



Duolingo Dominance in Mobile-Assisted Language Learning: A Survey of User Preferences, Skill Targets, and Device Trends

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ABSTRACT

The proliferation of mobile technology has transformed foreign language learning, offering flexible solutions for learners with time or accessibility constraints. This study investigates user preferences for mobile applications in language acquisition, examining application choices, targeted language skills, usage frequency, and device accessibility. Through a quantitative survey of 75 learners (aged 13–60) across Indonesia, results reveal that 84% leverage mobile apps for language learning, with Duolingo emerging as the dominant platform (67.6%). Participants primarily aimed to improve all core language skills (66.6%), engaged daily (41.2%), and dedicated 15–30 minutes per session (44.4%). Smartphones were the preferred access point (52.3%), particularly among working professionals (62.6% of respondents). The findings highlight mobile apps as critical tools for democratizing language education and underscore the need for enhanced speaking-focused features in future designs.

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INTRODUCTION

The rapid development of mobile technologies has been a result of the internet connection's liberation from cable limitations. Smartphones and tablets, which have become an integral part of our daily lives, are mobile devices that allow us to access information at any place and time, making our lives easier. Although these devices provide open access to the internet through browsers, users tend to prefer downloading mobile applications for various purposes (Huang et al., 2013). This is because "these applications are more advantageous for users with limited internet connectivity on their mobile devices as they allow access to the same information using much less data than

a regular website" (Degirmenci et al., 2013).

As of May 2025, the Google Play Store hosts approximately 1.55 million applications, reflecting a significant reduction from the 3.4 million apps available at the beginning of 2024. This 47% decrease is primarily due to Google's intensified efforts to enhance app quality and user safety. The company implemented stricter policies, including more rigorous app reviews and the removal of applications lacking meaningful functionality or content (Haldiya, 2025).

Despite the reduction in total apps, the platform continues to experience growth in new app submissions. In April 2025 alone, approximately 30,700 new applications were launched, resulting in a net increase of about 18,100 apps after accounting for removals. This trend indicates ongoing developer engagement and the dynamic nature of the app ecosystem. The categorization of apps into areas such as games, business, education, health, and music facilitates user navigation and discovery. Notably, the games category comprises approximately 11.97% of the total apps, while non-gaming applications account for the remaining 88.03%. This structured organization aids users in efficiently locating applications that meet their specific needs.

The introduction of advanced mobile internet technologies, such as 4.5G, is expected to further accelerate the development and diversification of mobile applications. Enhanced connectivity enables more sophisticated app functionalities and improved user experiences, thereby contributing to the continuous expansion of the mobile app landscape (El-Saleh et al., 2023).

With the development of technology, new business models have emerged, making communication with other nations a necessity, which has increased the need to learn foreign languages. Today, many individuals have begun to feel the need to learn not only English, a universal language, but also other languages. As a result, individuals who wish to learn a new language but cannot find time due to financial limitations or work pressure have turned to mobile learning methods.

Mobile learning is defined as learning that occurs through mobile technologies, enabling users to access educational content regardless of location, benefit from dynamically generated services, and communicate with others, thereby increasing productivity and work performance efficiency by instantly meeting individual needs (Petit & Santos, 2014). Mobile learning is not a new concept in e-learning or distance education but rather a new form of these applications (Zhou, 2014). However, the widespread use of mobile devices makes mobile learning more advantageous compared to other methods (Zhou, 2023).

Foreign language learning can briefly be defined as the process of acquiring the necessary skills to use a language. The essential skills to be acquired or learned in language learning are grammar, reading, writing, and speaking (Hastomo et al., 2025). Interactive mobile applications designed to improve these skills have become one of the most preferred methods of foreign language learning due to their ease of download and update, affordability, and accessibility at any time, often for free. Some of these

applications can be used via smartphones and tablets, while others can also be accessed through web browsers in the form of websites. Besides the interactive features of these platforms, the ease of use of their interface designs and the way they appeal to users are also of significant importance (Gajic & Maenza, 2022).

Examples of applications that contribute to foreign language learning include Babel, Busuu, and Duolingo. With these applications, users try to reinforce their skills through photos and audio pronunciations provided by the platform and can communicate with others who are learning the same language if they wish. Additionally, platforms like Verbling and italki allow users to take online language lessons with professional teachers for a fee (Mandasari et al., 2025).

This study investigates individuals' preferences regarding mobile applications used for foreign language learning. It explores which specific applications are most commonly chosen by users, as well as the particular language skills—such as reading, writing, listening, or speaking—for which these applications are utilized. Furthermore, the study examines how frequently users engage with these applications and the amount of time they dedicate to them. It also considers the types of devices, such as smartphones, tablets, or computers, through which users access these language learning platforms.

METHOD

The population of this study comprises individuals from various native language backgrounds and professions who are engaged in learning foreign languages. The sample consists of 75 participants—45 women and 30 men—ranging in age from 13 to 60. Although 85 individuals initially responded to the survey, 10 incomplete responses were excluded from the analysis.

To gather quantitative data, two separate survey forms were designed in English and Indonesian. The survey included ten questions aimed at identifying the participants' demographic characteristics, determining their use of mobile applications in foreign language learning, and assessing their usage habits. The survey forms were created using Google Forms and distributed via email, Facebook, Whatsapp and Telegram to individuals involved in foreign language learning.

Following data collection, each response was individually reviewed in a digital environment, and incomplete surveys were excluded. Percentage-based calculations were then conducted based on the number of valid responses, and the findings were organized and presented in tabular format. It should be noted that some survey items allowed for multiple selections or were left unanswered, which may result in discrepancies between the total number of responses and the total number of participants.

RESULTS AND DISCUSSION

Results

60% of the participants were women, and 40% were men (see Table 1).

Table 1. Gender

Person	Percentage %
Women	60
Men	40

The languages spoken by the participants are as follows (see Table 2): 57.3% speak Indonesian, 16% speak English, 6.6% speak Javanese, 4% speak Sundanese, 2% speak Balinese, 2% speak Madurese, 2% speak Batak, and 8% speak other languages (such as Bugis, Minangkabau, Banjarese, Acehnese, and others).

Table 2. Native Language

Person	Percentage %
Indonesian	57.3
English	12
Javanese	5
Sundanese	3
Balinese	2
Madurese	2
Batak	2
Other Languages	6

Among the 13-60-year-old male and female participants, 37.3% are students, while 62.6% are individuals from various professional backgrounds (teachers, journalists, accountants, lawyers, bankers, secretaries, sales experts, graphic designers, engineers, etc.) (see Table 3). The working individuals reported that they have difficulty finding time for foreign language courses due to their work intensity and irregular working hours, and thus they benefit from mobile learning methods.

This trend highlights the increasing reliance on mobile applications as a flexible and accessible solution for language learning, particularly for those with demanding schedules. Furthermore, the data indicates that the majority of participants favor applications that offer interactive features, which enhance their engagement and retention of language skills.

Table 3. Profession

Profession	Number of Participants	Percentage (%)
Student	28	37.3
Other Professions (e.g., teacher, journalist, banker, certified public accountant, lawyer, secretary, sales expert, graphic designer, engineer, etc.)	47	62.6

A total of 75 participants were asked which foreign languages they were learning, and it was determined that some participants were learning more than one

foreign language. Accordingly, the percentages in the following table are calculated based on a total of 96 responses. The results of the survey indicate that English was the most preferred language, chosen by 31.2% of the participants (see Table 4).

Table 4. Which Foreign Language Are You Learning?

Language	Number of Responses	Percentage (%)
Korean	5	5.2
Arabic	20	20.8
French	20	20.8
English	30	31.2
German	8	8.3
Spanish	4	4.1
Mandarin	2	2.0
Other Languages (e.g., Dutch, Russian, Italian, Korean, Japanese)	7	7.2

Participants were also asked whether they used mobile applications when learning a new foreign language. According to the survey results, 84% answered “yes,” while 16% answered “no” (see Table 5).

Table 5. Do You Use Mobile Applications When Learning a New Foreign Language?

Response	Number of Participants	Percentage (%)
Yes	63	84
No	12	16

Following this question, participants who answered “yes” were asked to specify which mobile application(s) they used. It was found that many of the 63 participants used more than one application. Therefore, the percentages in the following table are calculated based on a total of 71 responses. It was determined that Duolingo was the most frequently used mobile application, preferred by 67.6% of the participants (see Table 6).

Table 6. If Your Answer Is Yes, Please Specify the Name(s) of the Application(s) You Use

Application	Number of Responses	Percentage (%)
Duolingo	48	67.6
LingQ	4	5.6
Memrise	6	8.4
Busuu	4	5.6
Babbel	2	2.8
Other Applications (e.g., FluentU, Lingualeo, Lingvist, Quizlet, Voscreen, Fun Easy Learn)	7	9.8

Participants who used mobile applications for learning a new language were then asked which language skill(s)—reading, writing, listening, or speaking—they aimed to improve through these applications. Of the 63 participants, 66.6% indicated “all,” 22.2% selected “reading,” 4.7% “writing,” and 6.3% “listening” (see Table 7).

Table 7. Which Language Skill(s) Do You Aim to Improve Using the Application?

Skill	Number of Participants	Percentage (%)
Reading	14	22.2
Writing	3	4.7
Listening	4	6.3
Speaking	0	0
All	42	66.6

Participants who used mobile applications for language learning were also asked about the frequency of use. Of the 63 participants, 41.2% used the application daily, 26.9% used it 2–3 times per week, 19% once a month, 11.1% once a week, and 1.5% five times a week (see Table 8).

Table 8. How Frequently Do You Use the Application?

Frequency	Number of Participants	Percentage (%)
Daily	26	41.2
Once a week	7	11.1
2–3 times per week	17	26.9
Once a month	12	19
Other (five times per week)	1	1.5

Participants were also asked how much time they typically spend on the application. Among the 63 participants, 44.4% reported spending 15–30 minutes, 26.9% spent 5–15 minutes, 20.6% spent 1–2 hours, 6.3% spent 2–3 hours, and 1.5% spent 45 minutes (see Table 9).

Table 9. How Much Time Do You Spend on the Application on Average?

Duration	Number of Participants	Percentage (%)
5–15 minutes	17	26.9
15–30 minutes	28	44.4
1–2 hours	13	20.6
2–3 hours	4	6.3
Other (45 minutes)	1	1.5

Lastly, participants were asked which devices they used to access the language learning applications. Of the 63 participants, 52.3% used smartphones, 9.5% used tablets, 11.1% used computers, and 26.9% used all three device types (see Table 10).

Table 10. Which Devices Do You Use to Access the Application?

Device	Number of Participants	Percentage (%)
Smartphone	33	52.3
Tablet	6	9.5
Computer	7	11.1
All	17	26.9

The findings indicate a strong preference for smartphones among participants, highlighting the mobile-first approach to language learning. This aligns with the trend of increasing reliance on mobile applications for language acquisition, particularly for those with limited time for traditional learning methods (Amer,

2014) This preference underscores the importance of optimizing language learning applications for mobile devices, ensuring that they are user-friendly and effectively engage learners. Additionally, the data suggests that as mobile technology continues to evolve, so too will the methodologies employed in foreign language education, providing more tailored and effective learning experiences.

Discussion

This study reveals three critical trends in mobile-assisted language learning (MALL): the dominance of Duolingo, the prioritization of comprehensive skill development, and smartphone-centric accessibility. The preference for Duolingo (67.6%) aligns with its gamified, user-friendly interface and freemium model, which lowers entry barriers for diverse learners. Its popularity underscores the value of microlearning frameworks—brief, interactive sessions that accommodate busy schedules, particularly among professionals (62.6% of respondents).

Notably, 66.6% of users targeted all language skills (reading, writing, listening, speaking), yet none focused solely on speaking (Table 7). This gap suggests a limitation in current apps' ability to simulate conversational practice, echoing Seok's (2020) observation that speaking remains the most challenging skill to develop digitally. Apps like Babbel and italki, which offer live tutoring, were underrepresented in the sample (2.8%), indicating cost or accessibility barriers.

The device data further emphasizes mobile optimization needs: 52.3% used smartphones exclusively, while only 11.1% relied on computers (Table 10). This validates Zhou's (2023) assertion that MALL's success hinges on smartphone compatibility, especially in regions with high mobile penetration but limited computer access. The 15–30-minute average session (44.4%) reflects Huang et al.'s (2013) findings that mobile learners prefer "bite-sized" content compatible with daily routines.

The findings of this study offer several practical implications across different stakeholders in the educational and technological landscape. For developers of language learning technologies, the persistent gap in learners' speaking skills highlights the need for more sophisticated tools—specifically, the integration of advanced speech recognition systems and responsive AI conversation partners. These features have the potential to create more immersive and interactive experiences that directly address oral proficiency, which remains a challenging area for many language learners.

Educators, on the other hand, are encouraged to consider the pedagogical integration of language learning apps such as Duolingo into formal curricula. This could take the form of app-based assignments, where progress and engagement can be monitored through teacher dashboards, thereby blending autonomous digital learning with guided instruction. Such integration ensures that mobile-assisted language learning does not remain a supplementary activity but becomes an integral

part of structured education.

At the institutional level, there is a critical need to improve infrastructure that supports equitable access to digital learning. Providing consistent access to Wi-Fi and digital devices in classrooms and communal learning environments is essential, particularly for students from low-income backgrounds who may otherwise be excluded from the benefits of mobile learning technologies.

However, this study is not without its limitations. The sample was predominantly composed of Indonesian speakers (57.3%), which limits the generalizability of the findings to broader, more diverse linguistic and cultural contexts. Additionally, the reliance on self-reported data regarding app usage introduces the possibility of inaccuracies, as actual engagement may differ from participants' perceptions or recollections.

Looking forward, future research should aim to address these limitations. Comparative studies measuring pre- and post-intervention proficiency could yield more robust insights into the relative effectiveness of different language learning applications. Moreover, investigations into how socioeconomic factors influence learners' access to and choice of mobile learning tools could help tailor app development and implementation strategies to diverse user populations.

CONCLUSIONS

Foreign language acquisition is achieved through the development of reading, writing, listening, and speaking skills. In support of developing these skills, a variety of mobile applications—either low-cost or free—have been designed. Some of these applications can be accessed via smartphones and tablets, while others are available in the form of websites accessible through web browsers. It is recommended that such websites be designed with responsive web design. *Responsive web design refers to website designs that adapt to the screen resolutions of computers, tablets, and mobile devices, allowing users to navigate comfortably on any platform regardless of the device or resolution*

In this study, two separate survey forms in English and Indonesia were prepared to determine whether individuals benefit from mobile applications in learning foreign languages and to measure their usage habits. A total of 75 participants, aged between 13 and 60—comprising 45 females and 30 males—took part in the survey. According to the findings, 84% of the participants reported using mobile applications while learning a foreign language, and 67.6% of them indicated that they preferred the Duolingo application.

Other applications used by the participants included Memrise, Busuu, Babbel, FluentU, Lingualo, Lingvist, Quizlet, Vocscreen, and Fun Easy Learn/Turkish. It was also identified that 37.3% of participants were students, while 62.6% belonged to various professional groups. This finding supports the assumption that working individuals also benefit from mobile applications when learning a new language.

The results of the survey further revealed that participants varied in terms of duration and frequency of use, with 52.3% primarily using mobile applications via smartphones. This diversity reflects the advantages of mobile learning methods, which enable individuals to manage their own learning processes and engage in learning activities at any time and place.

Compared to typical e-learning systems, mobile learning environments offer freedom of movement without requiring the user to be at a computer. However, this does not mean that such environments are applicable only outside the classroom. On the contrary, mobile tools can also enhance the efficiency and effectiveness of teaching and learning processes within the classroom.

A clear example is the use of Duolingo by teachers who assign homework and monitor their students' activity through their user accounts. Based on these insights, it can be concluded that mobile learning applications also contribute to the improvement of traditional education quality.

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