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Boosting English Motivation with Mobile Tech: Action Research Among Engineering Students

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Abstract

This study focuses on increasing the students' motivation in learning English by using MALL. The research sample consisted of 29 students (21 male students and 8 female students) of twelfth-grade Computer and Network Engineering students. The form of this research was to investigate the impact on motivation levels of students in learning English using MALL applications and to reveal students' responses from the students after they have been taught by using MALL applications in learning English. The MALL applications used in this research include Duolingo, DeepL, and Quizizz. This is classroom action research consists of three cycles with two meetings in each cycle, with three types of data collection: student achievement results, interviews, and classroom observations. The data were analyzed descriptively qualitative. The result showed that teaching utilizing the three MALL applications enhanced students' achievement scores from 60,5 to 80 based on their average daily score. The three cycles of study that have been done by researchers showed that students' motivation to learn English has developed significantly since the three MALL applications have been implemented in place. The interview and observation results highlighted participants' positive feedback on using MALL for English learning and evaluation. Students enjoyed and were motivated to regularly use MALL to improve their language skills. Classroom observations showed that 51.72% of students had no hesitation in utilizing MALL applications for English enhancement.

Keywords: Motivation, MALL, English language learning, classroom action research

INTRODUCTION

Understanding student motivation is crucial for enhancing their knowledge and skills (Serin, 2018). There are two primary types of motivation: extrinsic and intrinsic. Extrinsic motivation is driven by external factors, such as incentives, rewards, punishments, and criticism, while intrinsic motivation originates from internal factors like personal interest and curiosity (Tsai & Guthrie, 2004). Intrinsic motivation, which is closely linked to

emotional engagement, fosters a deep personal connection to learning, leading to discovery and success (Ellwood, 2020). Serin (2018) and McHone (2020) emphasizes that such motivation enhances students' dedication and time spent learning, enriching their educational experience. Similarly, Hidi (2000) and Zhang (2019) note that intrinsically motivated students are more likely to pursue reading topics that truly interest them.

Motivation significantly influences various language skills. Research has demonstrated that high motivation enhances writing skills (Süğümlü et al., 2019) is critical for improving speaking abilities in ESL learners (Kumar, 2021). In contrast, students in ELT programs often exhibit extrinsic motivation when developing listening skills (Göçtü, 2017). Both intrinsic and extrinsic motivations have been found to moderately affect reading comprehension among tertiary ESL learners, underscoring the broad impact of motivation on language proficiency. To improve English language motivation, this study employs Mobile-Assisted Language Learning (MALL) via mobile phones, focusing on its adaptability and accessibility. MALL is praised for its flexibility, allowing students to study anytime and anywhere, across various devices, and it can be tailored to individual learning styles (Duman et al., 2014; Loewen et al., 2019). Extensive research confirms MALL's effectiveness in enhancing English proficiency and motivation at all educational levels (Keezhatta & Omar, 2019; Read et al., 2021; Al-Shehab, 2020).

In this research, after conducting an initial assessment of students' English language skills at SMK Taruna Bakti Kertosono, Indonesia, researchers calculated daily scores for each skill taught in class. Throughout September, the overall average daily score across the four skills—speaking, reading, writing, and listening—was 60.5. This score falls below the Minimum Completion Criteria set for the English subject. Specifically, the scores averaged 59 for speaking, 63 for reading, and 60 for both writing and listening. The initial assessment revealed that fewer than 10 students achieved a score of 70 or higher in any of the skills. Writing saw the highest achievement rate, with 31.03% of students scoring 70 or above. This was followed by reading 24.14% and listening 25,05%, with Speaking had the lowest rate of high achievers, with only 17.24% scoring above 70. In summary, the majority of students scored below 70 across all language skills.

The students' poor performance can be attributed to several factors. The primary teaching method involved the use of standard worksheets, with the teacher providing explanations based solely on these materials (Suryawati et al., 2020). The absence of engaging instructional media and innovative teaching methods likely hindered student motivation. Additionally, many students perceived English as a challenging subject, exacerbated by the stress and pressure of learning a non-native language (Peng & Wang, 2019). This often resulted in disengagement during class, with students feeling drowsy, daydreaming, or being distracted by their cell phones. A lack of clarity in learning objectives also contributed to the issues. The vocational high school curriculum typically includes English for Special Purposes, which could benefit students in their future careers. However, the teaching was limited to the content provided in the worksheets, failing to prepare students adequately for practical language application in professional contexts.

Teaching English at vocational high schools presents unique challenges, necessitating that instructors devise effective methods, media, or strategies to deliver material efficiently (Esmaeili & Shahrokhi, 2020). This need arises particularly because vocational education often involves teaching English for Specific Purposes (ESP). According to

Mahamatismoyilovna (2022), ESP focuses on teaching English as a second or foreign language with a curriculum tailored to meet the specific needs of the students, differing significantly from more general English teaching methods by ensuring that course content and objectives align precisely with student requirements.

The integration of technology into ESP has transformed the landscape. Educators now incorporate interactive multimedia, internet resources, and tools for creating customized materials. These advancements aim to engage students more deeply with relevant topics, continually evolving the ways languages are learned at the intersection of technology and education. In contrast to traditional methods, Mobile-Assisted Language Learning (MALL) and mobile learning (MLearning) introduce a new paradigm. MALL offers students the flexibility to interact with the language both during and outside of class sessions through personalized, self-paced, and learner-centered activities (Viberg and Grönlund, 2012). Furthermore, the ubiquity of mobile phones and their connectivity capabilities ensure that knowledge is always accessible, fostering a continual desire to learn.

Furthermore, this research explores the collaborative use of three Mobile Assisted Language Learning (MALL) applications: Duolingo, Quizizz, and DeepL. Quizizz, as noted by Yong & Rudolph (2022), is a gamified student response system that facilitates both synchronous and asynchronous formative assessments, boasting over 65 million active users across more than 150 countries. They also reported that students overwhelmingly enjoy using Quizizz for quizzes. In this study, Quizizz was employed both as a teaching medium and an assessment tool in relation to the specified topics. Similarly, a prior study by Handini et al. (2022) on Duolingo demonstrated that students effectively utilized the app as a learning medium, answering questions confidently and fully exploiting the opportunities to enhance their English skills. Furthermore, research by Polakova & Klimova (2023) highlighted the benefits of using natural machine translation (NMT) technology, specifically DeepL, in learning foreign languages. This technology significantly improved students' linguistic competence—a realization that encouraged continued and future use of technological aids in their learning.

The novelty of this study lies in its integration of these three MALL applications to boost student motivation in English learning. Unlike previous studies that focused on the individual effectiveness of these tools, this research adopts a holistic approach to assess their combined impact on student motivation. This study not only contributes to the existing body of knowledge by evaluating the effectiveness of MALL applications in enhancing language skills but also extends the investigation to how these tools affect students' enthusiasm and engagement in learning English. Building on this foundation, the primary objectives of this research are to assess the impact of these MALL applications on students' motivation levels in learning English and to gather students' feedback after being taught with these technologies.

METHOD

This study adopted a Classroom Action Research (CAR) design to boost student motivation in learning English by incorporating Mobile-Assisted Language Learning (MALL) tools. Prior to the introduction of MALL, the participants' average daily score across all English skills was 60.5, significantly below the mastery threshold of 70. The goal was to enhance these scores using MALL applications such as Duolingo, Quizizz, and DeepL.

Duolingo was employed as a comprehensive tool that supports learning in all aspects of the English language, offering a user-friendly interface that aids in the development of speaking, reading, writing, and listening skills. Quizizz was utilized for dual purposes: as a learning aid and as an assessment tool. It enabled researchers to distribute instructional materials and interactively assess students through a variety of question formats. DeepL served as an support tool in the classroom, helping students better understand spoken and written English and expand their vocabulary.

The study involved 29 students from the Computer and Networking Program at SMK Taruna Bakti Kertosono, East Java, Indonesia. The CAR approach, based on the Kemmis et al. (2013) model, was structured in four phases: (1) Planning, where strategies for employing MALL were developed; (2) Action, involving the actual use of the MALL tools in teaching; (3) Observation, where the effects of these interventions on student motivation and learning were monitored; and (4) Reflection, which involved analyzing the outcomes and planning further improvements.

Planning

In the planning phase of the study, researchers designed a comprehensive set of activities to enhance the English language learning experience. These activities included the development of lesson plans specifically focused on the topic of Job Application Letters, which was relevant for the twelfth-grade curriculum. Additionally, educational and assessment materials were created using MALL tools such as Duolingo, Quizizz, and DeepL to facilitate varied and engaging learning experiences. Moreover, a system was established for scoring each English skill to monitor students' daily progress effectively. An observation checklist was also prepared to systematically assess the implementation and impact of the teaching strategies. The criteria for success in this research were clearly defined: achievement was measured by each student's ability to attain a minimum score of 70 in each English skill. This benchmark was set to ensure that all participants reached a satisfactory level of proficiency as a result of the intervention.

Action

In the implementation phase of the study, the researchers effectively utilized Mobile-Assisted Language Learning (MALL) applications—Duolingo, Quizizz, and DeepL—across three cycles comprising two sessions each, to enhance students' mastery of English with a focus on Job Application Letters. The first two sessions employed Quizizz to introduce and explain the material through interactive slides, while incorporating Duolingo to develop listening and speaking skills; students listened to audio clips and then practiced speaking the words or sentences aloud. To augment their vocabulary, they also used DeepL to look up and learn the words they encountered. The next two sessions shifted focus to reading skills, where students engaged with texts on job application letters, answering comprehension questions, and using DeepL for translation to ensure thorough understanding, alongside continued reading practice with Duolingo. The fifth session concentrated on writing, prompting students to compose their own job application letters using the data provided. The study culminated in the sixth session with a comprehensive assessment via a Quizizz quiz on job application letters, evaluating the students' understanding and application of the lessons taught.

Observation

During each meeting of the research cycles, the researchers meticulously observed and evaluated the students' engagement with the Mobile-Assisted Language Learning (MALL) applications. These observations were crucial for understanding the levels of active participation and enthusiasm among the students while interacting with the MALL platforms. The data collected from these sessions were systematically analyzed to calculate average scores, reflecting the general response of the students to the learning tools. Additionally, the observation phase identified various external challenges, often stemming from student-related factors, which were beyond the control of the study. These issues are discussed in greater detail in the subsequent chapter. Alongside observational data, the researchers conducted structured interviews with a randomly selected group of students to delve into their personal experiences and perceptions after using the MALL applications. These interviews were instrumental in providing depth to the research, offering insights that enhanced the qualitative analysis.

Reflection

During the reflection phase, the researchers assessed the effectiveness of Mobile Assisted Language Learning (MALL) applications by analyzing two key indicators: the students' enthusiasm for learning English and the average daily scores recorded in each session. If significant increases in these metrics were observed, particularly in the students' enthusiasm and academic performance, the third cycle would conclude the study. The research incorporated three distinct types of data: academic achievements, interview feedback, and classroom observations, processed according to Miles and Huberman (1994) analytical framework, which includes data collection, data reduction, data display, and conclusion drawing. Initially, data collection involved gathering insights on students' proficiency in English, their classroom interactions during MALL application use, and their responses in post-implementation interviews.

Following collection, the data reduction stage streamlined the information by selecting, focusing, and summarizing critical elements, such as observational notes and interview responses. The data display phase then visualized these findings through textual summaries, charts, and processed transcripts, providing a clear picture of the gathered data. Finally, the study drew conclusions from the comprehensive analysis of students' performance and qualitative data, with observational insights serving to validate and strengthen the overall findings.

FINDING AND DISCUSSION

Initially, the teacher introduced the students to the Duolingo application, highlighting its features such as customized learning modules and specific exercises for listening, speaking, and writing. Students were then instructed to download the Duolingo app, create user accounts, and begin their lessons at a basic level, progressing to higher levels upon completing each preceding one successfully. The teacher guided students to focus on modules tailored to enhance particular skills needing improvement, such as grammar, vocabulary, or conversational abilities. To facilitate learning and encourage collaborative study, students were allowed to work in small groups, assisting each other with the exercises.

In addition to Duolingo, another MALL tool, DeepL, was employed to help students with language comprehension challenges. DeepL provided translations and explanations of words, phrases, or entire paragraphs into Indonesian, aiding students in understanding the English content more deeply. After using DeepL, students were encouraged to critically analyze the text to reinforce their learning. By integrating Duolingo and DeepL, the learning process became more comprehensive and collaborative. This combination allowed students to not only grasp basic language structures and improve their speaking skills using Duolingo but also to gain deeper insights into their translations and enhance their overall understanding of the material with the help of DeepL.

After completing the learning sessions with Duolingo and DeepL, the teacher assessed the students' progress using Quizizz, a Mobile-Assisted Language Learning (MALL) tool designed for fun and interactive testing. The quiz covered areas such as grammar, vocabulary, and text comprehension, reflecting what the students had learned in class. Each student participated using their own phone, answering questions within a specified time limit. Quizizz automatically evaluated their responses and provided immediate scores, enabling the teacher to gauge the overall effectiveness of the learning strategy and offer targeted feedback based on the students' performance.

This assessment was part of a broader curriculum that involved three cycles of learning, each consisting of two meetings. The initial sessions focused on introducing the job application letter materials through Quizizz. Concurrently, Duolingo was utilized to enhance listening and speaking skills. During these sessions, students first listened to audio clips, then practiced repeating the phrases aloud. To support vocabulary acquisition, students used DeepL to look up any new words they encountered. This approach facilitated group interaction, helping students familiarize themselves with the applications and encourage collaborative learning. Although some students were quickly engaged and even downloaded the applications on their personal devices, others were less interested and primarily used their smartphones to observe their group's activities. This varied engagement highlighted the initial response to the MALL tools being introduced, setting the stage for further instructional refinement and increased focus on student motivation.

The second cycle of the Classroom Action Research focused on reading skills during the third and fourth meetings. Students were provided with a text on how to write a cover letter and used Quizizz to engage with comprehension questions. To enhance their understanding of the text, students utilized DeepL for translations, working collaboratively to deepen their knowledge. Duolingo was also integrated into these sessions to further improve their reading abilities. By this second cycle, the students had become more adept at using the MALL tools to support their English learning. Those who had previously shown little interest were now actively participating with their groups in the Quizizz activities, motivated to achieve higher group rankings. Their renewed enthusiasm was also evident in Duolingo sessions, where they eagerly reapplied skills acquired from the first cycle. DeepL proved particularly valuable during reading exercises, assisting students with accurate translations contextualized to the content.

The focus shifted to writing in the fifth meeting. Students were tasked with writing their own cover letters, applying the instructions provided by the researchers. They utilized DeepL to ensure textual coherence and appropriate vocabulary usage. The final session of the cycle tested their knowledge through a Quizizz quiz on writing job application letters.

Therefore, this third cycle marked a significant increase in student engagement and motivation compared to earlier cycles. The use of smartphones for non-educational purposes decreased notably as students concentrated on employing Duolingo, Quizizz, and DeepL to enhance their English skills across different areas. The effectiveness of this integrated MALL approach was underscored by the students' average daily scores, which showed improvement or met the minimum completion criteria of a score of 70, confirming the positive impact of the educational interventions.

Table 1. The percentage of students' average daily score in each English skill before and after using MALL applications

Subject	Percentage Score (Benchmark: 70)	
	Before using MALL	**After using MALL**
Speaking	31.03%	82.71%
Reading	24.14%	75.88%
Writing	25.05%	68.91
Listening	17.24%	75.85

Table 1 presents the percentage of students' average daily scores in each English skill before and after the implementation of Mobile-Assisted Language Learning (MALL) applications. The table compares the percentage of students who achieved a score of at least 70 in each skill before and after using MALL. Before using MALL applications, the percentages of students achieving a score of 70% or higher were relatively low across all skills: 31.03% for Speaking, 24.14% for Reading, 25.05% for Writing, and 17.24% for Listening. After the implementation of MALL applications, there was a significant improvement in the percentages of students achieving scores of 70% or higher in each skill. The percentages increased substantially to 82.71% for Speaking, 75.88% for Reading, 68.91% for Writing, and 75.85% for Listening. This table highlights the positive impact of MALL applications on students' English language skills, as evidenced by the notable increase in the percentages of students achieving the benchmark score of 70 or above after the intervention.

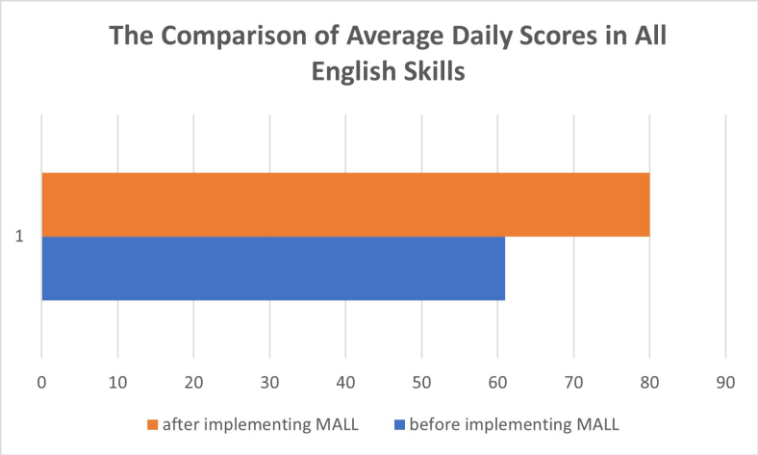

Figure 1. The Average daily scores before and after implementing MALL

From the visual representation, the average scores have improved following the introduction of MALL. While the initial average scores were around the 60 mark, they

increased to above 80 after MALL applications were integrated into the learning process. This significant improvement highlights the positive impact of using MALL tools in the students' English language education.

The students' responses to the use of MALL Applications for learning and assessing English.

To evaluate the effectiveness of Mobile-Assisted Language Learning (MALL) applications in facilitating English language acquisition, the researchers conducted structured interviews with a select group of students. Fifteen students were randomly chosen to participate, ensuring a diverse representation from those who achieved the highest, lowest, and average daily scores in English skills. The interviews were composed of ten structured questions that were systematically posed to each student. These questions were designed to delve into four key implicit themes: the positive aspects of learning with MALL, the level of motivation and engagement fostered by MALL, the improvement in language skills attributed to MALL usage, and the challenges and limitations encountered.

From the responses, it was evident that the students had an overall positive experience with MALL. They found the applications to be interactive and enjoyable, contributing to an enhanced language learning process. The students appreciated the flexibility MALL provided, allowing them to engage with the English language independently and on their own schedule. They also valued the adaptability of MALL, which catered to different learning styles and piqued various interests, suggesting that MALL effectively supports personalized learning journeys in English language education.

"MALL was very helpful for me. It gives me a lot of different tools and materials that have helped me learn the language better," stated Student 2, emphasizing the variety of resources that MALL provided. Student 3 found MALL to be "really user-friendly and practical," aiding in the consistency of their learning routine. The data showed that MALL also significantly improved student motivation and engagement. "The interactive nature of MALL prevents me from getting bored and helps me stay engaged throughout my learning sessions," mentioned Student 1. Student 15 shared the motivational impact of the MALL rewards system: "When I finish assignments at MALL and unlock achievements or get rewards, I get really excited. It makes me feel like having succeeded in something." This sentiment of achievement and progress was echoed by Student 12, "When I see my achievements and development studied within the MALL application, I am motivated to continue studying and try for better results." Additionally, Student 4 appreciated how "The gamification elements in MALL make learning English feel like a fun challenge, which motivates me to participate more actively."

Despite some challenges with the use of MALL, like connectivity issues noted by Student 8, "Sometimes the internet connection is bad and affects my learning sessions. That's annoying. I lost my progress," the overall trend indicated a shift towards embracing technology in learning. Student 13 highlighted a need for guidance: "It is difficult for me to keep my discipline and motivation when using MALL independently without a guide teacher's supervision."

After becoming proficient with MALL, students expressed enthusiasm for its features, particularly in Duolingo, which was favored for improving speaking and listening skills. Student 6 noted, "Duolingo is very helpful in improving speaking and listening skills. The features in the application are very easy and interesting for me to explore." The

comprehensive approach of Duolingo was also praised by Student 7: "I like listening to Duolingo. It covers several sounds of words and I can learn to speak also in one application. That's great apps." The impact of MALL extended to improvements in reading and writing skills as well, fostering a focused and competitive spirit in learning, especially with the use of Quizizz in collaboration with DeepL for understanding complex texts.

DISCUSSION

The academic performance of students, as depicted in Figure 1, provides empirical support for the effectiveness of Mobile-Assisted Language Learning (MALL) in the Computer and Networking Program. The data shows a significant increase in the students' average daily scores, rising from 61 to 80, surpassing the mastery threshold of 70. This improvement aligns with the students' positive feedback on MALL applications—namely Duolingo, Quizizz, and DeepL—gathered from the interviews. Such a response suggests that intrinsic motivation has played a pivotal role in embracing new learning experiences. Motivated students tend to face challenges more readily and persist in their studies, driven by enjoyment, the pursuit of challenges, and a desire for mastery, as noted by Renninger, (2000). Therefore, fostering continuous motivation, especially intrinsic motivation, is essential in the educational process.

The enhancement in English language proficiency observed among the students can be attributed to several factors. A key change implemented by the researchers was the shift from traditional teaching methods to a digital approach, utilizing Duolingo, Quizizz, and DeepL as the primary instructional media. Chinnery (2006) and Golonka et al. (2014) have highlighted that while technology can be a valuable asset in language learning, it serves as a tool rather than a replacement for the teacher. It's the teacher who remains pivotal in guiding the learning process. The integration of technology, specifically MALL applications, with teacher-led instruction, has proven to be a synergistic approach, enabling students to achieve their language learning goals with greater efficacy.

Secondly, the researchers addressed the challenge of learning speaking and listening skills—identified as particularly difficult for the students—by integrating various media into the curriculum. Duolingo was introduced as a versatile resource for learning different skills both within the classroom and beyond, available for students to access at any point. This flexibility led to an increase in students' enjoyment and success in practicing listening and speaking skills, in line with findings by Handini et al. (2022). Over the course of six sessions, there was a noticeable shift in students' attitudes towards English learning; they became more engaged and less prone to distractions, attributing to the focused and personalized learning experience facilitated by Duolingo. This observation is supported by the work of Viberg and Grönlund (2012), and Kukulska-Hulme (2016, 2020), who emphasize that MALL enables language engagement that is personalized, self-directed, and learner-centered.

The data also revealed a pronounced preference among students for using their smartphones as learning tools, particularly through applications like Quizizz. Göksün and Gürsoy (2019) discovered that employing Quizizz as a student response system increased student achievement and participation while reducing test anxiety. The gaming-like format of Quizizz quizzes fostered a competitive classroom atmosphere, propelling students to strive for the top ranks—a finding consistent with Yong & Rudolph(2022) observation of positive student feedback on Quizizz.

The translation tool DeepL also emerged as a positive influence in this study. It proved to be a superior aid in helping students comprehend texts, outperforming alternatives like Google Translate in most cases, as reported by Hidalgo-Ternero (2020). With the combined use of Duolingo, Quizizz, and DeepL, students were not only able to understand and complete their assignments effectively but also demonstrated increased enthusiasm, which was evident in the improved English grades across all language skills.

CONCLUSION

This study has conclusively demonstrated that the integration of Mobile-Assisted Language Learning (MALL) applications—specifically Duolingo, Quizizz, and DeepL—significantly enhances student motivation and proficiency in English language skills. Quantitatively, the introduction of MALL applications in the Computer and Networking Program has resulted in a remarkable rise in students' average daily scores, from 61 to 80, with all students surpassing the mastery benchmark of 70. From the structured interviews with students, revealed positive perceptions of MALL. These applications provided a diverse and adaptable approach to learning, notably improving speaking and listening skills—traditionally the more challenging language skills for students. As evidenced by the percentage increases, students' engagement and proficiency in speaking rose from 31.03% to 82.71%, in reading from 24.14% to 75.88%, in writing from 25.05% to 68.91%, and in listening from 17.24% to 75.85%.

The addition of Quizizz introduced a competitive and game-like learning environment that was well-received by students, contributing to an increase in active participation and a reduction in test anxiety. Meanwhile, DeepL provided reliable translation support that enhanced students' understanding of English texts. The integration of these tools into the learning process was not only favored by students but was also effective in maintaining focus and discipline during classroom activities. In summary, the research supports the strategic implementation of MALL tools as a means to foster not just higher academic achievement, but also a more engaging and self-directed learning environment. The evidence suggests a significant correlation between the use of technology in language learning and increased intrinsic motivation and student engagement, endorsing the continued adoption of such educational technologies to improve learning outcomes.

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REFERENCES

Al-Shehab, M. A. (2020). The role of Mobile-assisted Language Learning (MALL) in enhancing the writing skills of intermediate IEP students: Expectations vs reality. *Language Teaching Research Quarterly (Online)*, *20*, 1–18. https://doi.org/10.32038/ltrq.2020.20.01

Chinnery, G. M. (2006). Going to the MALL: Mobile Assisted Language Learning. *Language Learning & Technology*, 10(1), 9–16. http://dx.doi.org/10125/44040

Duman, G., Orhon, G., & Gedik, N. (2014). Research trends in mobile assisted language learning from 2000 to 2012. *ReCALL*, *27*(2), 197–216. https://doi.org/10.1017/s0958344014000287

Ellwood, S. (2020). Discovering personal motivation through new learning. *Scope: Learning and Teaching*, *9*, 30–34. https://doi.org/10.34074/scop.4009005

Esmaeili, Z., & Shahrokhi, M. (2020). The impact of Memrise application on Iranian EFL learners' collocation learning and retention. *International Journal of Language Education*, *4*(2), 221–233. https://doi.org/10.26858/ijole.v4i2.10672

Göçtü, R. (2017). The effects of motivation on listening skills of ELT students in Georgia (IBSU case). *Smart Moves Journal Ijellh*, *4*(5), 15. https://doi.org/10.24113/ijellh.v4i5.1342

Göksün, D. O., & Gürsoy, G. (2019). Comparing success and engagement in gamified learning experiences via Kahoot and Quizizz. *Computers and Education/Computers & Education*, *135*, 15–29. https://doi.org/10.1016/j.compedu.2019.02.015

Golonka, E. M., Bowles, A. R., Frank, V. M., Richardson, D. L., & Freynik, S. (2014). Technologies for foreign language learning: A review of technology types and their effectiveness. *Computer assisted language learning*, 27(1), 70-105. https://doi.org/10.1080/09588221.2012.700315

Handini, B. S., Nurhasanah, N.-., & Panly, F. I. (2022). The effect of artificial intelligent technology used (Duolingo application) to enhance English learning. *Ellite : Journal of English Language, Literature, and Teaching*, *7*(2), 86–94. https://doi.org/10.32528/ellite.v7i2.8354

Hidalgo-Ternero, C. M. (2021). Google Translate vs. DeepL. Analysing neural machine translation performance under the challenge of phraseological variation. *Monografías De Traducción E Interpretación*, 154–177. https://doi.org/10.6035/monti.2020.ne6.5

Hidi, S. (2000). An interest researcher's perspective: The effects of extrinsic and intrinsic factors on motivation. In C. Sansone & J. M. Harackiewicz (Eds.), *Intrinsic and extrinsic motivation: The search for optimal motivation and performance* (pp. 309–339). Academic Press. https://doi.org/10.1016/B978-012619070-0/50033-7

Keezhatta, M. S., & Omar, A. (2019). Enhancing reading skills for Saudi secondary school students through Mobile Assisted Language Learning (MALL): An experimental study. *International Journal of English Linguistics*, *9*(1), 437. https://doi.org/10.5539/ijel.v9n1p437

Kemmis, S., McTaggart, R., & Nixon, R. (2013). *The Action Research Planner: Doing Critical Participatory Action Research*. Springer Science & Business Media.

Kukulska-Hulme, A. (2020). Mobile-Assisted language learning. *The Encyclopedia of Applied Linguistics*, 1–9. https://doi.org/10.1002/9781405198431.wbeal0768.pub2

Kukulska-Hulme, Agnes (2016). Mobile sssistance in language learning: A critical appraisal. In: Palalas, Agnieszka and Ally, Mohamed eds. *The international handbook of mobile-assisted language learning*. Beijing: China Central Radio & TV University Press Co., Ltd., pp. 138–160.

Kumar, T. (2021). 'Desire to learn, learn to shine': Idolizing motivation in enhancing speaking skill among L2 learners. *Cypriot Journal of Educational Sciences*, *16*(1), 411–422. https://doi.org/10.18844/cjes.v16i1.5542

Loewen, S., Crowther, D., Isbell, D. R., Kim, K. M., Maloney, J., Miller, Z. F., & Rawal, H. (2019). Mobile-assisted language learning: A Duolingo case study. *ReCALL*, *31*(3), 293–311. https://doi.org/10.1017/S0958344019000065

Mahamatismoyilovna, S. R. (2022). Innovation teaching technology in ESP groups by activities. *International Journal of Health Sciences*, 3497–3502. https://doi.org/10.53730/ijhs.v6ns5.9400

McHone, C. (2020). Blended learning integration: Student motivation and autonomy in a blended learning environment *(Doctoral dissertation, East Tennessee State University).*

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. sage.

Peng, Z. E., & Wang, L. M. (2019). Listening effort by native and nonnative listeners due to noise, reverberation, and talker foreign accent during English speech perception. Journal of Speech, Language, and Hearing Research, 62(4), 1068-1081. https://doi.org/10.1044/2018_JSLHR-H-17-0423

Polakova, P., & Klimova, B. (2023). Using DeepL translator in learning English as an applied foreign language – An empirical pilot study. *Heliyon*, *9*(8). https://doi.org/10.1016/j.heliyon.2023.e18595

Read, T., Kukulska-Hulme, A., & Barcena, E. (2021). Supporting listening comprehension by social network-based interaction in mobile assisted language learning. *Porta Linguarum*, *2021*(35), 295–309. https://doi.org/10.30827/portalin.v0i35.15341

Renninger, K. A. (2000). Individual interest and its implications for understanding intrinsic motivation. In C. Sansone & J. M. Harackiewicz (Eds.), *Intrinsic and extrinsic motivation: The search for optimal motivation and performance* (pp. 373–404). Academic Press. https://doi.org/10.1016/B978-012619070-0/50035-0

Serin, H. (2018). The use of extrinsic and intrinsic motivations to enhance student achievement in educational settings. *International Journal of Social Sciences & Educational Studies*, *5*(1). https://doi.org/10.23918/ijsses.v5i1p191

Süğümlü, Ü., Mutlu, H. H., & Çinpolat, E. (2019). Relationship between writing motivation levels and writing skills among secondary school students. *International Electronic Journal of Elementary Education*, *11*(5), 487–492. https://doi.org/10.26822/iejee.2019553345

Suryawati, E., Suzanti, F., Zulfarina, Z., Putriana, A. R., & Febrianti, L. (2020). The implementation of local environmental problem-based learning student worksheets to strengthen environmental literacy. Jurnal Pendidikan IPA Indonesia, 9(2), 169-178. https://doi.org/10.15294/jpii.v9i2.22892

Tsai, W., & Guthrie, J. T. (2004). Modeling the effects of intrinsic motivation, extrinsic motivation, amount of reading, and past reading achievement on text comprehension between U.S. and Chinese students. *Reading Research Quarterly*, *39*(2), 162–186. https://doi.org/10.1598/rrq.39.2.2

Viberg, O., & Grönlund, Å. (2012). Mobile Assisted Language Learning : A Literature Review. *The 11th World Conference on Mobile and Contextual Learning*. https://urn.kb.se/resolve?urn=urn:nbn:se:du-10659

Yong, A., & Rudolph, J. (2022). A review of Quizizz – a gamified student response system. *Journal of Applied Learning & Teaching*, *5*(1), 146–155. https://doi.org/10.37074/jalt.2022.5.1.18

Zhang, R. (2019). High Interest Low Readability Books And Motivation In Chinese Classrooms. https://digitalcommons.hamline.edu/hse_all/4456/