



RESEARCH ARTICLE

The Impact of Language Learning Beliefs, Autonomous Learning Behavior and Mobile-Assisted Learning on English Performance in Vocational Colleges: A Systematic Review

Yan Huisen¹, Suyansah Swanto^{2*}, Wardatul Akmam³^{1,2,3} Faculty of Education and Sports Studies, University Malaysia Sabah, Malaysia

ARTICLE INFO	ABSTRACT
Received: Aug 12, 2024	In the digital era, technology has significantly influenced traditional learning environments, especially in language education. Leveraging the widespread availability of mobile devices to enhance language learning, mobile-assisted language learning (MALL) has emerged as a significant educational technique. A systematic review explores to analyzes the connections between language learning beliefs, autonomous learning behavior, MALL, and students' English academic achievement at the higher vocational college level. Language learning beliefs have a substantial impact on how students approach their studies, determining their propensity to participate in autonomous learning activities that are necessary for language acquisition. A systematic review using the PRISMA protocol was conducted across seven major databases, yielding 20 relevant studies. The review found that positive language learning beliefs significantly promote autonomous learning, and when combined with MALL, enhance English academic performance. However, issues such as motivation, digital literacy, and institutional support need to be addressed for MALL to reach its full potential. This review offers perspectives on how student behaviors and technology influence language instruction at the vocational level and makes recommendations for further research and practice.
Accepted: Nov 4, 2024	
Keywords	
Language Learning Belief	
Higher Vocational College	
English Academic Performance	
Language Learning, PRISMA	
*Corresponding Author:	
suyansah@ums.edu.my	

BACKGROUND OF THE RESEARCH

The mobile sector is constantly expanding personal control is rising, and mobile-cellular networks are more widely available in both developed and developing economies, each of these factors indicates the significance of integrated mobile technologies in everyday life and professions [1]. The growing attention with advantages of portable systems as facilitator of language learning has been observed in the past decade. A standardized system for MALL is shared by language instructors, a popular social network and texting smartphone application [2].

Colleges and universities are discovering emerging technological issues in the learning environment with a significant transformation. In game-based learning environments, it influences learner saturation, involvement, and engagement as it appears to generate a unique experience that maintains their interest in the learning process [3]. The possible benefits of mobile game-based language development are receiving greater interest from research as the popularity of online games has been demonstrated to exist throughout all socio-demographic classifications. It can be mediated by the prevalent utilization of English in digital gaming and other online and offline activities [4]. The internet's and digital technology's quick development can provide young individuals around the

globe with several opportunities for independent, motivational engagement with English, apps for learning languages, conducting general information searches on search engines, and playing games on mobile phones, interacting with others across the world through social networking or virtual conversations [5]. Several activities include the frequent use and collection of mobile devices, including tablets and smartphones, which present a great opportunity for MALL. Investigation displays that students attach greater emphasis on the communication and recreation features of mobile devices in higher education circumstances than their potential as beneficial for learning purposes [6]. Mobile technologies effectively provide students with greater flexibility and accessibility than the traditional classroom, allowing students to learn at any time. Mobile learning has grown in significance among students. The shift to alternative instructional methods to learning by student-centered approaches has been facilitated by mobile learning. All forms of learning at all stages can be supported by mobile learning [7].

Since mobile application-assisted learning is characterized by mobility than stability, learners have to implement a variety of learning approaches and show significant motivation. Individual differences in personality and approach to learning have the essential impact on the outcomes of mobile learning [8]. Language learning education has its own conceptual foundations and fundamental values and is one of the contributions of technological advances in the culture and sciences. The rapid advancement of technology has allowed teachers to share their skills with students in a variety of ways. It appears that computer software and technology can be extensively used in education [9]. An individual's modern lives have been altered extensively, which had an impact on education, by the quick development of technology and communication. The development in technological advancements, mobile learning combines machines and the internet with traditional classroom learning has acquired popularity. It provides students and teachers with a similar chance to participate in an innovative approach to learning [10].

Objective of this Research

This article aims to investigate the relationship among higher vocational college students about language attitudes, independent learning behavior, MALL, and academic performance in English. Through the review of the range of existing research, it is required to determine the autonomous learning and academic achievement are impacted by positive attitudes towards language learning as combined with MALL. It examines the difficulties like academic support, technical proficiency, and motivation that could prevent MALL from being applied effectively in language learning.

RESEARCH METHODOLOGY

The utilization of the systematic review methodology, this research corresponds to the PRISMA suggestions in (Figure 1). The structured approach for finding, assessing, and summarizing relevant records is followed in the PRISMA protocol which provides that the review approach is transparent and consistent. The literature on the connections between language learning attitudes, independent learning behaviors, MALL, and academic achievement in English at higher vocational colleges was gathered and examined.

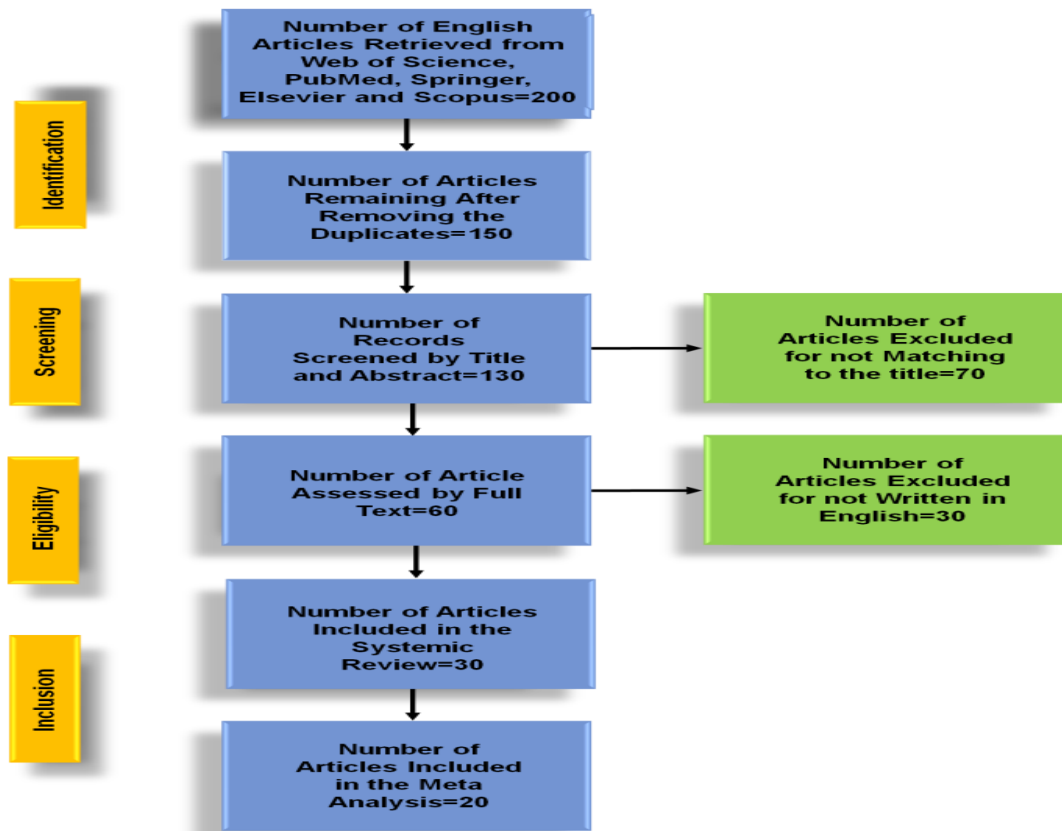


Figure 1: PRISMA Framework

Identification

A comprehensive investigation with 200 English-language articles published from 2010-2023 from scholarly database such as PubMed, Springer, Web of Science, Scopus, and Elsevier was utilized to find the relevant articles. A wide range of articles were found in the initial searches using keywords related to higher vocational education and academic achievement in English, such as language learning belief, autonomous learning behavior, and MALL.

Search Approach

The MALL, language learning belief, autonomous learning behaviors, academic achievement, and learning were the search phrases combined by utilizing certain keywords and operators (AND/ OR) in the search approach. The search approach uses the operator AND like language learning belief AND English academic performance, MALL AND vocational college level AND English academic performance.

Screening

To evaluate the relevancy of the identified publications, the screening process comprised searching over the title and abstract, which consists of 130 articles. To maintain that distinct and possible pertinent articles advanced to the following level, duplicates were eliminated at this point.

Eligibility

After completing the initial screening, 60 full-text articles were retrieved and assessed in connection with certain eligibility requirements. The evaluation of the investigations was conducted based on

the methodology, emphasis on vocational college education, and observations to establish the relations among language learning beliefs, MALL, independent learning, and academic performance.

Inclusion

There are 20 meta-analyses included in this study. The inclusion criteria required studies to focus on higher vocational education, explore language learning beliefs, autonomous learning behavior, English academic performance, and use MALL interventions and that was published in open-access journals.

Exclusion

Certain articles, which are not relevant to language learning beliefs, autonomous learning behaviors, MALL, and academic performance are 70 articles and are eliminated in this research. Exclusion criteria included articles published in languages other than English and studies lacking robust data collection methods. Based on this reason, there were 30 articles excluded.

RESULTS AND FINDINGS

English academic performance of Students at higher vocational college level

Enhancing students' motivation internally resulted in improved confidence in their social self-efficiency and enhanced participation in behavior. Students could be more interested in learning English after they could experience the joy of language [11]. As a result, the primary objective of academic performance is to stimulate a student's curiosity in language learning. Educational materials, smart learning environments, and skilled learners in the field serve as valuable sources of language expression ability. Students obtain a virtual practice opportunity for learning by presenting the prepared activity in the smart learning environment before serving as a student demonstration in the classroom [12]. With the suggestions from fellow students, field learners, and teachers, students can enhance their performance. The research shows that academic achievement is highly influenced by English language proficiency. It's been separated into three categories: extremely good, better, and poor. The possibility of students being capable of learning is higher for students with a strong command of the English language for students with an inadequate command [13]. Learning English is particularly important in higher vocational colleges. To foster interaction and motivation in teaching and learning, teachers need to fully utilize digital resources for skill training [14]. These resources include virtual classrooms, mobile learning, online collaboration, and real-time involvement. To maximize the effectiveness of English language education for language learning, particularly for efficient abilities, content instructors could be motivated to use educational approaches that incorporate more opportunities for speaking and writing in English [15]. Students need professional growth opportunities to develop their teaching methods. Figure 2 depicts the English academic performance of students with several factors.

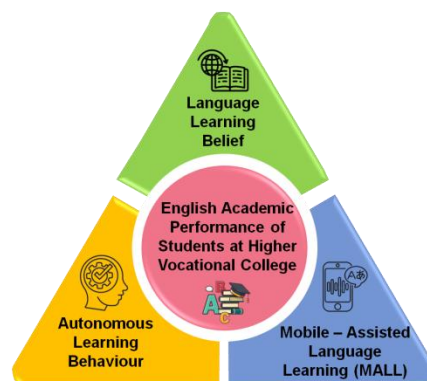


Figure 2: Academic Performance of Students

Language Learning Beliefs

This belief could arise from an assumption that language issues can be separate from content-related difficulties. Even if it is true, evidence needs to be presented, and further investigation could be beneficial [16]. Self-efficacy beliefs or individual assessments of their ability to develop and carry the learning initiatives necessary to accomplish certain performance objectives that constitute the basis of this assumption. Strong self-efficacy learners are more capable of taking responsibility to find ways to make improvements in education [17]. The assessments of students about the ability in language-related categories relevant to academic articles are reflected in the proficiency in language learning beliefs. The importance of research on self-efficacy beliefs and their relation to achievements, self-control, motivating, and other effective processes in language learning is necessary to fully recognize the significance of the beliefs in language learning [18]. The features of language learning beliefs are shown in Figure 3.

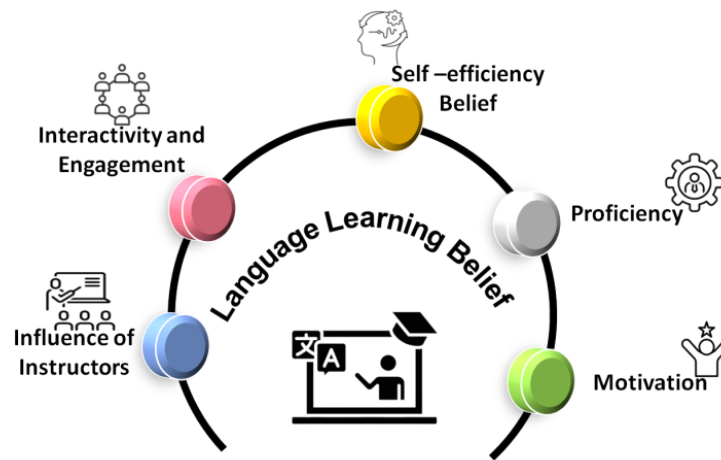


Figure 3: Factors in Language Learning Beliefs

In learning environments, self-belief in language learning can serve as a motivating factor for students to be involved more effectively in education in terms of enthusiasm, behavior, and learning processes. College students' academic performance and delays are influenced by the important suggestions about the education system, and it has a connection to their academic perspective [19]. To enhance learning performance, teachers are crucial in assisting students to establish motivational beliefs. Reliable instructors can enhance students' motivational beliefs by developing an interest in learning through the utilization of numerous creative resources and instructional techniques. Interactions are essential to motivate students to learn a foreign language [20].

Autonomous Learning Behavior

Numerous approaches have been applied to the idea of learner autonomy, which was initially connected to students and online education. The ability of students to assume responsibilities and regulate personal learning is a common definition of autonomy. Student involvement is a facilitator in the relationship between autonomous and English learning [21]. The student represents more autonomous type of external inspiration, as it considered that English was a crucial language for interacting with people from diverse backgrounds. Given the relationship between giving students choices and offering helpful suggestions, it appears that having greater teacher support facilitates students to determine improved performance. This facilitates the student's ability to accurately determine the probability of achieving the desired level, considering the way they can learn in the classroom [22]. The features of autonomous learning behavior are illustrated in Figure 4.



Figure 4: Autonomous Learning Behavior Features

The importance of evaluation on online learning assignments is self-motivation, which could serve as the connection between achievement by students and teacher engagement. Self-motivation is particularly important in learning a foreign language. Autonomous motivation is related to enhanced learning satisfaction, personal well-being, and behavioral efficacy [23]. To enhance the ability for self-regulation and independence, students are required to perceive interaction as a process. During the conversation between the teacher and the student, it was discussed how the instructor allows students to engage in language effectively and provides them with opportunities for exploring communication's nature and significance [24]. In a learning activity, learner autonomy, known as self-directed study capacity, refers to the perceptions of the student's development and identity, which constantly generate study desire or interest, giving full effort in starting the learning process [25]. Education-related advances in technology cause development to a comprehensive, distinctive autonomous learning mode.

Mobile-assisted language learning (MALL)

Students learning English as a second language need to give the value of MALL in developing vocabulary as a greater consideration. Mobile-assisted technology can help in vocabulary education, which is considered to be a significant component of learning the English language. Every session began with individuals having presented with several types of high-frequency English verbs, and the students were requested to engage in certain pertinent text-chat concerns [26]. When it comes to vocabulary or mixed language skills, using mobile phones can be more useful to distinct abilities like listening since it is more functional outside than in limited areas like a classroom [27]. Students' motivation was increased and the performance in English grammar in learning English prepositions was improved with the use of MALL. The research investigated the way education and learning have evolved and caused by technological improvements that the technological characteristics of MALL are one of the key components for anticipating and describing the intent of users to utilize MALL systems [28]. Figure 5 demonstrates the characteristics presented in MALL in English language learning.

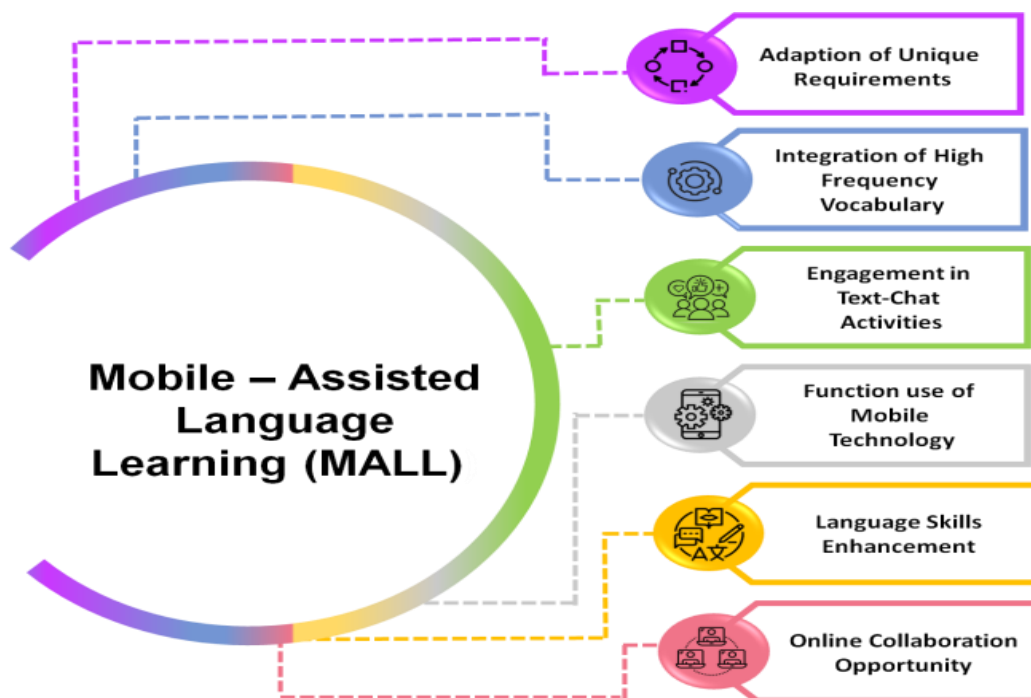


Figure 5: MALL Characteristics for English Language Learning

Language learning applications and resources have become more advanced and effective via mobile learning technologies. Student performance can be raised through the usage of mobile technologies for online collaboration. Essentially focusing on the communication skills of the students, these investigations have examined the MALL influence in overall skills of language [29]. Students have the opportunity to contribute to unique and self-prepared education that is adapted to their unique requirements and preferences through portable technology like tablets and smartphones [30]. By enabling students to make an effort and study unfamiliar phrases using digital tools and resources, MALL can be used as an effective learning technique in the framework of vocabulary learning.

The process of the language learning beliefs, autonomous learning behavior, and MALL interact with the essential component in determining the proficiency that the higher vocational college students achieve learning in English. The high degree of autonomy along with the positive ideas on language learning and technological use result in more efficient utilization of MALL, which improves the proficiency in English languages and academic performance.

FINAL REMARKS

The use of technology in educational institutions has changed traditional learning environments in the digital age, particularly in language learning. Using a wide range of mobile devices to enhance English language education, MALL has developed the significant educational approach. A systematic review at the higher vocational college level examined and analyzed the relationships between students' academic achievement in English and their beliefs about language learning, autonomous learning behaviors, and mobile-assisted language learning (MALL). Student attitudes on learning and the capacity to engage in independent learning activities, which were essential for language learning, were significantly influenced by their opinions about language learning. English-language publications from several databases, such as Web of Science, PubMed, Springer, Elsevier, and Scopus, were the basis of a systematic review that followed the PRISMA process. After determining the inclusion and exclusion requirements, the investigation retrieved twenty publications. Based on the findings, perceptions of learning a foreign language increase autonomy. The combination of MALL's accessibility and adaptability improved academic success. Considerations like motivation, digital

literacy, and institutional support need to be addressed for expanding the benefits of MALL in language education. It presented the perspectives relating to technology and student behavior that impacted language learning in vocational college education and provided suggestions for more investigation and implementation.

LIMITATION AND FUTURE SCOPES

A few constraints exist in the article, such as the possibility to exclude pertinent research, presented in other languages by the focus on English-language publications. The generalizability of the study results across various professional circumstances could be impacted by variations in research design. Further study could focus on the continuous MALL impacts on academic achievement, which needs to examine institutional regulations, motivations, and cultural influences. A comprehensive understanding of these relationships could be obtained by expanding the research to include various languages and educational systems.

REFERENCE

1. Hoi, V.N., 2020. Understanding higher education learners' acceptance and use of mobile devices for language learning: A Rasch-based path modeling approach. *Computers & Education*, 146, p.103761. <https://doi.org/10.1016/j.compedu.2019.103761>
2. Tong, P., An, I.S. and Zhou, Y., 2020. Holistic and dynamic: teacher-researcher reflections on operating mobile-assisted learning tasks supported by WeChat for Chinese as a foreign language. *Instructional Science*, 48(6), pp.729-763. <https://doi.org/10.1007/s11251-020-09524-3>
3. Chen, Y.L. and Hsu, C.C., 2020. Self-regulated mobile game-based English learning in a virtual reality environment. *Computers & Education*, 154, p.103910. <https://doi.org/10.1016/j.compedu.2020.103910>
4. Blume, C., 2020. Games people (don't) play An analysis of pre-service EFL teachers' behaviors and beliefs regarding digital game-based language learning. *Computer Assisted Language Learning*, 33(1-2), pp.109-132. <https://doi.org/10.1080/09588221.2018.1552599>
5. Lamb, M. and Arisandy, F.E., 2020. The impact of online use of English on motivation to learn. *Computer Assisted Language Learning*, 33(1-2), pp.85-108. <https://doi.org/10.1080/09588221.2018.1545670>
6. Hoi, V.N. and Mu, G.M., 2021. Perceived teacher support and students' acceptance of mobile-assisted language learning: Evidence from Vietnamese higher education context. *British Journal of Educational Technology*, 52(2), pp.879-898. <https://doi.org/10.1111/bjet.13044>
7. He, L. and Li, C., 2023. Continuance intention to use mobile learning for second language acquisition based on the technology acceptance model and self-determination theory. *Frontiers in Psychology*, 14, p.1185851. <https://doi.org/10.3389/fpsyg.2023.1185851>
8. Yu, Z., Xu, W. and Sukjairungwattana, P., 2023. Motivation, learning strategies, and outcomes in mobile English language learning. *The Asia-Pacific Education Researcher*, 32(4), pp.545-560. <https://doi.org/10.1007/s40299-022-00675-0>
9. Abu Al-majd, O. and Belton, B., 2024. Which one? Technology or non-technology-assisted vocabulary learning: a probe into the state of academic buoyancy, creativity, and academic achievement. *Asian-Pacific Journal of Second and Foreign Language Education*, 9(1), p.41. <https://doi.org/10.1186/s40862-024-00262-4>

10. Jeong, K.O., 2022. Facilitating sustainable self-directed learning experience with the use of mobile-assisted language learning. *Sustainability*, 14(5), p.2894. <https://doi.org/10.3390/su14052894>
11. Liu, I.F., 2020. The impact of extrinsic motivation, intrinsic motivation, and social self-efficacy on English competition participation intentions of pre-college learners: Differences between high school and vocational students in Taiwan. *Learning and motivation*, 72, p.101675. <https://doi.org/10.1016/j.lmot.2020.101675>
12. Cheng, X. and Liu, K., 2021. Application of multimedia networks in business English teaching in a vocational college. *Journal of Healthcare Engineering*, 2021(1), p.5519472. <https://doi.org/10.1155/2021/5519472>
13. Getahun, K.A., 2022. A Bayesian Approach to Investigating Factors Influencing Polytechnic College Students' Academic Achievement. *Education Research International*, 2022(1), p.6181800. <https://doi.org/10.1155/2022/6181800>
14. Han, W. and Hamzah, M., 2024. Research on the influence of flipped classroom on self-efficacy in English language learning of Chinese higher vocational college students. *Discovery Education*, 3(1), p.11. <https://doi.org/10.1007/s44217-024-00097-8>
15. Sahan, K. and Şahan, Ö., 2024. Investigating student and alumni perspectives on language learning and career prospects through English medium instruction. *Teaching in Higher Education*, 29(1), pp.194-215. <https://doi.org/10.1080/13562517.2021.1973407>
16. Thompson, G., Aizawa, I., Curle, S. and Rose, H., 2022. Exploring the role of self-efficacy beliefs and learner success in English medium instruction. *International Journal of Bilingual Education and Bilingualism*, 25(1), pp.196-209. <https://doi.org/10.1080/13670050.2019.1651819>
17. Teng, M.F. and Wang, C., 2023. Assessing academic writing self-efficacy belief and writing performance in a foreign language context. *Foreign Language Annals*, 56(1), pp.144-169. <https://doi.org/10.1111/flan.12638>
18. Anam, S.U. and Stracke, E., 2020. The role of self-efficacy beliefs in learning English as a foreign language among young Indonesians. *Tesol Journal*, 11(1), p.e00440. <https://doi.org/10.1002/tesj.440>
19. Lohbeck, A. and Retelsdorf, J., 2021. Assessing value beliefs among university students: Validation of the Value Beliefs Questionnaire for University Students (VBQU). *Studies in Educational Evaluation*, 70, p.101052. <https://doi.org/10.1016/j.stueduc.2021.101052>
20. Ma, L., Xiao, L. and Liu, J., 2024. Motivational beliefs of urban and rural students in English as a foreign language learning: The case of China. *Journal of Multilingual and Multicultural Development*, 45(5), pp.1524-1537. <https://doi.org/10.1080/01434632.2021.1991933>
21. Jiang, Y. and Peng, J.E., 2023. Exploring the relationships between learners' engagement, autonomy, and academic performance in an English language MOOC. *Computer Assisted Language Learning*, pp.1-26. <https://doi.org/10.1080/09588221.2022.2164777>
22. Muth, J. and Lüftenegger, M., 2024. Associations between Autonomy-Supportive Teaching, the Use of Non-Academic ICTs, and Student Motivation in English Language Learning. *Sustainability*, 16(3), p.1337. <https://doi.org/10.3390/su16031337>
23. Wang, J., Zhang, X. and Zhang, L.J., 2022. Effects of teacher engagement on students' achievement in an online English as a foreign language classroom: The mediating role of

- autonomous motivation and positive emotions. *Frontiers in Psychology*, 13, p.950652. <https://doi.org/10.3389/fpsyg.2022.950652>
24. Han, K., 2021. Fostering students' autonomy and engagement in EFL classroom through proximal classroom factors: autonomy-supportive behaviors and student-teacher relationships. *Frontiers in Psychology*, 12, p.767079. <https://doi.org/10.3389/fpsyg.2021.767079>
 25. Wong, K.T., Hwang, G.J., Choo Goh, P.S. and MohdArrif, S.K., 2020. Effects of blended learning pedagogical practices on students' motivation and autonomy for the teaching of short stories in upper secondary English. *Interactive Learning Environments*, 28(4), pp.512-525. <https://doi.org/10.1080/10494820.2018.1542318>
 26. Lei, X., Fathi, J., Noorbakhsh, S. and Rahimi, M., 2022. The impact of mobile-assisted language learning on English as a foreign language learners' vocabulary learning attitudes and self-regulatory capacity. *Frontiers in Psychology*, 13, p.872922. <https://doi.org/10.3389/fpsyg.2022.872922>
 27. Mortazavi, M., Nasution, M.K., Abdolazadeh, F., Behroozi, M. and 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), p.6328. <https://doi.org/10.3390/su13116328>
 28. Habib, S., Haider, A., Suleman, S.S.M., Akmal, S. and Khan, M.A., 2022. Mobile assisted language learning: Evaluation of accessibility, adoption, and perceived outcome among students of higher education. *Electronics*, 11(7), p.1113. <https://doi.org/10.3390/electronics11071113>
 29. Gou, P., 2023. Teaching English using mobile applications to improve academic performance and language proficiency of college students. *Education and Information Technologies*, 28(12), pp.16935-16949. <https://doi.org/10.1007/s10639-023-11864-9>
 30. Koleini, N., Borouhany, T., Eslami, Z.R. and Xodabande, I., 2024. Exploring the impacts of mobile-assisted learning on university students' technical vocabulary knowledge. *International Journal of Educational Research Open*, 7, p.100344. <https://doi.org/10.1016/j.ijedro.2024.100344>