influenced by their perceptions of its usefulness and simplicity of use. According to [Almajali et al. \(2022\)](#), perceived utility is the term used to describe people's subjective evaluation of how technology might advance their performance or learning objectives. Perceived ease of use refers to individuals' perception of the ease with which technology can be used and integrated into their existing learning practices ([Tawawafak et al., 2023](#)). By investigating the influence of these TAM variables in the context of EFL college students' behavior intention, this study aims to shed light on the specific mechanisms through which technology acceptance can be enhanced ([Chiang, 2020](#); [Russell, 2020](#)).

With the use of technology, this research seeks to investigate how risk-taking behavior and the Technology Acceptance Model (TAM) might improve the behavior intention of EFL college students. By investigating these factors, this study seeks to contribute to the existing body of knowledge on technology integration in language education and provide insights for educators and institutions to design effective strategies that promote the successful adoption and utilization of technology by EFL college students. It needs instructional approaches that align with students' preferences and promote active engagement in the language learning process ([Almajali et al., 2022](#); [Zinn, 2019](#)). Ultimately, the aim is to facilitate the effective adoption and integration of technology, thereby improving language learning outcomes and empowering EFL college students in their language proficiency development.

Review of the Literature

In the realm of technology education, a comprehensive literature review can provide valuable insights into the utilization of risk-taking in language learning to enhance technology skills. Areas of focus may include an examination of the different types of risk-taking utilized for

teaching technology skills, encompassing their distinct features and characteristics ([Cheng et al., 2012](#); [Cai et al., 2022](#)).

The effectiveness of using TAM to impart technology skills is influenced by various factors, such as the specific type of risk, the individual characteristics of the learner, and the learning environment ([Chan, et al., 2022](#)). In addition, it is crucial to explore the methods and techniques that allow technology to be smoothly incorporated into technology education programs, taking into account the advantages and disadvantages that come with it ([Almajali et al., 2022](#)).

The widely used Technology Acceptance Model (TAM) provides a framework for comprehending the elements that influence a person's technology acceptance and adoption. TAM can be utilized to investigate the critical elements that influence the relationship between technology development and English as a Foreign Language (EFL) instruction by utilizing technology integration ([Mortazavi et al., 2021](#); [Chiang, 2020](#); [Tawafak et al., 2023](#)). According to [Tawafak et al. \(2023\)](#), the main determinants of technology adoption in EFL classrooms are PEOU, PU, and ATT towards technology. According to [Torres \(2022\)](#), these variables may have an effect on how much technology is integrated into EFL classes and, in turn, how students behave and intend to learn languages. Through an examination of these variables' effects on the incorporation of technology into EFL instruction, this research can offer a thorough grasp of the connection between EFL and technological advancements and assist in creating more efficient and captivating EFL curricula ([Boonmoh et al., 2022](#); [Tawafak, et al, 2023](#)).

Perceived usefulness means technology integration can also have a significant impact on the perceived usefulness of technology in the classroom. If the technology is integrated in such a way that it supports student learning and provides opportunities for engagement and interaction, students are more likely to view it as useful and will therefore be more likely to accept and use it ([Cai et al., 2022](#); [Wardoyo et al., 2021](#)). On the other hand, if the technology is not integrated effectively into the learning process and does not support student learning, students are less likely to view it as useful and will therefore be less likely to accept and use it ([Chan et al., 2022](#); [Krishnan et al., 2021](#)).

Risk-Taking

As a crucial trait in language learning, [Al-Obaydi \(2020\)](#) argues that taking risks is crucial to learning a second language successfully because it requires students to be willing to test their assumptions about the language and accept the possibility that they may be incorrect.

This example illustrates the requirements students must meet to be successful second-language speakers. [Al-Obaydi and Pikhart \(2022\)](#) evaluated the impact of applying visually-based teaching strategies via a technology-based teaching environment and found highly favorable outcomes on students' risk-taking among many other variables, such as anxiety and motivation. This leads to the conclusion that an awareness of the role that risk-taking behavior plays can help us better understand what influences students' intentions to adopt and use technology in their language-learning process. In the field of technology acceptance, the Technology Acceptance Model (TAM) has emerged as a widely recognized framework for understanding individuals' acceptance and use of technology ([Ajibade, 2018](#)). The TAM model posits that PU and PEOU are key determinants of individuals' intention to adopt and utilize technology. However, the impact of risk-taking behavior on perceived usefulness and TAM variables in the context of technology integration remains an area requiring further exploration. This literature review aims to examine the existing research on the relationship between risk-taking, perceived usefulness, and the TAM model ([Tawafak et al., 2023](#); [Wardoyo et al., 2021](#); [Zinn, 2019](#)).

Moreover, a lot of studies explained risk-taking behavior and PU in the context of technology acceptance. [Zhou et al. \(2018\)](#) found that risk-taking propensity positively influenced students' perception of the usefulness of educational technology. Students with a higher inclination for risk-taking were more likely to perceive technology as useful for enhancing their learning outcomes. Similarly, [Chen et al. \(2020\)](#) results indicated a positive relationship, suggesting that students with a higher propensity for risk-taking perceived the application as more useful in improving their language skills. These findings highlight the significant impact of risk-taking behavior on individuals' perceived usefulness of technology, indicating that risk-takers are more likely to recognize the benefits and potential advantages of integrating technology into their learning process.

In addition to perceived usefulness, risk-taking behavior has also been explored concerning TAM variables, particularly PEOU. [Elwalda et al. \(2016\)](#) conducted a study examining the impact of risk-taking behavior on college students' perception of the ease of use of an e-learning platform. The findings revealed a positive association between risk-taking behavior and PEOU, indicating that students with a higher inclination for risk-taking were more likely to perceive the e-learning platform as user-friendly and easy to navigate. Similarly, [Huang et al. \(2020\)](#) investigated the influence of risk-taking behavior on PEOU and found a positive relationship. Students who exhibited higher risk-taking tendencies

perceived technology as easier to use and integrate into their learning practices. These studies demonstrate the role of risk-taking behavior in shaping individuals' perception of the ease of use of technology, which is a crucial factor influencing their intention to adopt and utilize technology (Ajibade, 2018; Beghetto et al., 2021).

While numerous studies have examined risk-taking behavior in relation to perceived usefulness and TAM variables separately, integrating risk-taking behavior into the TAM model provides a comprehensive framework for understanding individuals' technology acceptance. Zhu et al. (2012) proposed an extended TAM model that incorporated risk-taking behavior as a direct determinant of PU and PEOU. Their study found that risk-taking behavior significantly influenced individuals' perception of the usefulness and ease of use of technology. Additionally, PU and PEOU were both found to mediate the relationship between risk-taking behavior and individuals' intention to use technology (Beghetto et al., 2021). This integration of risk-taking behavior into the TAM model emphasizes the importance of considering individuals' risk-taking tendencies when examining technology acceptance.

The two research questions for this study are as follows:

1. What is the relationship between risk-taking behavior and EFL college students' behavior intention toward technology integration in language learning?
2. How do the variables of TAM, including perceived usefulness and perceived ease of use, influence EFL college students' behavior intention in the context of technology integration?

Methodology

Participants

The study recruited a cohort of 335 undergraduate students from three universities across Iraq, the Czech Republic, and Oman as the research sample. Participant engagement was fostered through direct communication within their enrolled courses and the distribution of the study link via social media platforms, facilitated by collaborating students. Notably, participant distribution varied across the countries, with Iraq contributing 184 participants, followed by the Czech Republic with 96, and Oman with 55. The age range of participants spanned from 18 to 22, with the majority falling within the 18.00–22.00 bracket, constituting 76% of the sample. Gender representation was balanced, with 184 male and 151 female participants surveyed across the countries. Further demographic details are presented in Table 1 for reference.

Table 1. Demographical Information

	ITEM	PERCENTAGE 100%
TOTAL PARTICIPANTS	335	100%
AGE	18.00 to 22.00	76%
	22.01 to 26.00	18.8%
	26.01 to 30.00	0.9%
	Above 30.00	5.3%
COUNTRY	Iraqi	54.9% (184)
	Czech Republic	28.6% (96)
	Omani	16.4% (55)
GENDER	Male	54.9% (184)
	Female	45.07% (151)

Instrument

To collect data from a sample of EFL college students, an online survey employing a quantitative research methodology was utilized. The survey consisted of two sections: the first section focused on gathering demographic information such as age, gender, and nationality to establish participants' basic profiles. The second section aimed to capture data on students' perceptions of technology acceptance, including perceived usefulness (PU), perceived ease of use (PEOU), attitude (ATT), and behavioral intention (BI), following the Technology Acceptance Model (TAM) framework ([Szymkowiak et al., 2021](#)). The survey instrument was developed by the researchers and comprised various parts addressing technology integration, risk-taking skills, behavioral intention, perceived usefulness, perceived ease of use, attitude, language skill development, and system use, as outlined in Appendix 1. The construction of the survey drew upon prior research, available literature, and the researchers' expertise. To ensure the questionnaire's quality, it underwent evaluation by an IT and language teaching expert for content validity and an English expert for grammatical clarity, thus ensuring face validity. Following a pilot test, the survey demonstrated high reliability and effectiveness, with a Cronbach's alpha coefficient of 0.92, exceeding the accepted standard level of 0.7. The survey was distributed via Google Forms to undergraduate students in three countries: the Czech Republic, Iraq, and Oman. Additionally, external researchers were consulted to validate the survey instrument's adequacy and identify potential areas for further evaluation within the model. Feedback from participants indicated clarity and ease of understanding, facilitating the dissemination of the survey link through

social media platforms. Before survey administration, researchers communicated the study's objectives to students in the respective countries to ensure understanding and cooperation.

Data Analysis

The conceptual model suggested for this investigation is shown in Figure 1. To accomplish the study goal, a factor is added to the model, which is taken from the original TAM (Tawafak [et al., 2021](#)). The model utilized in this study is called the Technology Acceptance Model (TAM). It was developed by [Davis et al.](#) in 1989 and is one of the most popular models in the information systems field. It describes how people accept and use technology ([Davis et al., 1989](#)).

Two of the original TAM elements are perceived usefulness (PU) and perceived ease of use (PEOU). These two separate criteria are as follows: PU is an individual's belief about how much employing technology will improve their ability to do their work. The term PEOU describes an individual's level of belief that using technology will be effortless ([Tawafak et al., 2023](#); [Alfadda, & Mahdi, 2021](#)). This study integrated Technology Integration (TI), an active element that was suggested by [Tawafak et al., \(2021\)](#). Two more variables were gathered from models intended to assess the efficacy of EFL instruction as Language Skills Development (LSD).

Model Concept

The conceptual model of the present study is demonstrated in Figure 1.

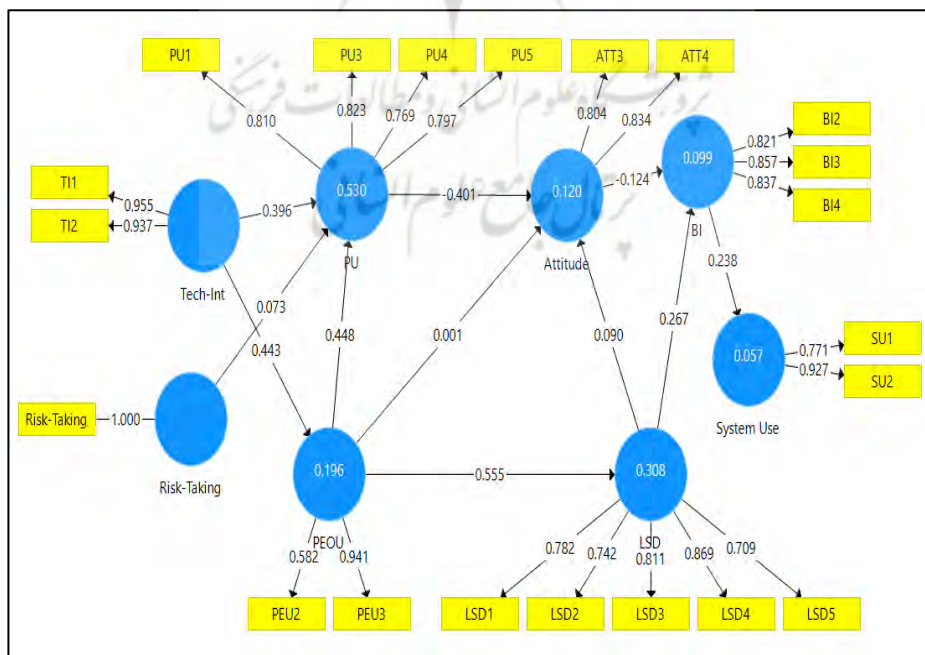


Figure 1. Conceptual Research Model

Research Hypotheses

- H1: There is an important impact from Technology Integration on PU.
 H2: There is an important impact of Technology Integration on PEOU.
 H3: There is an important impact of risk-taking on PU.
 H4: There is an important impact from PEOU on PU.
 H5: There is an important impact of PU on Attitude.
 H6: There is an important impact of PEOU on Attitude.
 H7: there is an important impact of PEOU on Language Skill Development.
 H8: There is an important impact of Attitude on BI.
 H9: There is an important impact of Language Skill Development on Attitude.
 H10: There is an important impact of Language Skill Development on BI.
 H11: There is a significant impact from BI on SU

Table 2. Path Coefficients

	ATT	BI	LSD	PEOU	PU	Risk-taking	System Use	Tech Int
Attitude (ATT)		-0.124						
Behavioral Intention (BI)							0.238	
Lang. Skills Development (LSD)	0.090	0.267						
PEOU	0.001		0.555		0.448			
PU	-0.401							
Risk-Taking						0.073		
System Use								
Technology Integration (TI)				0.443	0.396			

For every survey question, Table 3 displays the item loading value. When an item's loading is greater than 0.6, it can be accepted; when it is greater than 0.7, it has a major effect. The suggested model retained just the active elements that can suggest to increase in positive R2 results, as indicated in the next tables, and eliminated items with loading with lower values.

Table 3. Item Loadings

	ATT	BI	LSD	PEOU	PU	Risk-Taking	System Use	TI	TP
Att3	.804								
Att4	.834								
BI2		.821							
BI3		.857							
BI4		.837							
LSD1			.782						
LSD2			.742						
LSD3			.811						
LSD4			.869						
LSD5			.709						
PEOU3				.582					
PEOU4				.941					
PU1					.810				
PU3					.823				
PU4					.769				
PU5					.797				
Risk-Taking						1.000			
SU1							.771		
SU2							.927		
TI1								.955	
TI2								.937	
TP									1.000

The item load value for every survey item is displayed in Table 3. Values of more than 0.7 for item loading can be accepted, whilst values less than 0.5 might be seen as having no bearing on the questions at hand ([Shrestha, 2021](#)).

Table 4. R² Values

	R ²	Remarks
Perceived Usefulness	0.530	Highly Accepted
Perceived Ease of Use	0.196	Weak Accepted
Attitude	0.120	Weak Accepted
Behavioral Intention	0.099	Weak Accepted
Language Skill Development	0.308	Accepted
System Use	0.057	Weak Accepted

The Perceived Usefulness factor has the greatest findings, at (0.530), indicating a highly accepted value, according to Table 4, which displays the R square values of the tested model. Although this results in low acceptance scores for the other five categories, the model as a whole can still be accepted positively.

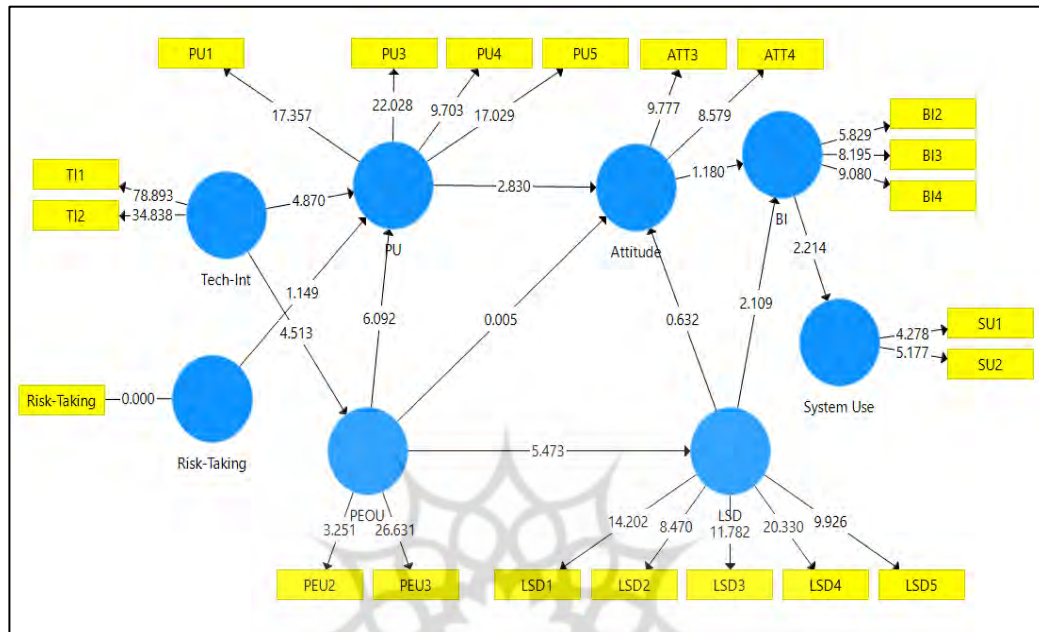


Figure 2. Model Bootstrapping

The term "discriminant validity" describes how well a measure or construct distinguishes between multiple distinct constructs (Rönkkö & Cho, 2022).

Table 5. Discriminant Validity

	ATT	BI	LSD	PEOU	PU	Risk-taking	System Use	TI
ATT	.819							
BI	-.173	.838						
LSD	-.182	.290	.785					
PEOU	-.200	.439	.555	.782				
PU	-.340	.444	.679	.625	.800			
Risk-Taking	-.159	.291	.240	.030	.148	1.000		
System Use	-.106	.238	.401	.345	.251	.114	.853	
TI	-.130	.297	.638	.443	.605	.156	.188	.946

The model's item contrast strength and discriminant validity for each field are displayed in Table 5. The diagonal points should be greater than 0.7 to be accepted.

Table 6. Construct Reliability and Validity

	Cronbach's Alpha	rho-A	Composite Reliability (CR)	Average Variance Rollability (AVR)
ATT	.780	.850	0.780	0.770
BI	.790	.820	0.780	0.720
LSD	.751	.773	0.845	0.582
PEOU	.772	.780	0.819	0.601
PU	.808	.818	0.756	0.617
R-Taking	.913	.806	0.813	0.633
SU	.739	.780	0.821	0.684
TI	.830	.850	0.880	0.730

The results of validity and reliability for each factor are displayed in Table 6. If the score is greater than 0.7, Cronbach's Alpha points to the acceptance level for reliability. According to [Alfadda and Mahdi \(2021\)](#), if the rho-A value is higher than 0.7 for each of the model's factors, it is considered acceptable.

The Composite Reliability (CR) value of the model is good enough if it is greater than 0.7 for each of its parts. According to reports by [Szymkowiak et al. \(2021\)](#), every value in the model design diagram is highly approved in light of the study model factors.

If all evaluated factors have an average variance rollability (AVR) larger than 0.5, the AVR is considered acceptable. Every value in the model design diagram is legitimate based on the research model factors.

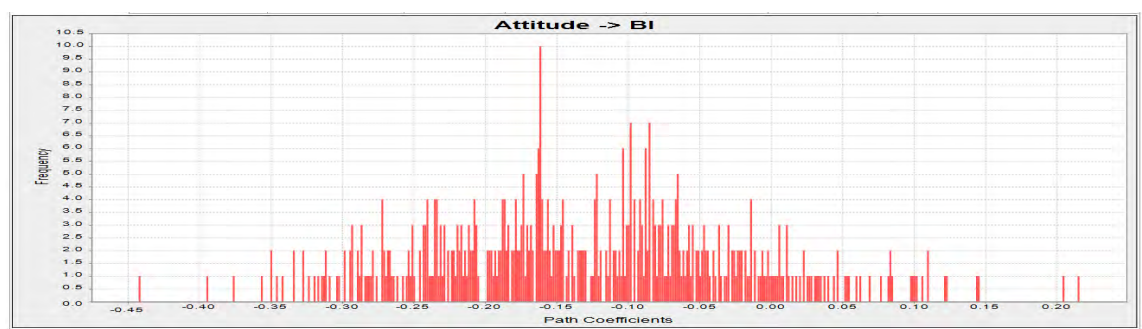


Figure 3. Model Histogram Results

Table 7. Bootstrapping Mean, STDEV, T-Test, P-Values, Bias, Supporting

H	Relationship	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Value	Bias	Support
H1	Technology Integration -> PU	0.402	0.055	7.108	0.000	0.009	Supported
H2	Technology Integration -> PEOU	0.234	0.073	3.268	0.001	-0.004	Supported
H3	Risk-Taking->PU	0.201	0.084	2.484	0.013	-0.007	Supported
H4	PEOU -> PU	0.441	0.064	6.929	0.000	-0.002	Supported
H5	PU -> Attitude	0.151	0.079	1.910	0.057	0.000	Supported
H6	PEOU -> Attitude	0.062	0.053	0.957	0.339	0.002	Unsupported
H7	PEOU ->Language Skill Development	0.288	0.066	4.443	0.000	0.004	Supported
H8	Attitude -> BI	0.260	0.057	4.575	0.000	0.000	Supported
H9	Language Skill Develop-> Attitude	0.083	0.065	1.296	0.195	0.001	Supported
H10	Language Skill Develop-> BI	-0.377	0.048	7.815	0.000	0.000	Supported
H11	BI-> System Use	-0.293	0.066	4.287	0.000	-0.008	Supported

Discussion

Recent advancements in understanding the variables impacting language proficiency development and their interconnectedness in shaping user behavior towards language learning systems have sparked considerable interest in various models. These models, including the Technology Acceptance Model (TAM), have identified several key factors such as Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude (ATT), Behavioral Intention (BI), Language Skill Development (LSD), and System Use (SU) as crucial determinants. In this discussion, we will delve into the substantial impact of Perceived Usefulness on language skill development, supported by empirical evidence from the studies conducted.

The current study extends the TAM model by introducing three external factors. Firstly, Risk-Taking is found to be significantly and positively associated with PU, indicating a strong relationship between risk-taking behavior and the perceived usefulness of technology

in language learning. This suggests that individuals with a propensity for risk-taking may exhibit a greater inclination towards technology adoption, perceiving it as beneficial for language acquisition. Moreover, fostering a positive classroom environment conducive to risk-taking behavior may further promote technology integration in language learning settings.

Another external factor, Technology Integration, shows varying degrees of influence on PU and PEOU, with a stronger association observed with PU compared to PEOU. While technology integration contributes weakly to the TAM model overall, its impact underscores the importance of considering contextual factors in understanding technology acceptance among EFL college students.

Language Skill Development (LSD) serves as a mediator between PEOU and ATT, with moderate acceptance observed in the model. However, LSD demonstrates a weaker association with ATT and BI, indicating that while ease of use may influence students' attitudes towards technology, its direct impact on behavioral intention and language skill development is limited.

In addition, the relationship between risk-taking behavior and behavior intention toward technology integration is influenced by individual factors such as prior technological experience, attitudes, and perceived self-efficacy. Educators play a crucial role in cultivating a supportive learning environment that encourages risk-taking and provides necessary guidance to students navigating technology integration.

Perceived Usefulness emerges as a critical determinant of language skill development, with learners who perceive technology as highly useful experiencing significant improvements in language proficiency. The positive relationship between PU and language skill development underscores the importance of designing language learning systems that prioritize utility to maximize learner outcomes.

More importantly, Perceived Ease of Use (PEOU) demonstrates a modest influence on language skill development, suggesting that while ease of use may contribute to initial user satisfaction, its impact is overshadowed by perceived usefulness in driving long-term language skill improvement. Additionally, the positive correlation between PEOU and other factors such as PU and LSD highlights the interplay between usability perceptions and overall system acceptance.

Attitude towards technology integration exhibits a subtle influence on language skill development, indicating that learners with a positive attitude are more likely to engage in

language learning activities. However, the direct impact of attitude on behavioral intention is limited, with stronger correlations observed between PU and BI.

Behavioral Intention toward technology integration shows a limited impact on language skill development, suggesting that while intention to use the system may influence user engagement, its influence is weaker compared to perceived usefulness. Nevertheless, the strong correlation between behavioral intention and system use underscores the importance of intention in driving actual usage behavior.

System Use reflects the actual engagement with the language learning system, with a weak but positive association observed with language skill development. While actual usage may contribute to language skill improvement, its impact is secondary to perceived usefulness in driving user behavior.

Overall, the findings highlight the significant influence of perceived usefulness on language skill development and behavior intention toward technology integration. Educators can leverage this knowledge to design technology-enhanced language learning experiences that emphasize the benefits of technology integration and provide the necessary support to address technological challenges. By incorporating activities that promote risk-taking, fostering positive attitudes towards technology adoption, and prioritizing perceived usefulness in system design, educators can enhance language learning outcomes and promote active engagement among EFL college students.

Conclusion

The study's findings underscore the significant influence of risk-taking behavior on individuals' Perceived Usefulness (PU) and Technology Acceptance Model (TAM) variables, particularly in the context of technology integration. Risk-takers exhibit a propensity towards adopting user-friendly approaches in their learning practices. These results emphasize the critical role of considering risk-taking behavior as a key determinant in enhancing individuals' intention to adopt and utilize technology. By incorporating risk-taking behavior into the TAM model, educators and researchers can gain deeper insights into the intricate dynamics between risk-taking, PU, and TAM variables, thereby facilitating the development of more effective integration strategies in learning settings.

Understanding the relationship between risk-taking behavior and perceived usefulness can have implications for technology design and implementation. By recognizing the influence of risk-taking behavior, designers and educators can tailor technological solutions

to better align individuals' risk-taking tendencies with the advantages of using technology in various domains. Furthermore, promoting a supportive environment that encourages risk-taking behavior may foster a positive perception of technology's usefulness and ultimately enhance individuals' acceptance and adoption of technology in educational settings.

While the reviewed literature provides a deep declaration related to risk-taking behavior and perceived usefulness, additional analysis is required of this relationship across different technological contexts and user populations. Additionally, investigating potential mediating and moderating factors could deepen our understanding of how risk-taking behavior influences individuals' perceived usefulness of technology.

It is important to consider individual differences, such as prior technological experience, digital literacy, and attitudes toward technology to moderate the relationships. Educators should take into account students' unique characteristics and provide tailored support to address their specific needs and concerns related to technology integration which may form one of the main resources of weakness of the present study.

The following suggestions are put forth in light of the analysis of how risk-taking behavior and the TAM model contribute to improving EFL college students' behavior intention through technological integration:

Incorporate risk-taking activities into language learning: To enhance EFL college students' behavior intention towards technology integration, educators should consider incorporating risk-taking activities within the language learning curriculum. This can involve encouraging students to explore new digital tools, engage in collaborative online projects, or take risks in expressing themselves in the target language. By providing a supportive environment that promotes risk-taking, students can develop a positive attitude toward technology adoption and utilization.

Emphasize the perceived usefulness of technology: Educators should focus on highlighting the perceived usefulness of technology in language learning. By showcasing how technology can facilitate language acquisition, improve communication skills, and provide interactive learning experiences, students are more likely to perceive technology as beneficial. Providing concrete examples and success stories of technology integration can help students recognize the potential advantages and motivate them to embrace technology in their language learning journey.

Address PEOU barriers: It is important barriers that students may encounter when adopting and utilizing technology. Educators should provide adequate training and support to help students overcome any technical challenges or concerns they may have. Offering

tutorials, workshops, or one-on-one assistance can assist students in developing the necessary skills and confidence to navigate technology effectively. By addressing these barriers, students' acceptance can be improved, leading to enhanced behavior intention toward technology integration.

Foster a positive learning culture: Creating a positive learning culture that encourages risk-taking and technology integration is crucial. Educators should foster an environment where students feel comfortable experimenting with technology and taking risks in their language learning journey. This can be achieved by providing constructive feedback, celebrating students' efforts, and promoting a growth mindset that embraces challenges and innovation. By fostering a positive learning culture, students' behavior intention toward technology integration can be positively influenced.

Continuously evaluate and adapt technology integration strategies: It is basic to regularly measure the effectiveness of technological integration strategies and make necessary adaptations based on student feedback and evolving technological advancements. Educators should stay informed about emerging technologies and their potential applications in language learning. By staying proactive and adaptable, educators can ensure that technology integration remains relevant, engaging, and aligned with students' needs and preferences.

In conclusion, the method of enhancing the English languages of student BI through technology development requires a multi-faceted approach that considers risk-taking behavior, perceived usefulness, and the TAM model. By incorporating risk-taking activities, emphasizing perceived usefulness, addressing easy barriers, fostering a positive learning culture, and continuously evaluating technology integration strategies, educators can create an environment that encourages students to embrace technology and harness its full potential for language learning.

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References

- Ajibade, P. (2018). Technology acceptance model limitations and criticisms: Exploring the practical applications and use in technology-related studies, mixed-method, and qualitative researches. *Library Philosophy and Practice*, 9.
- Alfadda, H. A., & Mahdi, H. S. (2021). Measuring students' use of zoom application in language course based on the technology acceptance model (TAM). *Journal of Psycholinguistic Research*, 50(4), 883-900. Doi: [10.1007/s10936-020-09752-1](https://doi.org/10.1007/s10936-020-09752-1).
- Almajali, D., Al-Okaily, M., Barakat, S., Al-Zegaier, H., & Dahalin, Z. M. (2022). Students' perceptions of the sustainability of distance learning systems in the post-COVID-19: A qualitative perspective. *Sustainability*, 14(12), 7353. <https://doi.org/10.3390/su14127353>
- Al-Obaydi, L. H. (2020). Risk-taking and self-actualization in EFL positive classroom environment. *ELS Journal on Interdisciplinary Studies in Humanities*, 3(3), 352-365. <https://doi.org/10.34050/elsjish.v3i3.10877>
- Al-Obaydi, L. H., & Pikhart, M. (2022). A qualitative evaluation of the impact of online visually-based L2 acquisition on college students' risk-taking, motivation, and anxiety. *Language Related Research*, 13(5), 281-301. <https://doi.org/10.52547/LRR.13.5.10>
- Al-Obaydi, L. H., Shakki, F., Tawafak, R. M., Pikhart, M., & Uгла, R. L. (2023). What I know, what I want to know, what I learned: Activating EFL college students' cognitive, behavioral, and emotional engagement through structured feedback in an online environment. *Frontiers in Psychology*, 13, 1083673 <https://doi.org/10.3389/fpsyg.2022.1083673>
- Beebe, B., & Lachmann, F. M. (2015). The contribution of mother-infant mutual influence to the origins of self-and object representations. In *Relational perspectives in psychoanalysis* (pp. 83-117). Routledge.
- Beghetto, R. A., Karwowski, M., & Reiter-Palmon, R. (2021). Intellectual risk taking: A moderating link between creative confidence and creative behavior?. *Psychology of Aesthetics, Creativity, and the Arts*, 15(4), 637. <https://doi.org/10.1037/aca0000323>
- Boonmoh, A., Jumpakate, T., & Karpklon, S. (2022). A close look at the use of technology by Thai teachers in secondary EFL classrooms. *Computer Assisted Language Learning*, 23(1), 78-107.
- Bozkurt, A., & Sharma, R. C. (2020). Emergency remote teaching in a time of global crisis due to CoronaVirus pandemic. *Asian Journal of Distance Education*, 15(1), i-vi. <https://www.asianjde.org/ojs/index.php/AsianJDE/article/view/447>

- Cai, Z., Mao, P., Wang, D., He, J., Chen, X., & Fan, X. (2022). Effects of scaffolding in digital game-based learning on student's achievement: A three-level meta-analysis. *Educational Psychology Review*, 34(2), 537-574. <https://doi.org/10.1007/s10648-021-09655-0>
- Chan, R., Troshani, I., Rao Hill, S., & Hoffmann, A. (2022). Towards an understanding of consumers' FinTech adoption: The case of Open Banking. *International Journal of Bank Marketing*, 40(4), 886-917. <https://doi.org/10.1108/IJBM-08-2021-0397>
- Chen, C. L., & Wu, C. C. (2020). Students' behavioral intention to use and achievements in ICT-Integrated mathematics remedial instruction: Case study of a calculus course. *Computers & Education*, 145, 103740.
- Cheng, A. S., & Lee, H. C. (2012). Risk-taking behavior and response inhibition of commuter motorcyclists with different levels of impulsivity. *Transportation Research Part F: Traffic Psychology and Behaviour*, 15(5), 535-543.
- Chiang, H. H. (2020). Kahoot! In an EFL reading class. *Journal of Language Teaching and Research*, 11(1), 33-44.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982-1003.
- Dirjal, A. H., Ghabanchi, Z., & Ghonsooly, B. (2022). Integrating social media applications into EFL students' classrooms: Iraqi EFL teachers' perceptions. *International Journal of Language Studies*, 16(1).
- Elwalda, A., Lü, K., & Ali, M. (2016). Perceived derived attributes of online customer reviews. *Computers in Human Behavior*, 56, 306-319.
- Huang, C. Y., Wang, H. Y., Yang, C. L., & Shiau, S. J. (2020). A derivation of factors influencing the diffusion and adoption of an open source learning platform. *Sustainability*, 12(18), 7532. <https://doi.org/10.3390/su12187532>
- Krishnan, S. D., Norman, H., & Md Yunus, M. (2021). Online gamified learning to enhance teachers' competencies using classcraft. *Sustainability*, 13(19), 10817. <https://doi.org/10.3390/su131910817>
- Mortazavi, M., Nasution, M. K., Abdolazadeh, F., Behroozi, M., & Davarpanah, A. (2021). Sustainable learning environment by mobile-assisted language learning methods on the improvement of productive and receptive foreign language skills: A comparative study for Asian universities. *Sustainability*, 13(11), 6328. <https://doi.org/10.3390/su13116328>

- Murphy, M. P. A. (2020). COVID-19 and emergency eLearning: Consequences of the securitization of higher education for postpandemic pedagogy. *Contemporary Security Policy*, 41(3), 492–505. <https://doi.org/10.1080/13523260.2020.1761749>
- Pikhart, M., Klimova, B., Al-Obaydi, L. H., Dziuba, S., & Cierniak-Emerych, A. (2022). The quantitative evaluation of subjective satisfaction with digital media in L2 acquisition in younger adults: A study from Europe, Asia, and Latin America. *Frontiers in Psychology*, 13, 946187. <https://doi.org/10.3389/fpsyg.2022.946187>
- Pikhart, M., & Al-Obaydi, L. H. (2023). Potential pitfalls of online foreign language teaching from the perspective of the university teachers. *Heliyon*. <https://doi.org/10.1016/j.heliyon.2023.e13732>
- Rönkkö, M., & Cho, E. (2022). An updated guideline for assessing discriminant validity. *Organizational Research Methods*, 25(1), 6-14. <https://psycnet.apa.org/doi/10.1177/1094428120968614>
- Russell, V. (2020). Language anxiety and the online learner. *Foreign Language Annals*, 53(2), 338–352. <https://doi.org/10.1111/flan.12461>
- Shrestha, N. (2021). Factor analysis as a tool for survey analysis. *American Journal of Applied Mathematics and Statistics*, 9(1), 4-11. Doi: <http://dx.doi.org/10.12691/ajams-9-1-2>
- Szymkowiak, A., Melović, B., Dabić, M., Jeganathan, K., & Kundi, G. S. (2021). Information technology and Gen Z: The role of teachers, the internet, and technology in the education of young people. *Technology in Society*, 65, 101565. DOI: [10.1016/j.techsoc.2021.101565](https://doi.org/10.1016/j.techsoc.2021.101565)
- Tao, D., Fu, P., Wang, Y., Zhang, T., & Qu, X. (2022). Key characteristics in designing massive open online courses (MOOCs) for user acceptance: An application of the extended technology acceptance model. *Interactive Learning Environments*, 30(5), 882-895. <https://doi.org/10.1080/10494820.2019.1695214>
- Tawafak, R. M., Al-Obaydi, L. H., Klimova, B., & Pikhart, M. (2023). Technology integration of using digital gameplay for enhancing EFL college students' behavior intention. *Contemporary Educational Technology*, 15(4), ep452. <https://doi.org/10.30935/cedtech/13454>
- Tawafak, R. M., Al-Rahmi, W. M., Almogren, A. S., Al Adwan, M. N., Safori, A., Attar, R. W., & Habes, M. (2023). Analysis of E-learning system use using combined TAM and ECT factors. *Sustainability*, 15(14), 11100. <https://doi.org/10.3390/su151411100>

- Tawafak, R. M., Alyoussef, I. Y., & Al-Rahmi, W. M. (2023). Essential factors to improve student performance using an E-Learning model: Review study. *iJIM*, 17(03), 161. <https://doi.org/10.3991/ijim.v17i03.35727>
- Tawafak, R., Malik, S., Mathew, R., Ashfaque, M., Jabbar, J., Al-Nuaimi, M., ... & Alfarsi, G. (2021). A combined model for continuous intention to use e-learning system. *iJIM*, 15(3), 113-129. [Doi: http://dx.doi.org/10.3991/ijim.v15i03.18953](http://dx.doi.org/10.3991/ijim.v15i03.18953)
- Torres, K. M. (2022). Disrupting the college classroom experience: avoiding technology pitfalls. In *Digital Distractions in the College Classroom* (pp. 223-242). IGI Global.
- Voinohovska, V., & Doncheva, J. (2022). Integration of Information and communication technologies in educational theory and practice. In *INTED2022 Proceedings* (pp. 452-458). IATED.
- Wardoyo, C., Satrio, Y. D., Narmaditya, B. S., & Wibowo, A. (2021). Do technological knowledge and game-based learning promote students achievement: lesson from Indonesia. *Heliyon*, 7(11), e08467. [Doi: 10.1016/j.heliyon.2021.e08467](https://doi.org/10.1016/j.heliyon.2021.e08467)
- Zhou, Z., Liu, L., Zeng, H., & Chen, X. (2018). Does water disclosure cause a rise in corporate risk-taking? Evidence from Chinese high water-risk industries. *Journal of Cleaner Production*, 195, 1313-1325. <http://dx.doi.org/10.1016/j.jclepro.2018.06.001>
- Zhu, D. S., Lin, T. C. T., & Hsu, Y. C. (2012). Using the technology acceptance model to evaluate user attitude and intention of use for online games. *Total Quality Management & Business Excellence*, 23(7-8), 965–980. <https://doi.org/10.1080/14783363.2012.704269>
- Zinn, J. O. (2019). The meaning of risk-taking—key concepts and dimensions. *Journal of Risk Research*, 22(1), 1-15. <https://doi.org/10.1080/13669877.2017.1351465>

Appendix 1. Items of Survey

Factor	Code	Item
Technology Integration	IT1	The interactive content of remote teaching effectively communicates from the same course
	IT2	The interactive content of remote teaching includes information not covered in printed material of the same course
	IT3	The interactive content of this course contributes to remote teaching
Risk-Taking	RT1	Whenever I get the chance, I attempt to speak in class using complex language for remote teaching
	RT2	I have sufficient opportunity to interact with other students using remote teaching
	RT3	Despite the fact that the activity's main focus is on more recently taught material, I make an effort to use previously learned vocabulary and structural patterns in novel contexts in class.
	RT4	I often talk without thinking, even when I'm not sure if what I'm going to say would be appropriate.
Behavioral Intention	BI1	I am considering the new information I have learned with remote teaching when taking action related to the topic.
	BI2	It is worth recommending remote teaching to other students.
	BI3	I'm interested in using remote teaching more frequently in the future
	BI4	I usually study with a group using remote teaching
Perceived Usefulness	PU1	Remote teaching systems enhance my effectiveness
	PU2	Remote teaching improves my academic learning performance
	PU3	Remote teaching easily translates the learning material into specific Knowledge.
	PU4	Using remote teaching would enable me to accomplish tasks more effectively
Perceived Ease of Use	PEOU1	Remote teaching is easy to use
	PEOU2	It's easy to get materials from Remote teaching
	PEOU3	Remote teaching is clear and understandable
	PEOU4	Remote teaching allows me to submit my assignments
Attitude	ATT1	I like solving assignments using Remote teaching.
	ATT2	I would Like to avoid remote teaching in the college
	ATT3	Only smart students can work properly with remote teaching

Factor	Code	Item
	ATT4	I think I will do well using remote teaching
Language Skill Development	LSD1	Using remote teaching helps me become a better reader
	LSD2	Using remote teaching helps me become a better writer
	LSD3	Using remote teaching helps me become a better Listener
	LSD4	Using remote teaching helps me become a better speaker
	LSD5	I engage in communication with remote teaching far too much.
System Use	SU1	I intend to use Remote teaching in the future continuously
	SU2	I intend to utilize Remote teaching for various purposes such as self-development as well as earning credit hours.
	SU3	If Remote teaching becomes diverse in the future, I intend to use it frequently even after graduation.



