

Mobile Learning and Verbal Proficiency: A Cross-Sectional Study Investigating English Speaking Skills Enhancement

Kewin Anten Raj JR

Department of English, School of Social Sciences and Languages, Vellore Institute of Technology, Vellore, India

Anu Baisel*

Department of English, School of Social Sciences and Languages, Vellore Institute of Technology, Vellore, India

Abstract—Mobile learning supports a constructivist approach to learning by providing student-focused pedagogies and enhancing students' self-directed learning toward a goal. While reading, writing, listening, and speaking are all important life skills, speaking or, to put it another way, communication—occurs often in both official and casual settings. For this reason, speaking is typically more important than the other abilities. Gaining speaking proficiency is just as crucial as developing other abilities that are necessary for target language learners to improve their communication. Offering a comprehensive picture of how mobile learning interventions function for different learner profiles is the aim of this methodical sampling strategy. Due to their widespread use, mobile devices offer unparalleled accessibility and flexibility for learning, independent of location. Consequently, developing successful educational interventions requires an understanding of the connection between these technology benefits and the enhancement of English language proficiency through speaking. Data from 29 surveys were gathered for a quantitative cross-sectional study using Google Forms, which examined the effects of mobile learning, prior English proficiency, frequency of mobile engagement, and their link to English-speaking abilities. The study sought to clarify the importance and association of these factors in improving verbal competency through mobile learning in English language acquisition, using t-tests for group comparison and Cronbach's Alpha for reliability. Findings highlight the necessity for customized methods depending on learners' proficiency levels to maximize their efficacy. Regular mobile learning engagement is strongly correlated with prior English proficiency and increased language abilities.

Index Terms—mobile learning, English speaking skills, frequency of mobile learning engagement, verbal proficiency, regression analysis

I. INTRODUCTION

Technology is a vital part of our everyday lives in the twenty-first century, and to utilize it to rethink or re-engineer the education and training systems, professionals, educators, and students must reevaluate their core values (Viltz-Emerson, 2021). Every area of our lives has been impacted by technology, but education is the most critical since it focuses primarily on the teaching-learning process. With features like a data-show projector and smart board, the majority of classrooms in the present day are cutting edge. With the recent advancements in mobile technologies, feature phones are gradually being supplanted by smartphones as the most widely used mobile devices (Moreira et al., 2017). By utilizing mobile technology for learning, students may extend their conversations and research outside of the classroom and carry the device with them everywhere they go. Students may collaborate to study and develop knowledge while engaging with a wide range of information using mobile devices. Because mobile learning offers student-focused pedagogies and can improve students' self-directed learning toward a goal, it promotes a constructivist perspective on learning (Khadimally, 2021; Mitry, 2021). Promoting the availability of educational possibilities, enabling individual development, offering instantaneous suggestions, acquiring at any time and place, bridging the gap between formal and informal learning, lowering barriers to education in remote areas, supporting students with disabilities, enhancing communication, and being cost-effective are just a few of the opportunities and challenges that mobile learning brings.

The four English language proficiency areas speaking, writing, listening, and reading are all important language skills that need to be learned (Newton et al., 2018). To correctly and successfully interact with people, language learners need to be able to perceive and produce spoken language. These four skills are all so closely related to each other that a deficiency in one will directly affect the others. While the ability to read, write, listen, and talk are all valuable, speaking is usually more significant than the other skills because speaking or, to put it another way, communication occurs often in both formal and informal situations in daily life (Toro et al., 2019; Ting et al., 2017). Speaking proficiency is equally important as other skills that need to be developed for target language learners to communicate

* Corresponding Author

better. The main goal of this study is to clarify how mobile learning apps, interactive courses, and immersive online resources affect the growth of English language proficiency. Using a cross-sectional methodology, the study encompasses a heterogeneous sample of students from different educational levels, age groups, and socioeconomic backgrounds. The goal of this thorough sampling approach is to offer a full picture of how mobile learning interventions work for various learner profiles.

Additionally, the study breaks new ground by examining the complex factors that support successful mobile-based language acquisition. Some factors are being studied, including the function of gamification, personalized learning paths, instantaneous feedback systems, and the use of multimedia components in mobile applications. These components show great promise for developing and perfecting English-speaking abilities in addition to adding to the learning experience's depth. This study's knowledge of the modern socio-cultural environment that influences learning preferences and behaviours is intricately woven throughout. Since mobile devices are so widely used, they are incomparably accessible and flexible for learning, regardless of location. Consequently, comprehending the relationship between these technological advantages and the improvement of English language competency via speech is essential for creating pedagogical interventions that are effective. This work is important in ways that go beyond scholarly research. Being able to communicate effectively in the English language has a significant impact on people's ability to pursue further education, progress in their careers, and move up the socioeconomic ladder in an increasingly linked world. Therefore, it is critical to identify the processes by which mobile education might improve English-speaking proficiency to develop inclusive educational practices and an internationally competitive workforce. For educators, policymakers, and other stakeholders interested in maximizing the transformative effect of technology-enhanced language learning, the study intends to provide nuanced insights and useful implications as it delves into the complex web of mobile learning and its effects on English verbal proficiency. Using empirical data and thorough analysis, this study aims to make a significant contribution to the current conversation on mobile instructional interventions and how they shape language skills in the modern educational environment.

Hypothesis

H₁0: There is no significant relationship between Mobile Learning and English-speaking skills enhancement.

H₁a: Increased engagement with Mobile Learning positively correlates with enhanced English-speaking skills.

H₂0: The impact of Mobile Learning on English Speaking Skills remains consistent across different levels of Prior English Proficiency.

H₂a: Prior English Proficiency moderates the relationship between Mobile Learning and English-speaking skills enhancement.

H₃0: The effect of Mobile Learning on English Speaking Skills is not mediated by the Frequency of Mobile Learning Engagement.

H₃a: Frequency of Mobile Learning Engagement mediates the relationship between Mobile Learning and English-speaking skills enhancement.

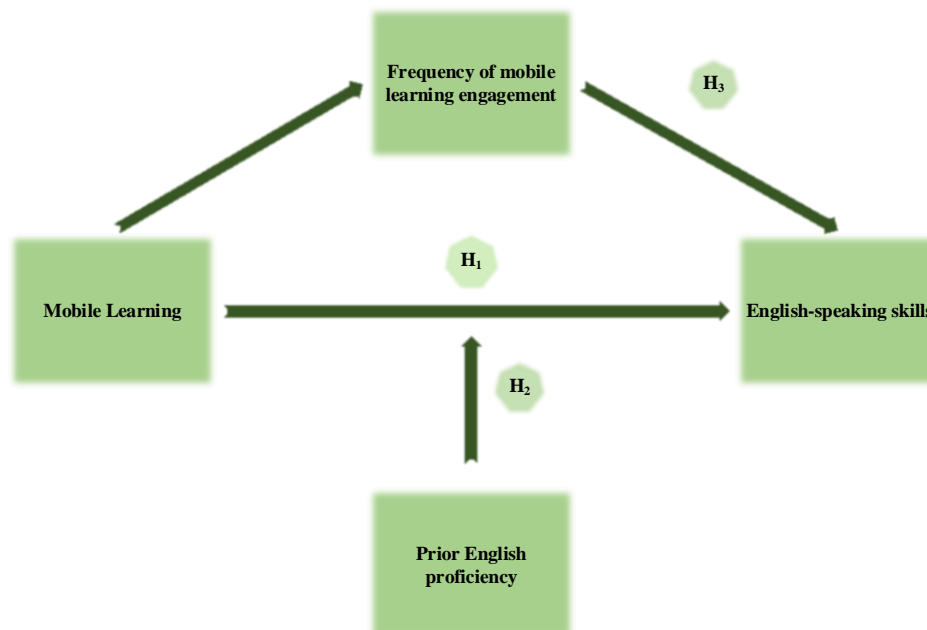


Figure 1. Flow-Diagram of Proposed Hypothesis

II. LITERATURE REVIEW

Klimova (2019) demonstrated that the integration of smartphone app learning into constant assessment effectively helps foreign language learning and improves university pupil achievement. An in-depth examination of the demands of the pupils was used as the approach, and the information was statistically processed. The findings demonstrated the effectiveness of foreign language education in improving university pupil achievement, especially when it comes to reviewing and learning English phrases and words on handheld devices. Zhonggen et al. (2019) determined that learning via mobile platforms resulted in satisfaction with learning, lower students' intellectual burdens in EFL classrooms, and a notable improvement in EFL. To get accurate and credible data, the research used a quasi-experimental combination of methods to assess the efficacy of the mobile educational platform. Mobile-supported PA exercises have to make use of Immediate Response System techniques to improve learners' speech in EFL. The usefulness of this strategy in the setting of a university English language program was assessed by an indirect experiment.

Hao et al. (2019) investigated the efficacy of a smartphone application (app) created under the guise of an intellectual apprenticeship to help learners who are having trouble learning EFL. Ten seventh-grade pupils who thrived well below the standard in their EFL classroom were included in the study. The study queries focused on how the app changed users' perspectives concerning learning, how students perceived the app's layout, and how their educational results changed as a result of using it. Data were gathered through questionnaires, tests, evaluations, and conversations. Khan et al. (2021) examined students' opinions of the WhatsApp app in English language learning and their plans to utilize it in the future. Over six weeks, 32 EFL students were subjected to vocabulary learning through the usage of the WhatsApp app and collected their responsive data through questionnaires and semi-structured interviews. Ghorbani and Ebadi (2020) explained the findings of a mixed methods study that looked into how teacher feedback affected the verbal advancement of EFL learners in mobile-assisted language learning (MALL) by a quasi-experimental study involving 40 female EFL learners who were randomly selected from online messaging groups on Telegram for English learning. The experimental group's participants were divided into 15 chat groups, each consisting of two individuals who were at the identical degree of linguistic competence as the educator, based on the results of a pre-test administered using Dialang, a free online language proficiency tool.

Bakar et al. (2019) examined how well project-based learning (PjBL) exercises worked as an instructional tool to help Malaysian English language learners become more proficient communicators orally. The strategy consisted of eight PjBL activities that were the focus of twelve weeks of classes delivered using the PjBL teaching methodology. Speaking and listening exams that were given as pre-and post-tests, as well as a student questionnaire that was given after the research, were used to gather data. The results showed that the learners' total oral communication skills had significantly improved, and they also had a positive opinion of PjBL. Wulandari (2019) examined the possibility of an association between Instagram Vlogs and improved speaking skills among EFLs and also looked at how students felt about using Instagram Vlogs in speaking classes. Pre- and post-tests were used to gauge the progress in the EFL learners' communication skills to ascertain the effect of the Instagram Vlog and showed that adding Instagram Vlogs to a beginning speaking course enhanced the students' speaking abilities in terms of vocabulary, grammar, pronunciation, fluency, and overall target language usage. Saed et al. (2021) investigated the efficacy of YouTube videos in imparting speech to Jordanian students taking EFL. YouTube videos were used to teach communication abilities to the experimental population, whereas the conventional method was used for the control group. The IELTS speaking band descriptors, which comprise four primary categories—fluency and continuity, verbal asset, grammatical reach and correctness, and pronunciation—were used to grade the respondent's progress.

Hamad et al. (2019) indicated that employing the Listening Audio Tracks Imitation (YATI) strategy has an advantageous effect on the efficacy of EFL learners' communication abilities, proficiency, and pronunciation. The study employed a qualitative approach to demonstrate the efficacy of utilizing YouTube videos and YATI as pedagogical tools for instructing the English language in educational settings. Bawanti and Arifani (2021) investigated the effects of using the Zoom app on smartphones by looking at how learners felt about their ability to communicate and how they behaved when taking classes online. This study employed a survey strategy and gathered data by providing students with 12 questionnaire items using a Google form. Reitz et al. (2019) provided a unique approach to teaching spoken language skills by integrating the technique of acquiring EFL into a general 3D cooperative virtual reality (VR) game. VR made it possible to simulate real-world scenarios, resulting in training settings that are both cozy and realistic. The game's material may be modified to meet the specifications of students or fit certain curricula and rely on the globally recognized Graded Examination in Spoken English (GESE) Trinity Exam. Chen and Hsu (2020) examined the efficacy of pupil English understanding, pupil gameplay participation, and autonomy in learning when utilizing a mobile English learning application that uses virtual reality games from an intellectual and behavioral standpoint. Ghonivita et al. (2021) explained how contextual teaching and learning (CTL) utilizing online learning helped pupils develop their vocabulary and listening skills and found out how this improved student performance. Using classroom action research as a tool, the study employed a qualitative research approach.

III. RESEARCH METHODOLOGY

We used Google Forms with a mono-quantitative approach and an online poll to collect primary data. The survey, consisting of 29 questionnaires, aimed to ascertain the ways in which mobile learning improves English-speaking

abilities and the impact that prior English proficiency and frequency of mobile involvement had on these activities. The concepts outlined in the literature study, together with several other theoretical ideas related to mobile English language acquisition, formed the basis for the survey's question format. The increase in English-speaking abilities specific to verbal competence is examined as an independent variable in this study, along with the interaction between mobile learning techniques and usage as dependent factors. The study design was cross-sectional, quantitative, mono-method, and deductive to facilitate statistical analysis of the data and precise control of variables over a shorter time range. The choice of Google Forms as the questionnaire platform was based on security and regulatory requirements. The researcher was able to pseudonymize the participant data thanks to active directory restrictions. Cronbach's Alpha test is used to calculate correlations between variables: The stronger the relationship, the more valid the data (Heale & Twycross, 2015). In quantitative research, this calculation is a frequently used reliability test that performs particularly well with Likert scales. Following data collection, t-tests—a two-sample statistical technique that presupposes unequal variances—were used to analyze the data in more detail. The t-test, an inferential statistic, was used to determine if the results from the two groups differed significantly.

IV. RESULTS

A. Sociodemographic Information

The distribution of participants by age, gender, educational attainment, native language, residence location, access to technology, prior English language learning experience, and frequency of mobile usage is shown in Table 1. The results show that 43.4 percent of participants are between the ages of 26 and 35, and 34% are between the ages of 36 and 45. In terms of gender, there is a minor skewed distribution with slightly more men (52.6%) than females (47.4%). When it comes to education, the majority have a bachelor's degree (42.9%), while high school grads are next, with 38.9%. Remarkably, just 11.7% of participants use English as their first language, suggesting that participants come from a variety of linguistic backgrounds. In addition, the data shows that a significant majority of people live in suburban regions (58.2%), as opposed to rural areas (23.2%) and urban areas (18.6%). The majority of participants (55.8%) have access to technology, especially smartphones. Internet access and computer/laptop ownership come in second and third, respectively, at 22.5% and 21.7%. There is variation in prior English learning experiences: a sizeable fraction has formal schooling (48.5%) and a sizeable part is self-taught (17.1%). Furthermore, according to the frequency of mobile usage, a significant percentage (52.3%) of users spend 2-4 hours a day on their smartphones. Figure 2 highlights the heterogeneous demographic makeup of research participants, encompassing a range of ages, educational attainment, language distinctions, and technical proficiency.

TABLE 1
SOCIODEMOGRAPHIC INFORMATION OF RESPONDED PARTICIPANTS

| S. No | Demographic factors | Frequency (%) | Variance | Skewness | Kurtosis | |
|-------|--------------------------------------|---------------------------|----------|----------|----------|--------|
| 1 | Age | 18-25 years | 10.3 | 0.703 | 0.156 | -0.564 |
| | | 26-35 years | 43.4 | | | |
| | | 36-45 years | 34.0 | | | |
| | | 46+ years | 12.3 | | | |
| 2 | Gender | Male | 52.6 | 0.250 | 0.105 | -1.995 |
| | | Female | 47.4 | | | |
| 3 | Education level | High school | 38.9 | 0.720 | 0.854 | 0.183 |
| | | Bachelor's degree | 42.9 | | | |
| | | Master's degree | 12.5 | | | |
| | | Doctorate | 5.7 | | | |
| 4 | Native language | English | 11.7 | 0.740 | 0.046 | -0.644 |
| | | Hindi | 39.2 | | | |
| | | Arabic | 36.3 | | | |
| | | Other | 12.8 | | | |
| 5 | Residential area | Urban | 18.6 | 0.417 | -0.043 | -0.600 |
| | | Suburban | 58.2 | | | |
| | | Rural | 23.2 | | | |
| 6 | Access to technology | Owns a smartphone | 55.8 | 0.660 | 0.700 | -1.131 |
| | | Access to the internet | 22.5 | | | |
| | | Access to computer/laptop | 21.7 | | | |
| 7 | Previous English learning experience | Formal education | 48.5 | 1.325 | 0.603 | -1.168 |
| | | Self-taught | 17.1 | | | |
| | | English language courses | 18.0 | | | |
| | | No formal experience | 16.5 | | | |
| 8 | Frequency of mobile daily usage | Less than an hour per day | 17.7 | 0.908 | -0.560 | -0.615 |
| | | 1-2 hours per day | 13.2 | | | |
| | | 2-4 hours per day | 52.3 | | | |
| | | More than 4 hours per day | 16.8 | | | |

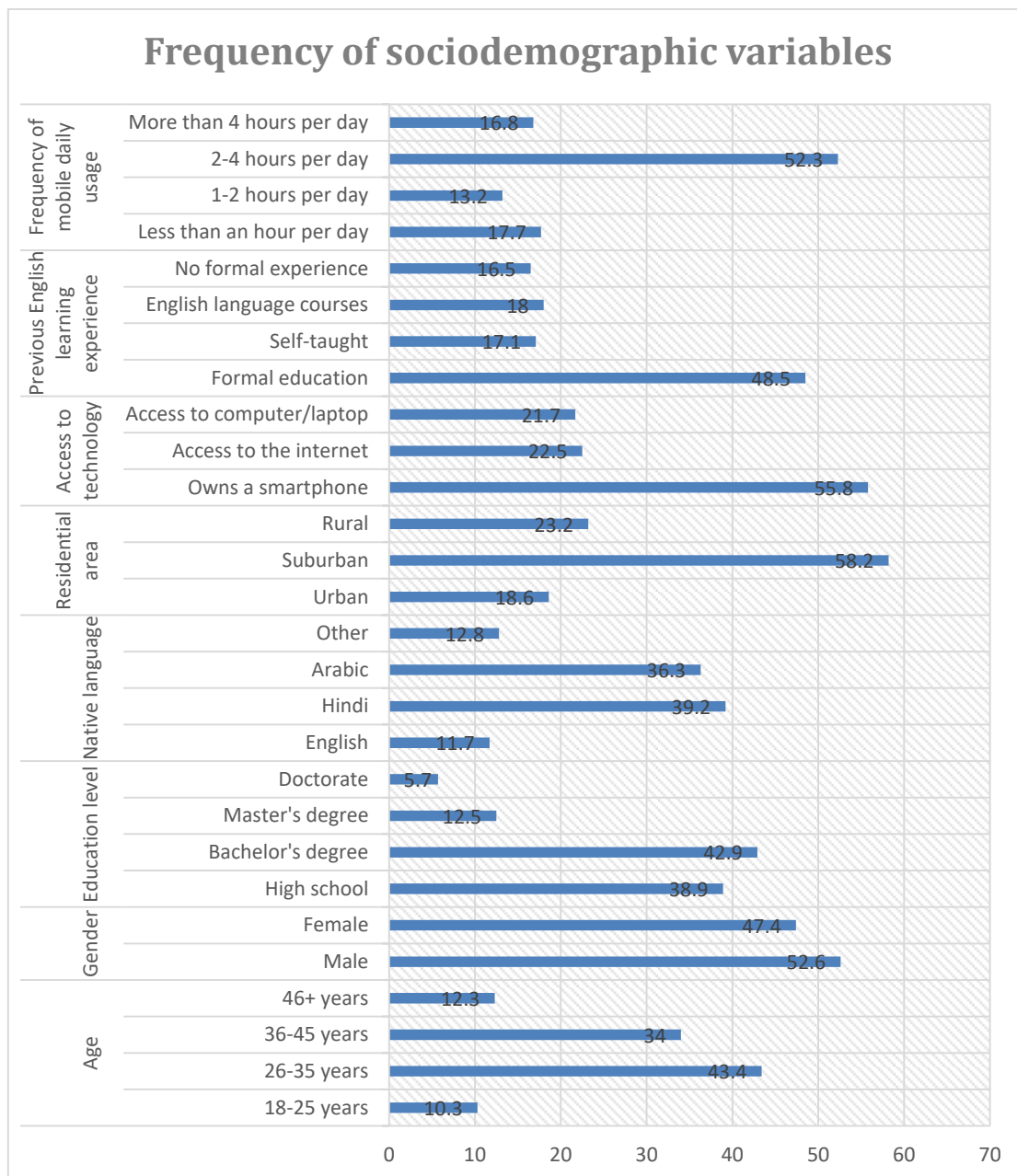


Figure 2. Bar Chart Showing the Frequency of Different Sociodemographic Variables

B. Perception of Respondents About the Influence of Mobile Learning on English Verbal Proficiency

The influence of mobile learning on enhancing English-speaking abilities across a range of factors is reported by respondents in Table 2. The average ratings, which hover around a 4 out of 5, show that people have an overall good attitude towards using mobile learning for English practice. The majority of the skewness values are negative, pointing to a distribution that leans somewhat left and favorably toward views. The kurtosis values show a significant peak and a somewhat normal distribution; they are often around 1 or slightly above. The ease and efficacy of mobile learning for English-speaking respondents were highly agreed upon by the respondents. They prefer it over conventional approaches because they find it interesting, approachable, and appropriate for their everyday activities. The mean ratings for English speaking, which average about a 4 out of 5, show that participants typically feel well about their ability to have a conversation. The distribution appears to be slightly left-leaning, with a preponderance of negative skewness values, suggesting a bias towards positive replies. In the meanwhile, a modest amount of peak is shown by the kurtosis values, which range from 1.6 to 2.2, suggesting a distribution that is somewhat more peaked than a normal curve. The respondents feel confident in their ability to communicate in English, are at ease expressing themselves in a variety of settings, and believe that their skills are getting better. Although they believe they can speak rather fluently, carry on discussions, and express themselves logically most of the time, it is acknowledged that there may occasionally be difficulties keeping up the pace and flow of English talks.

Before using mobile learning resources, respondents' assessments of their English ability suggest mean scores above 3.9 out of 5, which show a generally favorable self-assessment of their pre-existing English abilities. A modest leftward bias in the distribution is shown by the skewness values, which are primarily negative and show a trend towards positive ratings. The distribution is depicted as somewhat more peaked than a normal curve by the kurtosis values, which range from 1 to 2.2. The respondents were confident in their pre-mobile English learning abilities in some areas, such as comprehension of spoken English, writing ability, ease of conversation, grammar, vocabulary, and reading comprehension. Furthermore, all respondents agree that having previously spoken and understood English gave them a solid foundation and an advantage while using and profiting from mobile learning tools. It suggests a perceived synergy between their past knowledge and the efficacy of mobile learning interventions that they felt their prior English abilities had a favorable impact on their experience using mobile platforms. Regarding how often and consistently respondents engage in mobile learning, their attitudes and behaviors indicate that they are typically quite committed to using these frequent opportunities to practice speaking English more fluently. The distribution is slightly left-leaning, with a tendency towards positive replies, as shown by the primarily negative skewness values. The distribution appears to be slightly more peaked than a normal curve, as indicated by the moderate degree of peak indicated by the kurtosis values, which range from 1.2 to 1.8. The participants exhibit a persistent commitment to mobile learning, as seen by their extensive usage of these applications, near-daily participation, and allocation of dedicated time slots for these tasks. They have a great dedication to consistency, seldom skipping days without using mobile platforms for English-speaking practice. Setting constant involvement as a top priority reveals a strong emphasis on the value and efficacy of mobile learning in improving their English-speaking skills.

TABLE 2
MEAN SCORE OF RESPONDENTS FOR DIFFERENT QUESTIONNAIRES BASED ON DIFFERENT VARIABLES

| Mobile Learning (Usage, methods, platforms) | The mean score of the respondents | Skewness | Kurtosis |
|---|-----------------------------------|----------|----------|
| Mobile learning activities help improve my English-speaking skills. | 4.00±1.01 | -1.281 | 1.162 |
| I find mobile learning apps/methods engaging for improving my English-speaking ability. | 4.09±0.88 | -1.187 | 1.108 |
| Mobile learning enhances my confidence in speaking English. | 4.03±0.92 | -1.340 | 1.705 |
| I find it easy to access English learning resources through mobile devices. | 4.06±0.87 | -1.238 | 1.568 |
| Mobile learning allows me to practice English speaking anytime, anywhere. | 4.10±0.86 | -1.208 | 1.264 |
| Using mobile devices for English practice fits well with my daily routine. | 4.08±0.91 | -1.409 | 2.062 |
| I prefer using mobile apps/methods for learning English speaking over traditional methods. | 4.02±0.94 | -1.317 | 1.564 |
| I am satisfied with the variety of mobile learning resources available for English-speaking practice. | 4.04±0.89 | -1.187 | 1.232 |
| Mobile learning makes English speaking practice more enjoyable for me. | 3.99±0.85 | -1.237 | 1.582 |
| English Speaking Skills (Verbal Proficiency) | | | |
| I feel confident expressing myself in English conversationally. | 4.07±0.93 | -1.347 | 1.682 |
| I believe my English-speaking skills have improved recently. | 4.05±0.94 | -1.343 | 1.660 |
| I am comfortable speaking English in different situations. | 4.00±0.92 | -1.363 | 1.890 |
| I can express my thoughts smoothly and coherently in English. | 4.05±0.86 | -1.317 | 1.968 |
| I find it easy to maintain a conversation in English without frequent pauses. | 3.99±0.90 | -1.411 | 2.170 |
| I speak English with a good flow and rhythm. | 4.00±0.91 | -1.390 | 2.047 |
| Prior English Proficiency (level before mobile learning intervention) | | | |
| My ability to understand spoken English was strong before using mobile learning tools. | 3.98±0.89 | -1.143 | 1.066 |
| I felt confident in my written English skills before utilizing mobile learning apps. | 4.05±0.93 | -1.310 | 1.578 |
| Before engaging with mobile learning, I could comfortably express myself in English conversationally. | 3.97±0.94 | -1.328 | 1.688 |
| My grasp of English grammar and vocabulary was proficient before starting mobile learning activities. | 4.01±0.87 | -1.338 | 2.026 |
| I had a high level of comfort in reading English texts before using mobile learning resources. | 3.98±0.91 | -1.432 | 2.222 |
| I believe my pre-existing English proficiency positively influenced my mobile learning experience. | 3.97±0.92 | -1.317 | 1.706 |
| My prior English skills were foundational in understanding and utilizing English-language mobile learning materials. | 4.09±0.87 | -1.176 | 1.192 |
| I perceived myself as having an advantage in learning through mobile platforms due to my pre-established English abilities. | 4.09±0.89 | -1.383 | 2.051 |
| Frequency of Mobile Learning Engagement (time spent, consistency) | | | |
| I spend a significant amount of time on mobile apps for English-speaking practice. | 4.02±0.96 | -1.263 | 1.248 |
| I engage in mobile learning for English speaking almost every day. | 4.01±0.91 | -1.191 | 1.203 |
| I allocate specific periods in my schedule for mobile learning activities. | 3.97±0.86 | -1.213 | 1.521 |
| I am committed to maintaining regularity in using mobile devices for English-speaking practice. | 4.06±0.91 | -1.344 | 1.820 |
| I rarely miss a day without engaging in some form of English-speaking practice through mobile learning. | 4.02±0.97 | -1.269 | 1.271 |
| I prioritize consistent engagement with mobile learning to improve my English-speaking skills. | 3.97±0.93 | -1.298 | 1.595 |

C. Relationship Between the Assessed Factors

Every variable shows statistically significant mean differences, indicating that different average values for these variables exist throughout the population under examination (Table 3). In particular, the confidence intervals (ranging from 3.9540 to 4.0979) and mean differences (ranging from 4.00667 to 4.04684) for each variable verify that these differences are consistently significant. Table 4 has correlation values ranging from 0.789 to 0.875, which suggest moderate to high positive associations. In particular, FMLE (Frequency of Mobile Learning Engagement) has a reasonably good positive association ($r = 0.789-0.875$) with all other factors. Furthermore, there are moderate to high positive correlations between ML, ESS, and PEP; their correlation values range from 0.814 to 0.868. The frequency of mobile learning engagement itself, prior English proficiency, and English-speaking skills all appear to be positively correlated with higher levels of engagement in mobile learning. This shows that people's English-speaking abilities, competency, and frequency of engagement tend to improve as they participate in more mobile learning activities.

TABLE 3
T-TEST

| | Test Value = 0 | | | | | |
|------|----------------|-----|-----------------|-----------------|---|--------|
| | t | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference | |
| | | | | | Lower | Upper |
| ML | 155.649 | 649 | 0.000 | 4.04684 | 3.9958 | 4.0979 |
| ESS | 149.287 | 649 | 0.000 | 4.02692 | 3.9740 | 4.0799 |
| PEP | 158.687 | 649 | 0.000 | 4.01654 | 3.9668 | 4.0662 |
| FMLE | 149.452 | 649 | 0.000 | 4.00667 | 3.9540 | 4.0593 |

“ML- Mobile Learning; ESS- English Speaking Skills; PEP- Prior English Proficiency; FMLE- Frequency of Mobile Learning engagement”

TABLE 4
CORRELATION BETWEEN THE VARIABLES

| | ML | ESS | PEP | FMLE |
|------|--------|--------|--------|------|
| ML | 1 | | | |
| ESS | .815** | 1 | | |
| PEP | .868** | .814** | 1 | |
| FMLE | .839** | .875** | .789** | 1 |

D. Enhancement of English-Speaking Skills by Mobile Learning

The variation in English-speaking skills that may be explained by mobile learning is shown by the Regression Sum of Squares (203.948) (Table 5). Furthermore, the model appears to be statistically significant based on the high F-statistic (1283.112). Strong evidence opposing the null hypothesis H_{10} is shown by the p-value (Sig. = .000), which is less than the usual significance level of 0.05. As a result, we reject the null hypothesis H_{10} , which states that there is no meaningful connection between improving English-speaking skills and mobile learning. Rather, we choose the alternative hypothesis H_{1a} , which states that improved English-speaking skills positively correlate with more involvement with mobile learning.

TABLE 5
REGRESSION TABLE I

| Model | R | Sum of Squares | Mean Square | F | Durbin-Watson | Sig. | |
|-------|------------|--------------------|-------------|---------|---------------|-------|-------------------|
| 1 | Regression | 0.815 ^a | 203.948 | 203.948 | 1283.112 | 1.773 | .000 ^b |

E. Influence of Prior English Proficiency on the Enhancement of English-Speaking Skills

The influence of mobile learning on English speaking skills is moderated by prior English proficiency, as seen in Tables 6, 7, and 8. Understanding the interplay between Prior English Proficiency, Mobile Learning, and English-speaking skills is largely dependent on the findings. The interaction coefficient is statistically significant ($p < 0.05$), indicating that prior English proficiency levels do have an impact on the link between mobile learning and English-speaking skills. This provides credence to the alternative hypothesis H_{2a} , which holds that the association between mobile learning and improving English-speaking skills is moderated by prior English proficiency. Furthermore, the examination of conditional effects shows that the impact of mobile learning on English Speaking Skills varies with Prior English Proficiency. In particular, as PEP rises from 3.6250 to 4.5000, the influence of mobile learning on speaking English becomes less significant, indicating that the effect varies depending on the Prior English Proficiency level.

TABLE 6
REGRESSION TABLE II

| R | R ² | MSE | F | df1 | df2 | P |
|--------|----------------|--------|----------|-----|-----|-------|
| 0.8927 | 0.7969 | 0.0897 | 844.9456 | 3 | 646 | 0.000 |

TABLE 7
TEST OF HIGHER-ORDER INTERACTION

| R ² -change | F | df1 | df2 | P |
|------------------------|---------|-----|-----|-------|
| 0.0086 | 27.2195 | 1 | 646 | 0.000 |

TABLE 8
CONDITIONAL EFFECTS OF ENGLISH-SPEAKING SKILLS AT PRIOR ENGLISH PROFICIENCY (PEP)

| PEP | Effect | SE | t | p | LLCI | ULCI |
|-------|--------|-------|--------|-------|--------|--------|
| 3.625 | 0.296 | 0.029 | 10.028 | 0.000 | 0.2383 | 0.3543 |
| 4.250 | 0.222 | 0.034 | 6.542 | 0.000 | 0.1554 | 0.2886 |
| 4.500 | 0.192 | 0.037 | 5.183 | 0.000 | 0.1194 | 0.2651 |

F. Mediating Role of Mobile Learning Frequency on the Relationship Between Mobile Learning and English-Speaking Skills Enhancement

The findings point to evidence in favor of the alternative hypothesis H_{3a}, which holds that the association between mobile learning and improving English-speaking skills is mediated by the frequency of engagement with mobile learning (Table 9, 10). Mobile learning has a substantial ($p < 0.05$) direct influence on English-speaking skills, suggesting that it directly affects the improvement of English-speaking abilities. Furthermore, with an indirect effect size of .4512 and confidence intervals (.3576, .5558) that don't span zero, the indirect effect of mobile learning on English speaking abilities through the frequency of mobile learning engagement is also substantial (Table 11). This indicates that mobile learning influences the frequency of mobile learning engagement, which in turn affects how much of an impact it has on English speaking abilities. The results indicate that although mobile learning has a direct impact on English speaking abilities, the frequency of mobile learning engagement has a major indirect role in this effect. This demonstrates the possible mediating function, suggesting that regular participation in mobile learning activities modulates the association between improved English-speaking skills and mobile learning. The influence of mobile learning on English proficiency seems to be strengthened when people use these tools and resources more regularly. This indirect impact shows that people are more likely to have improved English-speaking skills as a result of their participation in mobile learning activities the more they participate in these activities.

TABLE 9
REGRESSION TABLE III

| R | R ² | MSE | F | df1 | df2 | P |
|--------|----------------|--------|---------|-----|-----|-------|
| 0.8552 | 0.7314 | 0.1184 | 880.814 | 2 | 647 | 0.000 |

TABLE 10
REGRESSION TABLE IV

| | Coeff | SE | t | p | LLCI | ULCI |
|---------------|--------|--------|--------|-------|-------|-------|
| Constant (ML) | 0.6216 | 0.0828 | 7.504 | 0.000 | 0.459 | 0.784 |
| ESS | 0.3345 | 0.0406 | 8.239 | 0.000 | 0.255 | 0.414 |
| FMLE | 0.5187 | 0.0408 | 12.698 | 0.000 | 0.438 | 0.599 |

TABLE 11
INDIRECT EFFECT OF MOBILE LEARNING ON ENGLISH-SPEAKING SKILLS

| Effect | Boot SE | Boot LLCI | Boot ULCI |
|--------|---------|-----------|-----------|
| 0.4512 | 0.0501 | 0.3576 | 0.5558 |

V. DISCUSSION

The majority of the participants, according to the findings of their interviews, tended to use their cell phones to study languages. One explanation for the variations in the outcomes might be the evolution of mobile technology over time, from a toy to a teaching aid. The enthusiasm for the novel component of language learning through this approach may be one of the many reasons why a group of EFL learners in this immersion program found that mobile applications had a favorable impact on their acquisition of English grammar in a short amount of time. The interview findings also demonstrated how keen the participants were to use the technique. The generally high average ratings show that there is a general acceptance of and preference for mobile learning over traditional methods when it comes to practicing English. These positive attitudes towards mobile learning are seen in these ratings. The participants attributed their confidence in speaking English to this practical and efficient platform, finding mobile learning to be interesting, approachable, and appropriate for their everyday routines.

Pre-existing English proficiency is a fundamental benefit for efficiently utilizing mobile learning technologies, as evidenced by the positive self-assessments of respondents. A symbiotic relationship is indicated by the observed correlations between the frequency of mobile learning engagement, prior English proficiency, and English-speaking abilities. More involvement improves language skills, although the effect varies depending on past proficiency levels. This moderating effect highlights the fact that although mobile learning has a broad impact, its effectiveness may vary depending on the learner's starting level of English proficiency. The findings also demonstrate the important moderating

influence that engagement frequency with mobile learning plays. This indirect effect implies that regular engagement with mobile learning activities enhances the overall impact of mobile learning on competence while also having a direct impact on English-speaking ability. The results validate the hypothesis that consistent engagement in mobile learning activities strengthens the relationship between enhanced English language proficiency and mobile platform utilization.

The regression analysis shows a strong connection between improved English-speaking skills and mobile learning. The alternative hypothesis was accepted over the null hypothesis, indicating that there is a significant relationship between the two variables and highlighting the critical role that mobile learning plays in promoting language competency. Overall, this study supports the usefulness of mobile learning for improving English communication abilities, particularly when it is applied regularly. To optimize the effects of mobile learning on language acquisition, it underscores the necessity of customized techniques that take learners' past skill levels into account and emphasizes the importance of regular interaction. These results support the use of mobile platforms for language learning and offer suggestions for maximizing their effectiveness for students looking to improve their English.

VI. CONCLUSION

Optimizing students' outputs toward learning objectives presents both advantages and problems when it comes to mobile-aided learning, particularly in language acquisition. With mobile learning, we can easily manage learning experiences while on the go and have more flexibility in changing the way we approach learning than we have in the past. This study sheds light on the revolutionary potential of mobile learning for improving English language proficiency. The substantial body of data highlights the significant role that consistent utilization of mobile platforms plays in enhancing language proficiency. The results highlight how past proficiency levels, engagement frequency, and the direct effects of mobile learning on language abilities interact in a complex way. Comprehending these dynamics emphasizes how customized methods and ongoing engagement with mobile learning are crucial to optimizing its efficacy in improving English-speaking abilities. Teachers and students who are properly taught and motivated, as well as curriculum and methods that have been pedagogically altered to meet the new features of the learning-based mobile resources, are necessary for the successful development of the mobile learning strategy.

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Kewin Anten Raj JR is a research scholar, doing research in the area of English language teaching at the Vellore Institute of Technology, Vellore. He served as an assistant professor in the English department for two years and the specific area of teaching is ELT and General English. He published two non-Scopus papers.

Anu Baisel is an Assistant Professor who teaches Communication and Creative Writing at the Vellore Institute of Technology, Vellore. Dynamic and result oriented teacher committed to inculcating a passion for learning, creating multicultural awareness through teaching the fundamentals of the English language. A strong talent to develop and implement creativity, hands-on-curriculum that reaches every student's learning style and ability, empowering students to succeed and realize their individual goals. Language is his key skill, which enables him to achieve his potential through communication. Honesty, hard work and self-confidence are the vital factors, which helped him to reach the qualifications. As far as his qualification is concerned, he has done Master of Arts (M.A) in English, Bachelor of Education (B.Ed) in English, Master of Philosophy (M.Phil) in English and Doctor of Philosophy (Ph.D) in English. He is also certified as International trainer by IIPE, Canada. He has Seven years of teaching and research experience at VIT, Vellore.