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BAKALÁŘSKÁ PRÁCE

EXPLORING THE EFFECTIVENESS OF DUOLINGO IN
LEARNING KOREAN FOR A TOPIK I. TEST

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I confirm that this thesis is my own work written using solely the sources and literature properly quoted and acknowledged as works cited.

V Českých Budějovicích dne 26.7. 2024.

.....
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Anotace

Vývoj nových technologií přináší možnosti, jak se naučit cizí jazyky bez nutnosti návštěvy učeben. Tato bakalářská práce se zaměřuje na průzkum efektivity výuky korejštiny pomocí aplikace Duolingo. Cílem práce je nahlédnout do procesu osvojování druhého cizího jazyka za pomoci moderní výukové platformy, která je dostupná široké veřejnosti, a zjistit, v jakých aspektech se aplikace dokáže přiblížit k tradičním výukovým metodám, zda je dokáže zcela nahradit při přípravě na jazykové zkoušky. Práce se také zaměřuje na zkoumání problémů, které mohou nastat během osvojování jazyka a způsobů, jak je překonat. Výzkumnou část tvoří data z online dotazníku a případová studie dvou studentek filologie, které po dobu jednoho roku používaly aplikaci Duolingo k osvojení korejštiny s cílem úspěšně složit jazykový test TOPIK I. V závěru práce je shrnut výsledek testu TOPIK I. a je provedeno vyhodnocení po ročním užívání aplikace Duolingo.

Klíčová slova: Duolingo, Učení jazyků, Zkouška TOPIK I, Vzdělávací technologie, Online učení, Získávání jazykových znalostí, Mobilní výukové aplikace, Gamifikace, Výuka gramatiky, Kvantitativní analýza, Kvalitativní výzkum, Jazyková způsobilost

Abstract

New technologies have opened up new avenues for learning foreign languages outside of traditional classroom settings. This Bachelor's thesis investigates the effectiveness of learning Korean using the Duolingo application. The primary objective is to gain insight into the process of acquiring a second foreign language using a modern and publicly accessible learning platform. It also aims to determine to what extent the application can complement or potentially replace traditional teaching methods in preparation for language exams. Furthermore, the research focusses on identifying and addressing potential challenges during language learning. The research section includes an online survey and a case study of two female philology students who used the Duolingo app for one year to learn Korean to pass the TOPIK I language test. The paper concludes with a summary of the TOPIK I test results and an evaluation of the effectiveness of Duolingo after one year of usage.

Key Words: Duolingo, Language Learning, TOPIK I Test, Educational Technology, Online Learning, Language Acquisition, Mobile Learning Applications, Gamification, Grammar Instruction, Quantitative Analysis, Qualitative Research, Language Proficiency

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1 Introduction

In recent years, technological advancements have transformed the landscape of language learning, expanding the range of teaching applications available to learners. These platforms have gained widespread popularity, offering opportunities to acquire proficiency in many languages (Tao and Gao)¹. Their primary principle is that teaching platforms should empower students to begin their language-learning journeys effectively.

Despite the abundance of language learning applications, there is often a disparity between the promises of success made in advertisements and the real-world results. Common issues encountered in online language learning include a waning interest in the subject matter and a decreased motivation to persevere. Even the platform examined in this thesis acknowledges it as a significant problem, and to combat it, a motivational article has been published (Duolingo)². Nevertheless, these platforms are ingeniously designed to maintain user engagement, offering immediate feedback in colourful and gamified environments featuring animated characters instead of traditional educators.

This thesis explores the effectiveness of Duolingo, one of the most widely downloaded language-learning application, as shown in the statistic from 2023 in Figure 1 below (AppMagic)³. Therefore, it was specifically chosen as the primary application for preparing for the TOPIK I test—a standard proficiency examination provided by the Korean government. The TOPIK I test, administered three times a year, assesses language

¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9109002/>

² <https://blog.duolingo.com/sticking-with-it-tips-for-staying-motivated/>

³ www.statista.com/statistics/1239522/top-language-learning-apps-downloads/. Accessed 13 Aug. 2023.

skills and knowledge in Korean. Successful passing of the test grants a certification, a requirement for many overseas opportunities, which many students or foreigners seek to be able to apply for a scholarship or work position in Korea.

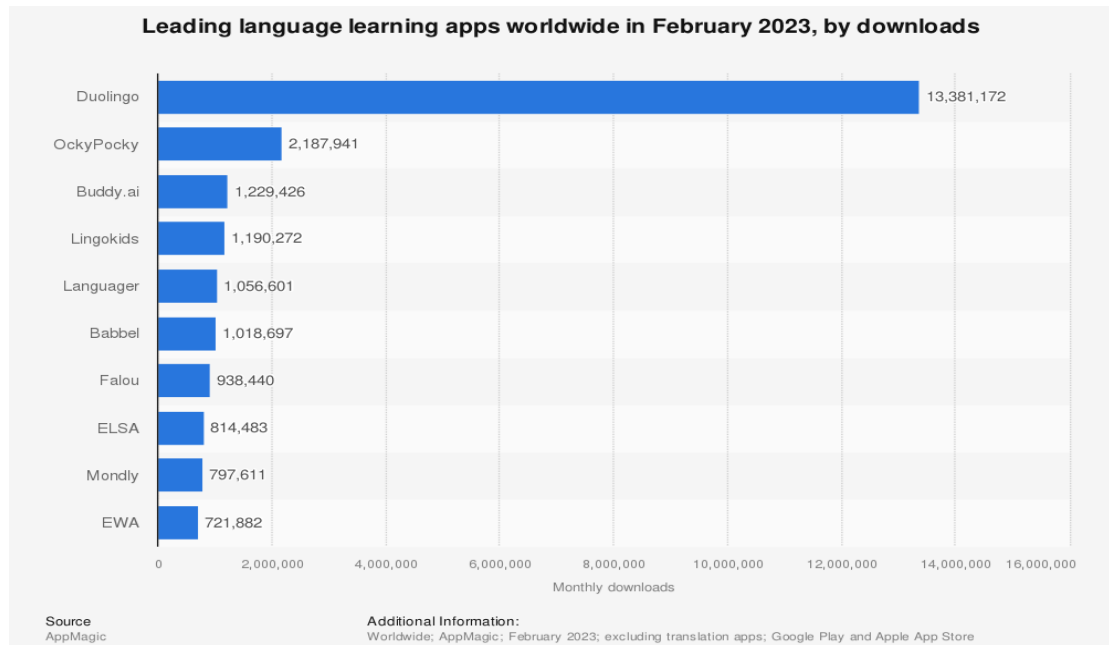


Figure 1: Statistic of Leading Language Learning Apps

With this focus in mind, this thesis aims to explore the effectiveness and complexities of learning an exotic language through the Duolingo platform and to evaluate its suitability as a resource for modern classrooms. To achieve this goal, the study employed a combination of qualitative and quantitative methods, offering an analysis of the language acquisition process and its outcomes.

Three main methods were used to collect data. The first was the collection of data from an online survey to collect data and opinions from the platform users. The second was the feedback sheets given to each of the two students participating in the case study, using a combination of field data collection from the author, who marked each step of the whole process. When collecting field notes for this thesis, the author added another layer of data for later comparison with the online data. After the collection, the inputs were

analysed and interpreted, and the findings offered a glimpse into the integration of modern technology with traditional teaching practices, illuminating the factors that influence performance during the TOPIK test.

The case study was conducted with the help of two female students from the Faculty of Arts who used the Duolingo application to prepare for the TOPIK I test. In particular, both students had no prior exposure to Korean to ensure an unbiased evaluation of Duolingo's effectiveness. This longitudinal study spanned over one year, monitoring and analysing students' progress in language learning through the Duolingo application. Data collection occurred at various intervals, allowing for the examination of language acquisition and skill development over time.

Furthermore, the study employed a comparative design, comparing the language acquisition of two students using different methods for learning Korean. One student combined Duolingo with a book course, 'Talk to Me in Korean,' to gain a deeper understanding of grammar. At the same time, the other solely relied on the Duolingo application to explore both teaching methods and limitations of the application. By contrasting these two students' progress, challenges, and results, the study aimed to provide information on Duolingo's effectiveness.

Therefore, this bachelor thesis is structured as follows: The literature review presents and addresses the gaps in using mobile applications as the primary source of knowledge. The methodology chapter outlines the whole research structure, ranging from the online survey and feedback sheets design to the mixed method used throughout the thesis. This chapter introduces the two main participants in the case study and the 113 online respondents. The following chapter focusses solely on the collected data, details the collection process, explains why they were chosen for the final version of the thesis,

and mentions the limitations of the data collection process. This smoothly transitions into the Data Analysis chapter, which deals with the results from the one-year-long case study of preparing for the TOPIK I test.

The Discussion part summarizes the key points highlighted throughout the thesis. It also mentions the less significant results that helped shape the overall thesis statement, investigating whether the Duolingo app is effective enough to prepare students for the TOPIK I examination. This is detailed and stated in the Conclusion chapter, which addresses the concrete results of the entire research process. The data gathered in this bachelor thesis can be used as a subject for further research in this area and to show how language acquisition can differ when one language is learned using two methods similar to the core principle.

1.1 Background of the Study

Popular language learning apps are used for various purposes. They offer many opportunities for target language communication; some even feature connections with native speakers through language exchange services. These apps provide authentic verbal and written material, often accompanied by reliable feedback. For easier use, they can be accessed through different platforms, including smartphones. The demand for such mobile learning applications is increasing (Lindner)⁴, especially in fields with limited educational opportunities for language learning.

⁴ Lindner, Jannik. "Mobile Learning Statistics: Latest Data & Summary - WiFiTalents."

Wifitalents.com, shorturl.at/evZ28. Accessed 1 May 2024.

Language learning apps go beyond formal education, combining widely recognised language teaching methods. Language learning apps provide a broad spectrum of possibilities for independent learners. However, as mentioned, this thesis will focus on the Duolingo application. The platform publishes regular studies on the effectiveness of other languages that are commonly preferred by learners, such as French, Portuguese, and English. Despite their efforts, the lack of such research papers on the more exotic languages has become noticeable after sorting through the study database. Nevertheless, it improved at the beginning of the year 2024. This is also why this bachelor thesis targets the Korean language, focussing on the Duolingo app to test the effectiveness of a language that is not regularly updated or revised.

This thesis will also emphasise the main challenges encountered during the language acquisition process, showcasing the features that assisted and guided the learner on their journey, culminating in the TOPIK I test to evaluate their knowledge.

1.2 Duolingo

The platform was founded in 2011 by Luis von Ahn and Severin Hacker as a free digital language learning tool. It was supposed to serve as a teaching platform for users and as a translation data bank for the platform itself for future purposes (Duolingo)⁵. Their mascot, a green cartoon owl, has become a trending theme in the language-learning world. Some criticise the platform for its gamification, yet others find this feature to be the most significant selling point, as it provides a sense of comfort and an escape from reality (Ahmad 10610-10619).

⁵ <https://university.duolingo.com/our-story-1>

1.2.1 Duolingo's Features

Language learning platforms must offer unique features to gain users' interest, as technological advancements have created diverse digital tools. Therefore, it is essential to understand the key characteristics and design principles that define Duolingo, which include the following listed (Teske 393-400):

1. **Gamification:** Duolingo uses gamification to keep learners engaged and motivated. Integrates a point system, streaks, and rewards, like a gaming experience, making language learning an enjoyable and interactive process.
2. **Immediate Feedback:** The platform provides learners with immediate feedback on their language exercises, allowing them to correct their mistakes in real-time. This instant feedback mechanism enhances the learning process.
3. **Visual and Audio Aids:** Duolingo uses a combination of text, images, and audio to reinforce language comprehension. This multimedia approach caters to different learning styles, making it accessible to a wide range of learners.
4. **Structured Curriculum:** Duolingo's curriculum is organised into sections and subunits, each focussing on different language topics. The progression through these units is designed to ensure that learners build on their knowledge incrementally.
5. **Social Interaction:** Duolingo incorporates social elements, allowing learners to connect with friends and followers, share achievements, and compete with each other, fostering a sense of community and peer support.
6. **Native Speaker Engagement:** The platform incorporates native speakers into its teaching teams to structure and design lessons, providing users with authentic language experiences.

- 7. Progress Tracking:** Users can monitor their progress through various metrics, including time spent, XP gained, lesson scores, and "The Streak," which records the number of consecutive days of language practice.

The platform offers a promising approach for language learners, potentially catering to diverse learning styles and encouraging engagement. Innovative features can support language acquisition through interactive and pleasant learning experiences. Furthermore, its curriculum and progress-tracking mechanisms could facilitate incremental learning and goal setting. Therefore, investigating its efficacy in achieving language proficiency is appealing, a focus that this study explores in the context of the TOPIK I test.

1.2.2 The Methodology of Duolingo

In January 2023, Duolingo published a research report titled 'The Duolingo Method for App-Based Teaching and Learning' explaining the methodology used throughout the app. The Duolingo Method consists of five pillars: Learn by Doing, Learn in a Personalised Way, Focus on What Matters, Stay Motivated, and Feel the Delight. These pillars are supported by learning science research and are used to develop and improve the teaching and learning experience of the app (Freeman et al. 2-10). Each pillar is detailed below, contributing to a different aspect of the user's experience.

- Learn By Doing

The first pillar is focused on interactive exercises and learning through practice. Users engage in language exercises, such as identifying words from pictures or transcribing audio files. Duolingo states that this approach helps learners discover language patterns and develop knowledge implicitly.

- Learn in a Personalised Way

The platform personalises the learning experience based on each learner's proficiency level and difficulty. They use machine learning models to adjust the order of the exercises and the difficulty and provide feedback to individual learners.

- Focus on What Matters

This pillar targets the critical components of language learning, such as vocabulary, grammar, pronunciation, reading, listening, writing, and speaking skills. They provide tips and instructions when necessary, helping users understand essential concepts and improve their language skills.

- Stay Motivated

Motivation is crucial to success in language learning, and Duolingo uses gamification-like features to keep learners engaged. They use streaks, notifications, and rewards to motivate learners and make the learning experience enjoyable.

- Feel the Delight

Duolingo aims to make language learning fun and delightful. They use sound effects, animations, and interactive tools, such as clocks and rulers, to create an engaging and enjoyable learning environment.

1.2.3 Previous Research on Duolingo

In 2012, independent research on the effectiveness of Duolingo was conducted, focussing on Spanish learners. The research design was based on a random sample of Duolingo users who learnt the target language and met specific criteria. The study found that the participants gained 8.1 points per hour of study with Duolingo. The overall result was that the platform effectively improved the participants' knowledge of Spanish.

Interestingly, the study estimated it would take between 26 and 49 hours of study with Duolingo for a person with no knowledge of Spanish to cover material for the first semester of Spanish (Grego and Vesselinov 2012).

In 2015, Niklas Ratzlaff conducted a study comparing the skill sets of participants who used Duolingo with those of an entry-level class at the university. The results proved the outperformance of the in-person university class. However, both groups performed poorly in the grammar section (Ratzlaff 2015).

In 2019, another study was conducted to examine online tools for distance teaching and the effectiveness of Duolingo. Although the research article does not specify the target language of the study, the general findings of the study indicated that more than 70% of the participants believed that Duolingo was very easy or straightforward as they felt confident in vocabulary, reading, and listening skills. However, there were concerns about its efficiency in speaking and writing (Psychogyiou and Karasimos 2019).

A 2020 study focused on Duolingo's effectiveness and examined the platform's usage in a TESOL (Teaching English to Speakers of Other Languages) English-speaking classroom. Users performed better in vocabulary acquisition and simple grammar sentence construction than traditional methods. Unfortunately, the study also highlighted problems with the accuracy of translation and pronunciation (Al Fadda and Alaudan 2020).

However, in 2022, a case study was published titled 'Learning a brand-new language through Duolingo: A case study of a gifted student similar to the nature of this thesis was conducted. The paper focused on a gifted 14-year-old student who used the Duolingo platform to learn French in a span of two months. Although the student enjoyed

the whole research process, in the end, they voiced their need for face-to-face classes (Hazar 2022).

1.3 The TOPIK Exam

The Test of Proficiency in Korean (TOPIK) was implemented in 1997 in curricula and pedagogical approaches. The South Korean government recognised it as a credible test, and it had also become a popular tool for measuring knowledge of Korean (Sangpil Byon and Ooyoung Pyun 493-494). The test has six proficiency levels assigned at two different levels: TOPIK I and TOPIK II.

1.3.1 The Importance and Structure

The TOPIK test is essential, as various institutions recognise it, including universities and employers. Excellent test results can be used for admission to Korean universities or to obtain a work or study visa in South Korea (Sangpil Byon and Ooyoung Pyun 494-497).

In Figure 2, shown below, the differences between the TOPIK tests are visible. The TOPIK I test consists of two sections, listening and reading, and the overall test time is 100 min. TOPIK II, however, has three parts: listening, writing, and reading. The time required to complete the test is 180 minutes. Each section in both versions has a range of scores 0-100, and the passing scores are differentiated by the level obtained in the test. Levels 1 and 2 of the tests allow one to conduct basic or straightforward conversations related to daily routines, such as introducing yourself, ordering food, making phone calls, and using public facilities. Level 1 has a word bank of 800 words, and level 2 has 1500

to 2000 words (Sangpil Byon and Ooyoung Pyun 494-497).

<i>Test type</i>	<i>Sections</i>	<i>Item type</i>	<i>Number of items</i>	<i>Range of score</i>	<i>Passing scores</i>
TOPIK I	Listening (40 mins.)	Multiple choice	30	0–100	0–79 (Fail) 80–139 (Level 1)
	Reading (60 mins.)	Multiple choice	40	0–100	140–200 (Level 2)
TOPIK II	Listening (60 mins.)	Multiple choice	50	0–100	0–119 (Fail) 120–149 (Level 3)
	Writing (50 mins.)	Supply type	4	0–100	150–189 (Level 4) 190–229 (Level 5)
	Reading (70 mins.)	Multiple choice	50	0–100	230–300 (Level 6)

Source: From NIIED (2014), www.topik.go.kr

Figure 2: Score Table of TOPIK Test

1.4 Summary

Platforms like Duolingo offered various languages but often fell short of their promised success due to waning interest and motivation. This thesis examined Duolingo’s effectiveness in preparing for the TOPIK I test, a Korean language proficiency exam, through a one-year case study involving two students without prior Korean knowledge. The engaging features of Duolingo, such as gamification and immediate feedback, were highlighted in combination with the limitations in speaking and writing. Furthermore, the importance of the TOPIK exam for academic and professional opportunities in South Korea was also discussed.

2 Literature Review

This section of the thesis reviews the literature available on the popular platform. In the case of technologies, the basic principles on which these platforms have built their foundations cannot be forgotten, as they play a crucial role even in the modern world. Society interacts with intelligent technologies every day, but the real question is how effective they are and how they contribute to society. For research on the effectiveness of technologies, this thesis will focus on learning a new language through the Duolingo platform as the primary tool for learning Korean.

2.1 Language Learning Methods

The evolution of methods for second language acquisition dates centuries back to when people were yearning to know more and to learn something new from their beginnings. Such a development did not go unnoticed by scholars and linguists, who wrote book entries about them or devised a new method independently (Miller and Aaron Herbert Doering). However, one can benefit from combining traditional learning methods with mobile app-based learning methods and vice versa.

2.1.1 Traditional Classroom Learning

Students' experiences in traditional classrooms may vary. However, before the rise of modern technology, common themes and routines were used consistently in teaching methods. The two most renowned methods, which continue to be developed and widely utilised, remain the most referenced approaches in the field. The Direct Method emphasises active oral interaction and spontaneous use of language. At the same time, the Grammar Translation Method focuses on teaching the language through grammatical

rules and translation from a second language to a native one (Brown 15-16). Therefore, since then, teaching and learning have changed and are accompanied by new elements.

- **Teacher-Centred Approach and Lack of Learner's Autonomy**

Traditional language classrooms were often teacher-centred before the emergence of more learners-based methods. The students followed the teacher's instructions, which frequently included translation, memorisation, or repetition of dialogues (Blake and Guillén 132-133). The concept of learner autonomy, where learners take charge of their learning and explore their ways to success, was not emphasised until later.

- **Limited Emphasis on Communicative Ability**

Traditional learning methods, such as the grammar-translation method, did not prioritise the development of communicative ability in the language (Brown 205-206). Instead, the focus was on memorising grammar rules and vocabulary for translation purposes. This approach often resulted in a tedious learning experience for the learners.

- **Blended Learning**

Effective language classrooms often incorporate elements from both traditional and modern methods. Teachers are encouraged to select tasks and techniques based on learning principles and research on language learning (Chapelle and Sauro 150-163). There is no one method that every teacher follows, as every student is unique. Therefore, a combination of various approaches ensures that the diverse needs of all students are met.

2.1.2 Self-Directed Learning

Self-directed learning occurs when individuals take the initiative to clarify their learning needs, set learning goals, and choose appropriate learning strategies. This

concept has been widely discussed in the context of language learning, focussing on the acquisition of second or additional languages (Freiermuth and Nourolahh Zarrinabadi 403-405).

- Online Learning Programmes

Online learning programmes can enhance the learner's autonomy by providing additional knowledge outside of the classroom. Students can work at their own pace and receive instant feedback, promoting self-reflection and independent learning (Hampel and Stickler 82-86).

2.1.3 Mobile App-Based Learning

Mobile app-based learning offers a range of benefits for language learning, such as its selection of verbal and written material with instant feedback, making it available to various users and maximising their flexibility in language learning. However, there are challenges with app-based learning as well. Many educational applications are based on traditional practices, such as information transmission or drill-and-practice approaches. Furthermore, mobile applications are often not in the user's mother tongue, making learning customisation harder and restricting access to the app (Pegrum 127-144).

2.2 Computer-Assisted Language Learning (CALL) and Duolingo

In the 1960s, the development of CALL started; it was first used to design and produce drill-and-kill exercises for teachers. As time passed, the system was implemented more into second language acquisition and became a popular starting foundation for the Duolingo platform. CALL refers to any programme or application that uses computer technology to help in language learning and teaching. It aims to improve the learning

experience by providing interactive, engaging, and personalised activities (Chapelle and Sauro, 22-27).

The components of CALL, including interactive software, online platforms, digital resources, and communication tools, are the most important for Duolingo, as the app incorporates all of these elements to offer the user the best learning experience. For the mobile phone app, the platform utilises the MALL (Mobile-Assisted Language Learning) system (Chapelle and Sauro 326-328).

2.3 Cognitive Approaches to Language Learning

Cognitive approaches view mental processing as a combination of automatic and voluntary operations. Traditional information processing theories argue that cognitive resources such as attention and memory are limited and that stressors can affect performance. In contrast, emergentists see fluent language use as an exploitation of probabilistic knowledge derived from a collection of memories of previously heard utterances. Both cognitive approaches recognise the importance of understanding the cognitive processes involved in language learning but differ in their emphasis on the role of abstract rules (Chapelle and Sauro 448-449).

2.3.1 Relevance to Duolingo's Methodology

When considering how cognitive approaches relate to Duolingo's methodology, we can explore several aspects that can be introduced as key terms (Freeman et al., 2023; Chapelle and Sauro 2019). However, the Methodology chapter introduces the overall methodology of the application and the thesis as well.

- 1. Memory and Retrieval:** Duolingo uses repetition and frequent review exercises to reinforce vocabulary and grammar in accordance with the cognitive principles of memory and retrieval.
- 2. Attention and Focus:** Duolingo presents lessons in a structured format, requiring users to engage with the material and maintain focus during the exercises.
- 3. Feedback and Error Correction:** The platform provides immediate feedback on exercises, highlights errors, and explains. Promotes a cognitive learning cycle that involves making mistakes and refining understanding.
- 4. Interactive Learning:** The application incorporates interactive elements such as speaking exercises, listening comprehension, and a writing task that are similar to the interactive nature of cognitive language learning.
- 5. Task Complexity:** Duolingo uses a variety of complex tasks to challenge users at different proficiency levels.

2.4 Summary

The review explored the existing literature on Duolingo's role in language acquisition, highlighting its innovative approach to online learning. Various language learning methodologies were identified, including traditional classroom methods, self-directed techniques, and mobile app-based learning, each presenting advantages and limitations. The chapter extended to Duolingo's integration with Computer-Assisted Language Learning (CALL), highlighting its use of cognitive strategies such as repetitive exercises, structured lessons, immediate feedback, and complex tasks to engage learners at different proficiency levels.

3 Methodology

To evaluate the effectiveness of Duolingo in preparing learners for the TOPIK I test, a structured research design combining quantitative and qualitative methods was employed.

Mixed methods research involves collecting and analysing quantitative and qualitative data. This is a comprehensive approach, not just combining different types of data. Mixed-method research allows researchers to address research questions from multiple perspectives and provides a more complete understanding of the research problem. It is a flexible and adaptable approach that can be used in various fields and disciplines (Creswell and Plano Clark 54-63). Using mixed methods research requires careful planning and consideration of the research design, data collection methods, and data analysis techniques. It offers advantages such as increased validity and reliability, improved understanding of complex phenomena, and the ability to explore unexpected findings.

It benefits the case study by providing in-depth, practical understandings and conclusions that are particularized and transferable (Creswell and Plano Clark 188). It helps to understand the complexity of a case and can develop improved and culturally sensitive measures. Mixed methods also help to reconcile quantitative findings with qualitative data, improve evaluations, and create in-depth cases for comparison.

The online questionnaire in the research was used to collect structured quantitative data, including demographic data, Duolingo experience, and user rating. This tool allows for a comprehensive and systematic collection of data from large samples and guarantees statistically significant insight into user patterns and general level of satisfaction. Feedback sheets and author notebooks were used for qualitative insights. The feedback

sheet recorded user stories, personal experiences, and reflections on the effectiveness of Duolingo in language learning, providing depth and context for numerical data. The author's notes/field notes were important in recording observations and reflections in real time during the study. They provided a detailed report on the progress and challenges of the learners.

A comparative analysis was used to identify the effectiveness of different methods and tools used by each student in comparing the data collected from the feedback sheets and the test results. Therefore, the following sections detail the study's length, the survey's design, and the limitations encountered, and provide a summary of the steps taken, the rationale behind choices, and the tools used to gather and analyse data.

3.1 The Length of the Study

The duration of the study allowed for a thorough examination of the various aspects of the learning experience for the TOPIK I test. The process took 12 months and included the creation, collection, and analysis of data from online surveys collecting answers from 113 participants, but also followed two students who interacted with the platform daily to provide detailed data for this thesis. The three main points in the following summarise the benefits of the longitudinal study.

- 1. Behavioural Changes and Skill Development:** Extended observation allowed one to assess how consistent use of Duolingo influences the acquisition and retention of language skills over time.
- 2. Adaptation and Learning Curves:** Tracking progress over a year provided insight into how learners adapt to the platform's educational methodology and whether initial learning curves plateau or result in sustained improvement.

- 3. Long-Term Motivation and Engagement:** A year-long study revealed trends in user engagement and motivation, which are essential for a tool like Duolingo and for continued use for effectiveness. It showed if and how users' commitment to the app changes and what factors could influence long-term adherence.

3.2 Survey Design

Before shaping the questions, research was conducted to maximize the effectiveness of the answer options. To understand user satisfaction with Duolingo, questions included ratings for both the website and the mobile app, utilizing a fixed set of answers for easier raw data processing. For example, participants were asked to rate their experience on a scale from 1 (very unsatisfied) to 5 (very satisfied).

The survey also aimed to understand the diversity of language learning preferences among Duolingo users by asking, "What language did you learn?" Respondents were limited to selecting a single language to simplify data processing.

In the section addressing the testing of acquired skills and knowledge, respondents were first asked if they had the opportunity to test their skills, followed by two open-ended questions to gather specific data and reasoning from the respondents.

During the last section, respondents answered two questions about what they felt the app lacked and why they would recommend the platform.

The survey in the bachelor thesis functions as a primary tool for quantitative data collection, systematically capturing respondents' demographics, motivations, experiences, and perceptions related to using Duolingo for language learning. It enables the analysis of patterns, preferences, and outcomes across a broad participant base through structured, closed-ended questions, offering statistical insights into the

effectiveness of the language learning platform. The entire structure of the online survey is included in the thesis's appendices for easier understanding.

3.2.1 Participants

The selection of the questionnaire participants was not random; instead, the questionnaire targeted people interested in learning new languages. The survey was shared on a subreddit dedicated to language learning and posted on a private Facebook group focused on language teaching and learning for a broader reach. This approach ensured that only respondents using computer—and mobile-assisted learning platforms participated in the survey.

3.3 Case Study Design

Another key aspect of the case study was feedback sheets, which were handed out before and after the test. Each of the sheets has approximately 12 questions. A combination of open and closed-ended questions was used to examine each student, divided into 3 or 4 sections. It was completed on the 27th of October, 2023, exactly a year after the start of the case study. Feedback sheets were a valuable source of information, allowing one to collect the participants' personal experiences. They were relevant to the effectiveness of the Duolingo application while learning an exotic language, which in this case is Korean. Feedback sheets complement the survey by providing qualitative data, allowing participants to share detailed, personal insights and reflections on their language learning journey with Duolingo. These sheets capture detailed feedback on the learning process, challenges, and overall satisfaction with Duolingo, contributing depth and context to the quantitative findings from the survey. The final version of both feedback sheets is available in the Appendices of the thesis for a better orientation.

The field notes served as the third and final tool for data collection. Initially, notes were recorded daily to capture a large amount of information. However, over time, entries were made more strategically, focussing on new and valuable insights from the learning experience. These notes do not follow a regular pattern and are not included in the Appendices but are utilised throughout the thesis.

3.4 Limitations

However, conducting mixed-method research presents several challenges. The limitations of selecting random participants in a mixed-method research study include the potential for lack of depth in understanding each participant's unique context and experience. It also does not guarantee a representative sample if it is not correctly stratified or matched to the population. Combining qualitative and quantitative data can be complex and time-consuming for the mixed-method approach. There is also the challenge of effectively integrating diverse datasets to produce coherent conclusions.

3.5 Summary

This chapter details a mixed-method approach combining quantitative and qualitative methods over one year, from the employed methodology to the comprehensive evaluation of Duolingo's effectiveness in teaching Korean. The study involved 113 participants through an online survey and two detailed case studies. The methodology offered a thorough assessment by integrating quantitative data from structured surveys with qualitative insights from feedback documents and field notes. This approach enabled a detailed analysis of the learners' interactions with Duolingo, focussing on behavioural changes, adaptation, and long-term engagement. The longitudinal design of the research

yielded valuable insights into skill development, learning trajectories, and user motivation, resulting in a robust understanding of Duolingo's impact on language learning.

4 Data

This chapter presents the data collected during the study and provides a detailed analysis of the findings. It begins with an overview of the online survey data and explains the reasoning behind using a questionnaire and the types of questions included. The chapter then describes the respondents' demographic breakdown and general feedback on the platform.

The case study data are presented, highlighting the insights gathered from field notes and interviews with two students. The Data Processing Section outlines the steps to organise, clean, and analyse the collected information, ensuring accuracy and reliability. Finally, the chapter acknowledges the study's limitations, considering the longitudinal nature and potential biases in data collection. Through this structured approach, the chapter aims to provide a thorough understanding of the research findings and their implications for evaluating the impact of Duolingo on language learning.

4.1 Online Survey Data

The method for collecting quantitative data was chosen for its practicality and alignment with the research information. Therefore, an online questionnaire was utilised in the research. The survey, included in the appendices, combined two types of questions: closed-ended and open-ended. Both types allowed for a mix of fixed answers and personal experiences, which was crucial for the research. As Creswell and Plano Clark stated, this combination allows for a more comprehensive and nuanced understanding of the topic (269).

To explore the general opinion of the users about the Duolingo platform in this study, the questionnaire included 18 questions. It was divided into three sections: questions about the respondents, the overall rating of the platform, and their opinions about the application. To maintain focus, the survey took 10 minutes to complete, and the questionnaire design was chosen to compliment the colour palette of the heading⁶ adopted from a site introducing the ‘Duolingo Project’ because the colours of happiness showed the increase in activity of the participants (Elliot and Maier 250-54).



Figure 3: Heading of the Online Questionnaire

Although the Data Analysis chapter dives into the specifics of the online survey, it is vital to introduce the three sections mentioned above. The **Demography of Respondents** section was designed to collect essential yet vital demographic data without compromising participants' privacy. This approach encouraged broader participation by alleviating privacy concerns and provided insight into Duolingo's diverse user base, focusing mainly on whether students constitute the primary user group.

In the **Duolingo Ratings** section, the survey specifically targeted user perceptions regarding the effectiveness and usability of Duolingo's website compared to its mobile application. This part of the questionnaire relied on predefined responses to simplify the analysis process and gather quantitative data reflecting user satisfaction and preferences between the different interfaces of the platform. The aim was to extract insights that could inform potential improvements in platform design.

⁶ <https://www.lillylowson.com/duolingo-project>

The **Language Section** combined open-ended and closed-ended questions, enhancing the data with quantitative and qualitative insights. This section explored the types of language courses users engaged with, their completion rates, and their subjective experiences with the courses offered. It ended with questions about users' readiness in their new language and their likelihood to recommend Duolingo, providing valuable data on user engagement and educational outcomes.

4.1.1 Respondents

The general sample of respondents to the online questionnaire comprised 113 participants whose names were anonymised for data collection and analysis to ensure everyone's confidentiality.

Overall, 60 females, 45 males, and eight people who did not want to disclose their gender answered the questionnaire. As stated in a 2008 study, women are more prone to answering online questionnaires due to their nature of communication and observation of the world (Smith). It is also important to emphasise that gender issues are unnecessary, as this study explores the topic of the acquisition of second languages rather than gender roles. Consequently, the fact that more responses from women were collected from the online survey could be a coincidence of the long-term characteristics of the online study since the questionnaire was only published for two months.

This study aimed to understand the diverse experiences of learners of various ages with the Duolingo language learning app. Age groups categorized participants to analyse trends in language learning effectiveness, challenges, and preferences in different age categories. A demographic survey question, where participants indicated their age, was utilized for this. They were grouped into categories: 18-24, 25-34, 35-44, 45-54, and 55+ years old. This stratification allowed for a detailed analysis of how age could influence

language learning engagement and outcomes with Duolingo. The distribution of participants in these age groups provided a comprehensive overview of the demographics of the learners within the study.

Understanding Duolingo language learners' professional backgrounds was crucial to contextualizing their learning experiences and outcomes. Respondents were asked to identify their current occupations from a predefined list, including students, educators, professionals, retirees, etc. This allowed for examining the relationship between job roles and motivation, challenges, and achievements in language learning. The job data analysis showed application use patterns and learning preferences, highlighting the needs and goals of learners in different professional areas. This contextual information provided a deeper understanding of how professional backgrounds can impact language learning experiences, suggesting that tailored approaches may enhance the effectiveness of language learning platforms like Duolingo for various user demographics.

4.2 Case Study Data

For the qualitative part of the investigation, a case study was conducted using interviews in the form of feedback sheets from two students, as introduced in the following section, and field notes from the author of this thesis.

Supplementing the questionnaire, interviews with two students were conducted using feedback sheets, which were added to the appendices of the thesis for more straightforward navigation, adding to the depth of the data with personal experiences and detailed user feedback. This method was time-efficient and avoided the complexities of transcribing spoken responses. These interviews were structured to track the students' learning progression, collecting essential data on their experiences, challenges, and the

overall effectiveness of Duolingo in the real-world educational context. Ethical standards were maintained through informed consent, which is included in the Appendices, ensuring that the participants were fully aware of their participation and consented to use their data in the study.

The data recorded in the author's notebook were not systematically organised, as entries were made whenever discoveries occurred. These included unexplained grammar rules, differences between formal and informal Korean, and the absence of contextual understanding while learning sentence structures. Therefore, the notebook is combined and contrasted with the results of the questionnaire and the responses from interviews. The main goal of the author's notebook is to provide personal knowledge entries, as research was first started with the author in the picture, and then later, other aspects were added to it. The author's notebook uniquely contributed to comparative expectations, which were not covered in the questionnaire.

4.2.1 Students' Profiles

The two students who participated in the case study were females studying for a bachelor's degree in English and English Literature at the Faculty of Arts in České Budějovice. This background information is crucial because it discusses challenges and limitations in language acquisition. The students, aged 21 and 25, participated in the learning process throughout the research period. While the Duolingo application served as the primary learning tool, one of the students supplemented her studies with specific learning books, providing a basis for later comparison of language proficiency levels.

4.3 Data Processing

This section describes organising, cleaning, and analysing the collected data. Provides a detailed description of the procedures used to handle the data from the online survey, case study, and the author’s notebook. By systematically processing the data, the thesis aimed to ensure the accuracy and reliability of the findings.

4.3.1 Questionnaire Data

The online survey response data was first exported from Google Forms to a Microsoft Excel file containing all data. As seen in Figure 4 below, the raw data exported from Google Forms must be divided into sections with topics relating to each section.

Časová značka	Who is answering?	How old are you?	What is your current occ	How did you come acro	Why did you choose to	How would you rate the	How would you rate the	What language did you learn?
11.5.2023 14:14:46	Male	Older than 40	Working person	Recommendation	Convenience	5		20 languages in rotation
11.6.2023 18:41:28	Prefer not to say	Age 21 - 30	Working person	Recommendation	Convenience	2		Arabic
11.5.2023 15:37:28	Male	Age 30 - 40	Working person	Recommendation	The design of the app	2		Bad
11.5.2023 14:39:36	Female	Older than 40	Retired	Recommendation	Good reviews online	3		Catalan
11.4.2023 16:04:14	Female	Older than 40	Working person	Recommendation	Convenience	4		Danish
11.5.2023 15:34:53	Female	Age 21 - 30	Student	Recommendation	The design of the app	3		Danish
11.5.2023 15:49:39	Male	Age 16 - 20	Student	Advertisement	Convenience	3		Danish
11.5.2023 15:21:43	Female	Age 30 - 40	Working person	Advertisement	Good reviews online	4		Dpanish
11.4.2023 6:08:36	Female	Younger than 15	Student	School	Convenience	2		dutch
11.5.2023 15:34:37	Male	Age 21 - 30	Student	Advertisement	Convenience	4		Dutch
11.5.2023 20:42:26	Male	Age 16 - 20	Student	School	Convenience	4		Dutch
11.5.2023 22:36:30	Male	Age 21 - 30	Working person	Advertisement	Convenience	3		Dutch
11.5.2023 23:35:11	Male	Age 30 - 40	Working person	Recommendation	Convenience	3		Dutch
11.5.2023 23:37:36	Female	Older than 40	Working person	Recommendation	Convenience	3		Dutch
4.11.2023 10:54:57	Female	Age 21 - 30	Working person	Advertisement	Good reviews online	5		English
11.5.2023 17:06:27	Male	Age 21 - 30	Student	Advertisement	Convenience	3		English
11.6.2023 13:43:58	Female	Age 21 - 30	Student	Advertisement, Recomm	Good reviews online	4		English
11.5.2023 21:02:55	Female	Age 16 - 20	Student	Advertisement	Convenience	3		Every language but Japanese the mos
11.5.2023 19:32:31	Female	Older than 40	Retired	Recommendation	Convenience	4		Finnish
11.3.2023 12:12:54	Male	Age 16 - 20	Student	Advertisement	The design of the app	5		French
11.3.2023 23:22:38	Male	Age 21 - 30	Working person	Recommendation, Scho	Convenience	2		French
11.4.2023 0:16:29	Male	Older than 40	Working person	Recommendation	Convenience	4		French
11.4.2023 12:19:06	Female	Age 30 - 40	Working person	Advertisement	Good reviews online	3		French
11.5.2023 11:25:18	Prefer not to say	Age 30 - 40	Retired	Advertisement, Recomm	Convenience	4		French
11.5.2023 13:59:25	Male	Age 30 - 40	Working person	Advertisement, Recomm	Convenience	4		French

Figure 4: Raw Data from the Survey

Before performing data analysis, it was necessary to determine their quality using a filtering method. Consequently, the priority of the next step was data cleaning, which involved correcting various errors and inaccuracies in responses, including grammar errors and another round of filtering answers. Inaccurate answers were marked with a red colour for easier recognition, as shown in Figure 4

Yes	No opportunity to travel to said country.	Yes	No	Yes
No	Duolingo content isn't very useful or applicable.	No	No	No
	I didn't feel I was learning much.	No	No	No
Not after Duolingo alone		Yes	No	Yes
	Time constraints and I felt there were better methods of learning	Yes	No	No
No	Lack of speaking practice		No	Yes
No	Lack of grammar education in the app.		No	Yes
No	Repetitive		No	No
		Yes	No	No
			No	Yes
No	The course is bad and doesn't actually prepare you for real conversations.	No	No	No
No	Not enough basic words/sentences were taught.	No	No	No
No	Language production was still very difficult.		Yes	No
			No	Yes
No	Very slow pace of the course	Yes	No	Yes
no not at all			No	Yes
No	The course could not catch up to my actual level in the language.	No	No	No
Yes	The sentence examples were a bit wild and unrealistic, which did not help with conversational skills.		No	No
			No	Yes

Figure 5: Filtered Answers from the Survey

The next part involved transforming the raw data from Microsoft Excel into graphs in Microsoft Word, ensuring a uniform answer format. The data was further divided into categories that the questionnaire dealt with. Closed questions were easy to code with different colours, as shown in Figure 5, converted to numerical scales, and entered into tables or graphs.

Male	Age 16 - 20	Student	Recommendation	Convenience
Male	Age 16 - 20	Student	Advertisement	Convenience
Prefer not to say	Age 21 - 30	Working person	Recommendation	Convenience
Female	Older than 40	Retired	Recommendation	Good reviews online
Male	Age 21 - 30	Working person	Advertisement	Convenience
Female	Age 30 - 40	Working person	Advertisement	Convenience
Male	Age 16 - 20	Student	School	Convenience
Male	Age 21 - 30	Student	Recommendation	Convenience
Female	Older than 40	Working person	Recommendation	Convenience
Female	Older than 40	Working person	Advertisement	Good reviews online
Female	Age 21 - 30	Working person	Advertisement	The design of the app
Female	Age 21 - 30	Working person	School	Convenience
Male	Age 21 - 30	Working person	Recommendation	Convenience
Female	Age 30 - 40	Working person	Advertisement	Convenience
Female	Age 21 - 30	Working person	Recommendation	Good reviews online
Female	Age 16 - 20	Student	Advertisement	Convenience
Male	Age 21 - 30	Working person	Recommendation	Convenience
Female	Older than 40	Working person	Advertisement	Convenience
Male	Age 16 - 20	Student	Recommendation	Convenience
Male	Age 21 - 30	Student	Advertisement	Convenience
Prefer not to say	Age 21 - 30	Working person	Advertisement	Good reviews online
Female	Age 21 - 30	Student	Advertisement	Convenience
Male	Age 16 - 20	Student	Advertisement	The design of the app
Female	Age 30 - 40	Working person	Advertisement	Good reviews online
Male	Age 30 - 40	Working person	Recommendation	The design of the app
Female	Younger than 15	Student	School	Convenience
Female	Age 30 - 40	Working person	Recommendation	The design of the app
Prefer not to say	Age 21 - 30	Student	Advertisement	Convenience
Female	Age 21 - 30	Student	Recommendation	Convenience
Female	Age 30 - 40	Student	Recommendation	Convenience
Female	Age 21 - 30	Student	Recommendation	Convenience
Male	Age 21 - 30	Student	Advertisement	Good reviews online
Prefer not to say	Age 21 - 30	Working person	Advertisement, Recomm	Convenience
Female	Age 16 - 20	Student	Recommendation	The design of the app
Female	Age 16 - 20	Student	School	Convenience
Female	Older than 40	Working person	Recommendation	Convenience
Male	Age 21 - 30	Student	Recommendation	Convenience
Female	Age 21 - 30	Working person	Recommendation	Good reviews online
Female	Age 21 - 30	Student	Recommendation	Convenience
Male	Age 21 - 30	Student	School	Convenience
Female	Age 30 - 40	Working person	Advertisement	Convenience
Female	Age 21 - 30	Student	Advertisement	Convenience
Female	Age 21 - 30	Student	Advertisement, Recomm	Good reviews online

Figure 6: Color Coded Close-ended Questions

The open questions from the questionnaire or interviews were encoded by qualitative data analysis, allowing the processing of more complex answers that vary from respondent to respondent. These questions were summarised, key points identified and further processed as quantitative data, while others were analysed and classified into significant categories. These responses were often more subjective and difficult to understand. These stages contribute to the division and classification of individual data and make subsequent analyses more transparent and manageable.

4.3.2 Interview Data

Additional interview data were recorded in written form using feedback forms and further clarified with additional questions. Data collected during this research section were obtained on paper media and then converted into an electronic version for easier manipulation and orientation. Due to the paper media, no transcribing had to be done as both students were careful with their writing. These interview data complemented the questionnaire results and, although not extensive, contributed to the study by combining and analysing the responses to the questionnaire to obtain a more integrated view of the results.

4.4 Summary

The data collection and processing chapter examined how the study gathered and interpreted data to evaluate Duolingo's effectiveness in the TOPIK I Korean test preparation. Using online questionnaires and an author's notebook supplemented with interviews, researchers obtained a mix of qualitative and quantitative information on the users' demographics, opinions, and language learning outcomes. The process included design considerations to enhance participation and maintain confidentiality. Rapid data

cleaning and processing addressed challenges in reliability and response quality, providing a structured and comprehensive analysis while recognizing potential limitations due to the scope and duration of the study.

5 Data Analysis

After detailing the research methodology, which encompasses the survey design and the case study framework, this thesis now moves forward to analyze the collected data. The methodology section detailed the tools and techniques used to gather quantitative and qualitative information from participants, ensuring a comprehensive understanding of Duolingo's effectiveness in learning Korean. In the following Data Analysis section, the focus will shift to interpreting the recorded responses and observations, emphasising how these data points illuminate the research questions posed earlier. This analysis will include statistical evaluations of survey responses and thematic evaluations from the case study interviews, providing a comprehensive view of the study's findings.

5.1 Survey Results

From an online survey published for two months on several online platforms, 113 responses were gathered and analysed using the quantitative methodology. This approach made it easier to compare and analyse the data statistically, as seen later in the chapter but highlighted in chapter 4, where the beginnings of data processing are mentioned. Using standardised options for the survey, the research classified and qualified aspects ranging from the reason for using the application to the acquired language skills. These are divided into chapters following this introductory one, as they show the results in greater detail with the help of graphs.

5.1.1 Motivation for Finishing the Course

For the section on motivation during the Duolingo language course, three closed-ended questions were used: “How did you come across Duolingo?, Why did you choose

to use Duolingo? and Did you finish the course?”. These questions are intertwined as they target the same part of the research, though from different points of view and phases of the course. The gathered data were processed using the same method mentioned in Chapter 4, diving into the data processing; however, they were also described by descriptive statistics as the number of occurrences was counted and the standard deviation was determined. For summarization, graphs were utilised for more straightforward navigation.

One surprising result emerged when analysing how participants discovered the Duolingo platform. As the graph in Figure 7 below shows, the majority of users, 61.1% to be specific, started using the application based on recommendations from someone they knew. Contrary to expectations, the least chosen option was discovering Duolingo at school, despite the assumption that students often encounter the app during language classes. However, this result is consistent with the most common age category of the respondents, which was 21-30 years old. This age group is likely to have finished school or already worked, which explains the lower percentage of users who find Duolingo through educational institutions.

How did you come across Duolingo?

113 odpovědí

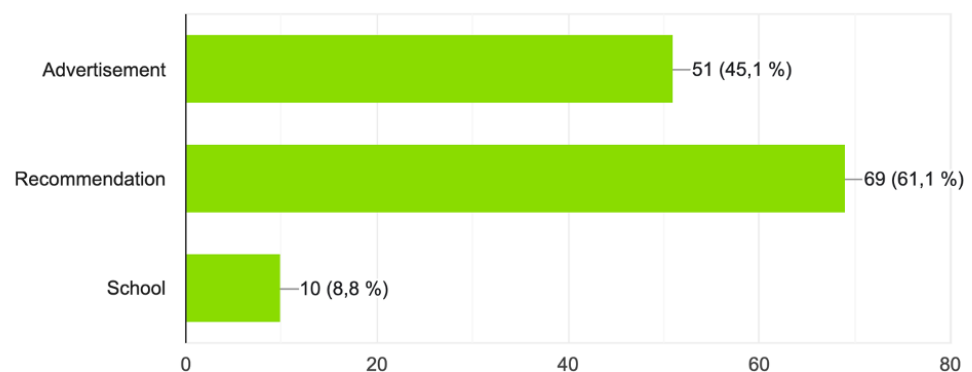


Figure 7: How did you come across Duolingo?

The survey results align with the information provided on Duolingo's website, emphasising the application's convenience for its users. As seen in Figure 8, the most

Why did you choose to use Duolingo?

113 odpovědi

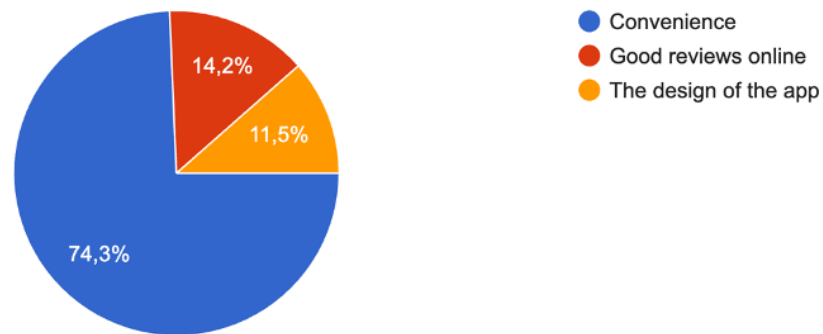


Figure 8: Why did you choose to use Duolingo?

selected reason for using Duolingo, cited by 74.3% of the respondents, was the convenience of the application. This finding supports the claims made in both the Features of Duolingo and the Methodology of the platform.

Considering that convenience is a highlighted aspect of the Duolingo app, the survey wanted to target user satisfaction with either the Duolingo mobile app or the Duolingo website. The results revealed that the Duolingo website received an average rating of 3.44 out of 5. The responses varied with a deviation of 0.94, indicating various opinions about the effectiveness and usability of the website. In contrast, the Duolingo mobile app was rated more favourably, with an average rating of 3.73 out of 5 and a deviation of 1.02, reflecting a slightly more comprehensive range of opinions than the website. The data suggests that the users appreciate the convenience, accessibility, and user-friendly design of the mobile app over the website; moreover, this preference aligns with the broader shift towards mobile computing and the increasing reliance on smartphones for educational purposes (Rangel 198).

Despite the platform's convenience, 75.2% of the respondents did not complete the course, as shown in Figure 8. Only 24.8% of the users completed the course. The reasons for these responses are detailed in the following chapter, focussing on testing language skills gained through the app.

Did you finish the course?

113 odpovědí

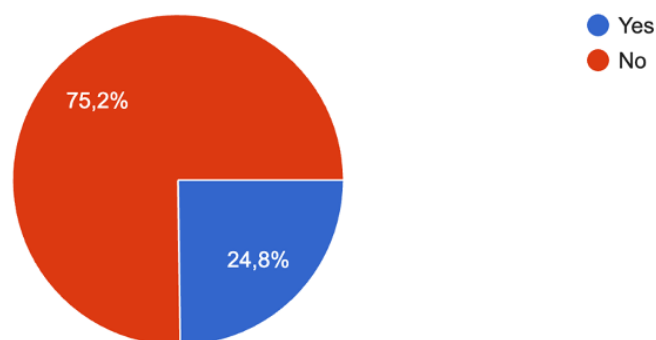


Figure 9: Did you finish the course?

5.1.2 Testing Language Skills

Hence why, the second section had to target the reason for not finishing or finishing the courses Duolingo provides to the general public. This section is separated into two subsections regarding the yes and no answers, as shown in Figure 8 above, but also navigates the questions following as stated in the questionnaire available in the appendices of the thesis.

- **If yes – Did you feel prepared?**

The responses here vary; however, the most common sentiment is a mixture of "Yes" and "No." Many users explicitly state that they did not rely on Duolingo as their sole learning source, often using it as a complementary tool alongside other methods, such as in-person classes or additional resources. Some respondents expressed positive outcomes, noting improved skills or achieving a certain level (e.g., B1). Moreover, several users indicated that Duolingo alone did not lead to substantial progress or fluency, with

some acknowledging limitations in areas such as pronunciation or grammar. Overall, the responses reflected a diverse range of experiences and opinions on the effectiveness of Duolingo as a language learning tool.

- **If not – Was there anything holding you back?**

On the other hand, the respondents highlighted the challenges they faced during their Duolingo journey. Firstly, some felt that Duolingo's content was not very useful or applicable to real-life situations, finding the course rudimentary or lacking in certain areas, such as grammar education. Additionally, several respondents mentioned that Duolingo did not meet their specific learning needs, particularly in grammar, speaking practice, or real conversation preparation.

Time constraints and lack of motivation were also cited as reasons for discontinuing or not completing the course, with some users expressing a lack of interest in testing or feeling that the course did not align with their pace. Language production, especially speaking and writing in the target language, was identified as problematic for some users. They mentioned issues with pronunciation, recalling vocabulary, and forming grammatical sentences. Furthermore, users noted that the sentence examples provided by Duolingo can be wild and unrealistic, which may not help with conversational skills. Lastly, there was a need for more listening and writing practice to support their language-learning journey.

5.1.3 App Enhancements: Gaps and Recommendations

An additional question in the survey focused on gathering opinions on what the platform is lacking. Therefore, respondents were asked two questions: one about what they believe the app is missing and another about why they would recommend the platform. One of those is illustrated in Figure 10 below. Approximately 79% of the

respondents would recommend the platform; however, only 21,2% would not recommend it at all.

Would you recommend Duolingo to others?

113 odpovědí

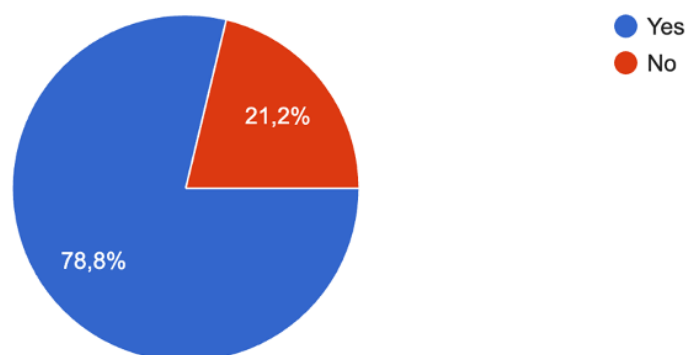


Figure 10: Would you recommend Duolingo to others?

The most common theme among the positive responses was Duolingo's convenience and accessibility, especially for beginners. Many users appreciate this application's ease of use, free use, and role as a good starting point for language learning. The aspect of the game, the fun elements, and the diversity of materials are often mentioned as positive features. Moreover, some users have pointed out that Duolingo alone may not be sufficient to achieve fluency, but it may be helpful as a tool in combination with other learning methods.

Frequent improvement recommendations were the desire for better explanations and more comprehensive grammar exercises. Many have expressed the need to clarify grammar rules, understand the causes of errors, and perform more grammar-focused exercises to improve their language learning experience. Furthermore, there is a recurring desire for more flexibility in the choice of study topics, practical language and conversation, and improvements in spoken and listening exercises.

5.2 Feedback Sheets

Feedback sheets were implemented into the research as a second tool for data collection and later for data analysis. Feedback sheets were designed based on remarks from the author's notebook about the Duolingo application. This ensured a customised set of questions that specifically addressed the experiences of the two female students. Two versions of the feedback sheets were created, one to obtain information leading to taking the TOPIK I test and the other to be filled out after the test ended.

Feedback sheets were crucial for the investigation, providing more personal insight into the student's overall experience with the Duolingo application. Both copies of the feedback sheets are included in the appendices of the thesis, as they could not be sorted into graphs or statistical data. Both begin with personal check-ins or experiences from the research, continue with the respondents' opinions on their plans, and end with the recommendation part.

5.2.1 The Process of Learning: Section 1 – Progress Check-in

This section primarily evaluated students' time spent on the app and their overall opinions, using a grading scale from 1 to 5 to separate answers into positive and negative aspects. Both students used the Duolingo application daily, which caused a loss of motivation as it became a chore rather than an exciting task. Consequently, the average learning time was 15 minutes per day for both students, and they agreed that the longer they used the app, the quicker they felt unmotivated.

After collecting the feedback sheets, it was revealed that the students were overwhelmed by the number of exercises and repetitions, making it impossible to complete the entire course. Additionally, they felt pressured to complete tasks due to the numerous daily notifications.

A grading scale from 1-5 was used in the fourth question to examine each student's language skills in Listening, Reading, Vocabulary/Grammar, Writing, and Speaking. The table below shows that Student 1 felt more optimistic than Student 2. Student 1, who supplemented her learning with 'Talk to Me in Korean' books, found them particularly helpful for Grammar and Writing. In contrast, Student 2 noted that Duolingo does not help with Speaking, as it does not offer exercises in that area, leading to a low score. Additionally, Student 2 found that Duolingo does not explain grammar, requiring users to figure out the rules themselves. The app also mixes formal and informal Korean without clarification.

	Listening	Reading	Vocabulary	Grammar	Writing	Speaking
Student 1	3	3	4	3	4	2
Student 2	2	4	2	2	3	1

Table 1: Rating of Test Sections

The last question in this section allowed students to write about the positive and negative aspects of the application. The lack of speaking exercises was the number one negative aspect, as it became increasingly noticeable throughout the process. The second negative aspect was the absence of grammar explanations before or after each lesson. However, the main positive trait of the application was the ability to listen to native-speaker pronunciations with subtitles, a feature available for a limited period under Duolingo's premium section.

5.2.2 The Process of Learning: Section 2 – Opinions and Feedback

Section two of the self-evaluation sheet, administered before the TOPIK I test, focused on measuring students' satisfaction with the Duolingo Korean course content,

rated from "Very Satisfied" to "Very Dissatisfied." Student 1 expressed neutral feelings, while Student 2 was satisfied.

The rest of the questions in this section were open-ended, starting with the areas or topics that the students felt the application was lacking. Again, the lack of speaking exercises was mentioned, which would have been helpful for more advanced versions of the TOPIK test. Student 2 was surprised that the course did not start with teaching colours and numbers, which is typically the starting point in any second language acquisition. On the other hand, both students highlighted the option to correct previous mistakes and comprehend the story with native speakers as features they liked.

Both students felt they improved their listening skills but mentioned that more could have been done if the application included a speaking feature to allow them to hear themselves speaking and correct mistakes. Unfortunately, the correction of past mistakes is only available to premium users of the application.

Lastly, for any additional comments or suggestions, both students agreed that the app is more appropriate for practising rather than learning a new language from the beginning. They reiterated that it would be helpful if Duolingo explained grammar better to teach how to use tenses and sentence structures in more detail.

5.2.3 The Process of Learning: Section 3 – Future Plans

The last section of the feedback sheet dealt with the student's plans regarding continuing Korean learning. Student 1 planned to buy the 'Talk to Me in Korean' book series to deepen their knowledge, while student 2 intended to use various textbooks from the same line, as they were satisfied with the quality of the coursebooks.

5.2.4 After TOPIK I Test: Section 1 – Test Experience

After completing the TOPIK I test, another self-evaluation sheet was administered on their test experience. The first section consisted of two closed-ended questions with fixed answers and two open-ended questions. The closed-ended questions related to the student's preparation level and specific areas they were confident in or struggled with. Student 1 was somewhat confident in listening, and student 2 felt the same way.

However, both students struggled with the reading part, as the grammar was advanced and more formal Korean was used throughout the instructions. This caused Student 2 to have barely enough time to finish the test, spending more time reading instructions than focussing on the exercises. Furthermore, the number of sentences in each exercise and the lack of the necessary vocabulary raised significant obstacles during the test.

5.2.5 After TOPIK I Test: Section 2 – Test Content

Section 2 had three open questions about the test content. Both participants stated that the questions were more difficult than expected for an entry-level Korean language test.

Student 1 complained about the advanced grammar used in the test and more complex tenses and grammatical rules. On the other hand, Student 2 predicted their struggle on the previous evaluation sheet, mentioning a lack of knowledge of numbers, which played an essential role during the test. Often, Student 2 found themselves lost because they did not know which question was being read aloud.

Therefore, Student 2 expressed gratitude for the pictures during the test, which helped them navigate back to the correct question. Student 1 specifically enjoyed the listening part, where they had to pick the answer to a question from a given set of answers.

5.2.6 After TOPIK I Test: Section 3 – Post-Test Reflection

The post-test reflection section started with a closed-ended question with a grading system ranging from 1 to 5 to rate students' performance. Both students rated themselves with a 3, feeling somewhat satisfied with their overall test result based on their knowledge.

For their test strategy, Student 1 first focused on identifying familiar vocabulary in the listening section, then moved on to grasp the general meaning in the reading section, which was dense with complex sentences. On the other hand, Student 2 noted that they panicked after being lost for some time, so they did not apply any test strategy, proceeding to perform as best they could.

The last question in this section was connected to the previous feedback sheet on plans, where both students mentioned their ambitions to continue learning Korean using the 'Talk to Me in Korean' coursebooks. This intention persisted even after the test was completed. Additionally, Student 1 wanted to further develop their speaking skills by interacting with native speakers.

5.2.7 After TOPIK I Test: Section 4 – Overall Opinions and Feedback

The last part of the after-test evaluation sheet dealt with both students' general opinions and feedback. Both felt like they could have been more prepared and should have spent more time using the Duolingo app. However, their overall opinion of the test was positive, especially about the listening section, which was better than expected despite the confusion about the numbers.

As for recommendations or advice for future tests, the leading suggestions were to look for grammar structures before taking the test and to combine Duolingo for practice

with any course book related to the Korean language. This combination would ensure more profound knowledge and more advanced skills.

5.3 TOPIK I Test Results

After participating in the TOPIK, I test, the two students presented different results that seemed to correlate with their respective learning approaches and experiences using the Duolingo app for Korean language preparation, which they stated in the previous section using feedback sheets.

Student number 1 achieved 153 points, which suggests a firm grasp of the material, likely augmented by their proactive approach to learning. This student supplemented Duolingo sessions with additional materials, specifically the ‘Talk to Me in Korean’ book series, which they credited for providing comprehensive grammar and writing assistance, areas where they felt Duolingo fell short.

On the contrary, student number 2 earned 112 points, reflecting challenges, particularly with listening and grammar. This feedback indicates a potential gap in Duolingo's curriculum regarding listening exercises and explicit grammar instruction. Although Duolingo offers a variety of vocabulary, the platform does not distinguish sufficiently between formal and informal Korean, leading to confusion. The lack of grammar explanations meant that the student had to deduce rules independently, an approach that proved insufficient for the complexities required by the TOPIK I test.

Despite their different results, both students pointed out similar areas for improvement in Duolingo, especially the need for the inclusion of speaking practices and better grammar explanations. They agreed that while Duolingo is a valuable tool for daily practice and listening exercises, it should ideally be paired with more traditional study

methods for a well-rounded learning experience. Feedback suggests that future learners aiming to take the TOPIK I test should consider a hybrid learning approach, leveraging Duolingo's strengths in providing practice and pronunciation guidance while seeking additional resources for a more comprehensive understanding of grammatical structures and conversational skills.

It is also important to note that both students have passed the TOPIK I test examination. Furthermore, student number one would have obtained TOPIK I Level 2 certification, as they scored above the Level 1 limit and would, therefore, demonstrate better knowledge of the Korean language. This supports the claim that Duolingo should be used in combination with traditional learning devices, such as books or tutoring.

5.4 Field Notes

The analysis of survey data provided quantitative insights into Duolingo's general user experience and perceptions. However, to deepen the understanding of the learners' experiences, field notes were utilized to capture qualitative observations and detailed reflections. These field notes gathered from direct observations and participant feedback, offer a richer context that complements the numerical data from the surveys. Together, these sources allow for a more comprehensive view of the effectiveness of Duolingo in preparing learners for the TOPIK I test, highlighting both statistical trends and personal experiences. This combination of data sources enables to explore not only what learners think about the app but also how they interact with and react to its features in practice. Most of them were already integrated throughout the thesis; however, some need further elaboration on specific examples to demonstrate some of the problems the author

encountered on their journey of second language acquisition through the Duolingo application.

The lack of confusing placement of the explanation section was the first and the most important, and it was noticeable right from the start. For example, the pronunciation of a word was not clearly explained; therefore, the user was unaware of the rules of 'Batchim'. At the beginning of a word, ㅇ is pronounced as “h”, but because of the Batchim rules (받침), the sound of ㅇ is pronounced like ㄷ “d/t” at the very end of a word. So, for example, the Korean word 히읁, which has a ㅇ at both the beginning and end of the word, is pronounced 'hieut'. Unfortunately, this knowledge had to be sourced elsewhere as Duolingo omits this from their curriculum.

The following common aspect of learning with Duolingo was getting used to learning unusable sentences that people would not generally use in their day-to-day lives. For example, “I do not throw my friends. - 저는 친구를 던지지 않습니다.” or “A bed is food. -침대는 음식입니다.”. These instances gradually reduced motivation as the feeling of learning 'nonsense' increased.

An additional functionality of the field notes was to gather information about the aftermath observations as the time after taking the test was increasing. The author monitored the skills she gained during the research and the progression; some decreased. After three months of passing the test, the author noticed a significant decrease in their writing ability as they did not practice it daily. However, the reading skills progressed because the author continued to watch movies with subtitles.

5.5 App Usage Data

Exploring data on app usage, particularly in the context of Korean language learning, reveals intriguing trends and patterns that highlight the global interest in Korean culture and language. This section discusses the insights from Duolingo's reports, providing a comprehensive overview of the popularity and engagement with Korean language courses on the platform.

According to Duolingo's report papers, Korean has experienced a remarkable surge in popularity as a language to learn worldwide. This increase is closely related to the global phenomenon known as the Hallyu wave, which encompasses K-pop, K-dramas, and Korean cinema and significantly influences learners to embark on Korean language studies. The data from Duolingo's reports illuminate the geographic diversity and enthusiasm among learners opting for Korean, reflecting its status as one of the fastest-growing languages on the app.

The analysis presented in Duolingo's blog post titled "Which countries study Japanese, Korean, Chinese?" provides a fascinating glimpse into the distribution of Korean language learners across different regions. The report indicates that Korean is not only popular in countries geographically or culturally close to Korea but enjoys a broad appeal across continents, underscoring the global reach of Korean culture and the language's appeal (Duolingo).⁷

Further insights into the effectiveness of app-based learning for Korean can be inferred from the app's engagement patterns and progress-tracking features. Although the reports mainly focus on the popularity and initial participation in Korean courses, they

⁷ <https://blog.duolingo.com/which-countries-study-japanese-korean-chinese/>

also hint at the potential for significant learning outcomes. The interactive and gamified approach of apps such as Duolingo contributes to sustained engagement, which is crucial for language acquisition.

The 2023 Duolingo Language Report sheds light on broader trends in language learning, with Korean maintaining its position as a highly sought-after language. The report attributes this to the ongoing global fascination with Korean culture and entertainment, which attracts new learners to the language (Duolingo).⁸

5.6 Summary

This chapter analysed data from a study on Duolingo's effectiveness for Korean language learning in preparation for the TOPIK I test. Data collection methods included a student's notebook, an online questionnaire, and interview feedback sheets. The survey collected responses from a diverse demographic, showing a preference for the mobile app over the website, broad appeal in different languages, and varied course completion rates. The findings presented mixed reviews of Duolingo's effectiveness, with suggestions for improved grammar instruction and more practical language exercises. While some participants relied solely on Duolingo, many supplemented it with other resources. Feedback highlighted Duolingo's role as a foundational tool rather than a standalone solution for achieving fluency. The experiences of two students, documented in feedback sheets before and after the TOPIK I test, emphasised the need for a more comprehensive study approach. Data also indicated a global increase in interest in learning Korean, driven by the popularity of the Hallyu wave, according to Duolingo's insights.

⁸ <https://blog.duolingo.com/2023-duolingo-language-report/>

6 Discussion

The insights obtained from the case studies, involving detailed feedback sheets and field notes, provide a nuanced understanding of the learners' experiences with Duolingo. These qualitative findings highlighted specific challenges and successes encountered by users, such as difficulties with grammar and the impact of supplemental resources like textbooks. Moving into the Discussion section, these observations will be contextualized within the broader literature on language learning. This discussion will critically evaluate Duolingo's efficacy compared to traditional methods, particularly focusing on its strengths and limitations revealed by the case study data. By integrating these individual experiences with established educational theories, Duolingo's potential role and limitations in modern language education can be better understood.

Duolingo's application provided an alternative for second language acquisition compared to the traditional classroom setting. However, it came with several downsides. One major issue was the lack of explanation of any grammatical rules, which was illustrated in Chapter 5.4. Field Notes chapter and mentioned in Chapter 5.1.2. regarding Language Skills. Additionally, user guidance was absent throughout the app. In a traditional lecture, the teacher pays attention to the student's needs and expectations, providing personalized attention and guidance.

This level of personalized support was not available in Duolingo. Furthermore, the structure of the Duolingo lessons sometimes felt inconsistent, resulting in limited progress for users who often found themselves repeating the same lesson multiple times throughout a course, occasionally with additional vocabulary. In the classroom, the lecture began with an explanation of the grammar for each lesson. The teacher adjusted the structure of each part of the lesson, considering the students' levels. Unfortunately, Duolingo could

not adjust to its users' needs and expected them to quickly gather and logically derive the rules from the sentences, as seen in the section mentioning field notes where a specific example was shown.

The improvement speed was relatively slow regarding the specific language skills that Duolingo taught, which included listening, reading, speaking available only for some courses, and writing. As mentioned earlier, Duolingo did not provide speaking exercises for the Korean course, and users did not have the opportunity to enhance their pronunciation. Reading skills improved significantly since the beginning of this experiment, as users quickly adapted to the different alphabet and its system. Additionally, as stated in Chapter 5.4. Field Notes: even after a few weeks of not using Korean regularly, it was evident that the retention of the ability to write decreased.

This is correlated with the gamification part of Duolingo, introduced in Chapter 1.2.1, regarding Duolingo's features. The platform built its foundation on its pillar method, guaranteeing the motivation of the user throughout the whole course. At the beginning of the experiment, the vivid colours and reminders of the app, combined with the simulation of a language learning game, kept the user entertained and able to get through the lesson without any problem. However, as time passed and the lessons became more complex to understand without any additional explanation, the user became demotivated, and the aspects of the platform started to become slightly irritating as the application pushed for better progress. However, the user kept being unable to progress because they did not understand their mistakes.

However, Duolingo only provided this feature to their premium users as it was a paid feature. Therefore, the ordinary user of the platform did not have this ability. The user was forced to look for the knowledge elsewhere, which is why one of the students

combined her studies with an official course book. On the other hand, Duolingo provided a translation of each word in the lesson, which was the only guidance for the user to understand what was going on during the lessons. If they forgot the word's meaning, they could check its pronunciation and translation.

Moreover, as highlighted in Chapter 2.1.3 of the Literature Review, users had to be quite knowledgeable in English to learn Korean on the Duolingo platform, as the whole course relied on 'English-to-Korean translation'. Therefore, if the learner knew only their mother tongue or had an elementary level of English proficiency, they could not learn Korean on the Duolingo app. This limitation meant the application was not as broadly accessible as advertised, which could surprise some users.

Another part of the Duolingo platform that did not correlate with the promise on their website was the curriculum. While the application taught vocabulary and sentences, they were often unusable in everyday life to generate a quality discussion with someone, which correlated with the sentence examples in Chapter 5.4. Field Notes. Additionally, the structure of the lessons was noteworthy because, typically, the beginning of second language acquisition started with numbers, colours, and animals, which were fundamental elements of a language.

The survey data showed that users preferred the mobile application rather than the website platform. However, from the 113 responses gathered, the general sense of the application was more of a disappointment as users expected more from the application without being compelled to pay for the premium version to experience the app at its fullest potential. This sense was noticeable throughout the whole questionnaire and during the data analysis as the responses from the open-ended part mainly highlighted Duolingo as

a tool for practicing the language they learned during face-to-face lessons, which concepts are mentioned in Chapter 2.1.1.

Therefore, as a summary of the online survey noted in Chapter 5.1., these were the improvements that Duolingo could implement in their platform:

- 1. Enhanced Grammar Instruction:** There is a need for more detailed grammar explanations and exercises, as users reported difficulties in understanding and applying grammar rules learned from the platform.
- 2. Inclusion of Speaking Practice:** Incorporating speaking exercises into the curriculum to provide a more holistic language learning experience, as users noted a lack of speaking practice, limiting their fluency.
- 3. Cultural and Contextual Relevance:** Improving the contextual relevance of vocabulary and phrases to make learning more applicable to real-life situations, addressing the feedback that some content felt unrealistic or less valuable.
- 4. Adaptation to Learner's Needs:** More adaptive learning paths that adjust more dynamically to the user's progress and learning style, potentially improving retention and engagement.
- 5. User Interface and Accessibility:** Suggestions for enhancing the interface for more straightforward navigation and access, particularly on the mobile app, which was rated higher than the website by users.

If the Duolingo team implemented these improvements, the users' overall experience would surely reach a higher score as they would feel supported and heard by the platform and would be able to learn the language in a more structured manner than they were. Also, after such improvements, Duolingo could be compared to the traditional

classroom settings as the line of positive and negative aspects would be thinner than before, and only then could the platform be seen as a tool for learning a new language from the very beginning.

7 Conclusion

This thesis aimed to examine Duolingo's effectiveness while learning Korean for the TOPIK I test. The thesis aimed to gain insight into how the Duolingo application compared to the traditional classroom setting and its usability as a tool for acquiring a second language learned only through the platform. Due to the broad spectrum of users on the platform, several data-gathering tools, such as an online survey, a case study, and the collection of field notes, had to be used to obtain unbiased information.

The research results in chapter 5.3 in Data Analysis confirmed that Duolingo could be used as a supplementary tool for second language acquisition; however, it could not function as the primary source of knowledge in the case of obtaining new lexis for a second language. This statement was supported by the results from the online questionnaire stating that the platform is excellent for maintaining language knowledge. Furthermore, the statements from the feedback sheets confirmed that Duolingo is best complemented by other sources of knowledge, such as course books and face-to-face lectures. The observed lack of grammatical instruction, see Field Notes in Chapter 5.4. aligns with the findings by Hazar (2022) on similar platforms.

In addition, its usability as a tool for second language acquisition was undermined, as the results unveiled several problematic points for the platform. The Duolingo website states that it functions based on the five pillars method. Nevertheless, the users did not feel this impact as they should have due to the platform's inability to explain the information taught adequately, as mentioned in Chapter 5.4. This led to users participating in the questionnaire quitting the courses to find a more suitable option for their journey of second language acquisition, as Duolingo is yet to be programmed to adapt to its users' needs.

Furthermore, as Chapter 5.1.3 of Data Analysis mentioned, some users would not recommend the application as they felt it lacked consistency across languages regarding features such as listening and speaking exercises. Some respondents in the section regarding the online survey results mentioned that the basic methodology of their course was flawed because it was based on translation, which hindered their progress. Others struggled to keep their streak, especially with higher numbers, making it harder for them to stay motivated to continue learning. They explained that the lack of motivation lasted for a year before they resumed using the application.

However, others had a different view and would recommend the app for second language acquisition due to its openness to beginners, as it established a good baseline habit of consistency, which is crucial for learning languages. Nevertheless, the majority would recommend the platform just because it is free, and anyone can explore whatever language they are interested in.

The final verdicts of both the author's notebook and the feedback sheets were that the overall Duolingo score for language efficiency is satisfactory, as the application feels innovative, pushes the learner to be faster and progress, and could potentially motivate with notifications on mobile phones. Unfortunately, flaws were presented in chapter 5.2.7. of Data Analysis hindered the overall experience of the TOPIK I test, such as the lack of fundamental topics like numbers or colours, and the platform's usability became repetitive over time.

There are a few key elements that would improve the user experience; in combination with what is listed in the discussion section, the survey results showed that users would welcome the function of a forum where they could turn to other users for help or to discuss some topics related to specific lessons. Additionally, the general

reconstruction of certain courses should include choosing a lesson or topic suitable for the user's needs rather than going in a fixed order.

The limitations of this research lie mainly in the respondents' demography and the longitudinal aspect of the investigation. While the total number of answers was 113, not everyone answered every single question, and some remained unanswered. However, that could be due to some technical problems with the questionnaire, or the respondents did not feel compelled to state their responses. Therefore, if the duration of the response collection was longer than two months, the responses could have been more varied and detailed. However, this could not have been done due to the time required for the data analysis.

This research highlights that despite advances in educational technology, Duolingo cannot fully replicate the adaptability and comprehensive educational support provided by traditional language classrooms, as explained in Chapter 2.1.1. The findings demonstrate that while Duolingo effectively strengthens language skills, it falls short as a standalone learning solution. Based on the results stated in the Data Analysis, this thesis establishes that Duolingo should primarily be used as a supplementary tool in language education, particularly for maintaining proficiency rather than acquiring new language skills from scratch.

Therefore, the contribution of this research lies mainly in understanding the user's learning experience. By collecting and analysing both quantitative and qualitative data, the study offers information on user engagement, motivation, and educational outcomes when using Duolingo, contributing to understanding the user-centred learning dynamic in linguistic studies. Another contribution is made by pedagogical implication, as the findings highlight specific areas where Duolingo can be improved, such as grammar

instruction and speaking practice, offering reasonable recommendations that could enhance language learning pedagogy in digital environments. However, it also gives a clear answer to the platform's efficacy for second language acquisition as the primary source of learning.

This case study could be explored in greater depth, as some parts had to be limited due to time constraints. Furthermore, a more detailed analysis targeting different demographic groups or age categories would provide more specific data. This thesis could serve as a comparison if another researcher conducts a similar study using the Korean language and the Duolingo platform. It brings new leverage for future second-language acquisition research, especially for exotic languages like Korean.

To continue researching Duolingo's efficiency, this thesis can inspire further studies examining various aspects of the platform. It could also serve as a secondary source for future research on using Duolingo as the primary learning tool instead of traditional classroom settings.

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Appendices

Appendix A: Questionnaire, Consent Form and Feedback Sheets

1. Questionnaire

Dear Participants,

I am a third-year student at the University of South Bohemia in České Budějovice, Czech Republic. As part of my Bachelor's thesis, I am conducting a research study to determine the efficacy of learning a language at a lower-intermediate using solely the Duolingo learning platform. Your participation in this questionnaire will provide valuable insights into your personal learning experience.

This survey aims to gather your feedback on both the web platform and the mobile app, focusing on the overall user experience. All personal information provided will be treated as confidential and will only be used for the purpose of my Bachelor's thesis and analytical data. The questionnaire should take approximately 10 minutes to complete.

Thank you very much for sparing your time to answer the questions below. Kind regards,

Klára Vaňková

1. Who is answering?

Male

Female

Prefer not to say

2. How old are you?

Younger than 15

Age 16 - 20

Age 21 - 30

Age 30 - 40

Older than 40

3. What is your current occupation?

Student

Working person

Retired

4. How did you come across Duolingo?

Advertisement

Recommendation

School

5. Why did you choose to use Duolingo?

Convenience

Good reviews online

The design of the app

6. How would you rate the Duolingo website?

1 - really bad, 5 - awesome

1

2

3

4

5

7. How would you rate the mobile app Duolingo?

1 - really bad, 5 - awesome

1

2

3

4

5

8. What language did you learn?

Please state your answer using only one word/one language.

9. Did you finish the course?

Yes

No

10. Did you test your skills in that language?

Yes

No

Not yet

11. If Yes - Did you feel prepared enough?

For the answer "Other" please state it using maximum of 4 words.

Yes

No

Other

12. If No - Was there anything holding you back?

Please state your answer using only one sentence.

13. If Not Yet - Do you ever plan on doing so?

Yes

No

14. Would you say that Duolingo is better than other learning platforms?

Yes

No

15. Do you feel forced to buy the Premium version?

Yes

No

16. What would you say that the app is lacking?

Would you recommend Duolingo to others?

Yes

No

18. If Yes - Why would you recommend?

2. Informed Consent Form for Research Participation

Introduction: I am Klára Vaňková a student at the University of South Bohemia, České Budějovice, Czech Republic conducting research on the effectiveness of Duolingo in learning Korean for a TOPIK I test. Before you decide to participate, please read the following information.

Purpose: The purpose of this research is to explore the effectiveness of Duolingo in preparing individuals for the TOPIK I test.

Procedures:

- You will be asked to complete a survey regarding your experiences with Duolingo and TOPIK I preparation.
- Participation is voluntary, and you may withdraw at any time without consequences.

Risks and Benefits:

- There are no anticipated risks associated with participating in this research.
- The potential benefit is contributing to the understanding of language learning methods.

Confidentiality:

- Your responses will be kept confidential. No personally identifiable information will be disclosed.

Participant Rights:

- Your participation is voluntary, and you may refuse to answer any question.
- You may withdraw from the study at any time without consequences.

Contact Information: If you have questions, please contact me at (email address).

Consent: I have read and understood the information provided, and I voluntarily agree to participate in this study.

Participant's Name: _____

Participant's Signature: _____

Date: _____

3. Feedback Sheets

Self-Evaluation Sheet – The process of learning

Participant Information:

Name:

Date of Assessment:

Section 1: Progress Check-In

How many days per week are you actively using Duolingo to learn Korean?

1-2 days

3-4 days

5-6 days

7 days (daily)

How many minutes per day, on average, do you spend on Duolingo for your Korean studies?

Have you completed all the lessons available in the Duolingo Korean course for TOPIK I preparation?

Yes

No

On a scale of 1 to 5, where 1 is the lowest and 5 is the highest, rate your perceived progress in the following language skills: Listening, Reading, Vocabulary/Grammar, Writing, Speaking.

Share any specific achievements or challenges you've encountered while using Duolingo for TOPIK I preparation.

Section 2: Opinions and Feedback

How satisfied are you with the quality of the content in the Duolingo Korean course for TOPIK I preparation?

Very Satisfied

Satisfied

Neutral

Dissatisfied

Very Dissatisfied

Are there specific areas or topics you feel are lacking in the Duolingo course for TOPIK I preparation? If yes, please specify.

What features or resources on Duolingo have you found most helpful for learning Korean? (e.g., flashcards, practice exercises, speaking exercises)

Do you feel that you're speaking and listening skills have improved through Duolingo? Why or why not?

Share any additional comments, suggestions, or concerns about your experience with Duolingo as a TOPIK I preparation tool.

Section 3: Future Plans

How do you plan to continue your Korean language learning beyond using Duolingo? (e.g., tutor, language exchange, self-study)

What is your target date for taking the TOPIK I test, and how do you plan to prepare in the lead-up to the test?

Self-Evaluation Sheet – After TOPIK I Test

Participant Information:

Name:

Date of TOPIK I Test:

Section 1: Test Experience

How well did you feel prepared for the TOPIK I test?

Very well-prepared

Prepared

Somewhat prepared

Not very prepared

Not prepared at all

Were there any specific areas of the TOPIK I test (Listening, Reading, Writing, Speaking) where you felt particularly confident or struggled with?

Listening

Reading

Writing

Speaking

How did you manage your time during the test? Did you feel you had enough time for each section?

Were there any unexpected challenges or surprises during the TOPIK I test that you'd like to share?

Section 2: Test Content

What did you think of the difficulty level of the TOPIK I test questions? Were they as expected, easier, or more challenging than you had anticipated?

Did you encounter any specific types of questions or vocabulary on the test that you were unfamiliar with or felt unprepared for?

Were there any parts of the TOPIK I test that you found particularly interesting or enjoyable?

Section 3: Post-Test Reflection

How would you rate your performance on the TOPIK I test on a scale of 1 to 5, where 1 is the lowest and 5 is the highest?

2

3

4

5

What strategies did you use to tackle the different sections of the TOPIK I test (Listening, Reading, Writing, Speaking)?

How do you plan to continue improving your Korean language skills after taking the TOPIK I test?

Section 4: Overall Opinions and Feedback

Share your overall thoughts and impressions of the TOPIK I test-taking experience. What went well, and what could have been better?

Do you have any recommendations or advice for future test-takers who are preparing for the TOPIK I test?

Please write additional insights if you've used another source to learn Korean and took a part in this research.:

Appendix B: Tables and Figures

1. Tables and Figures

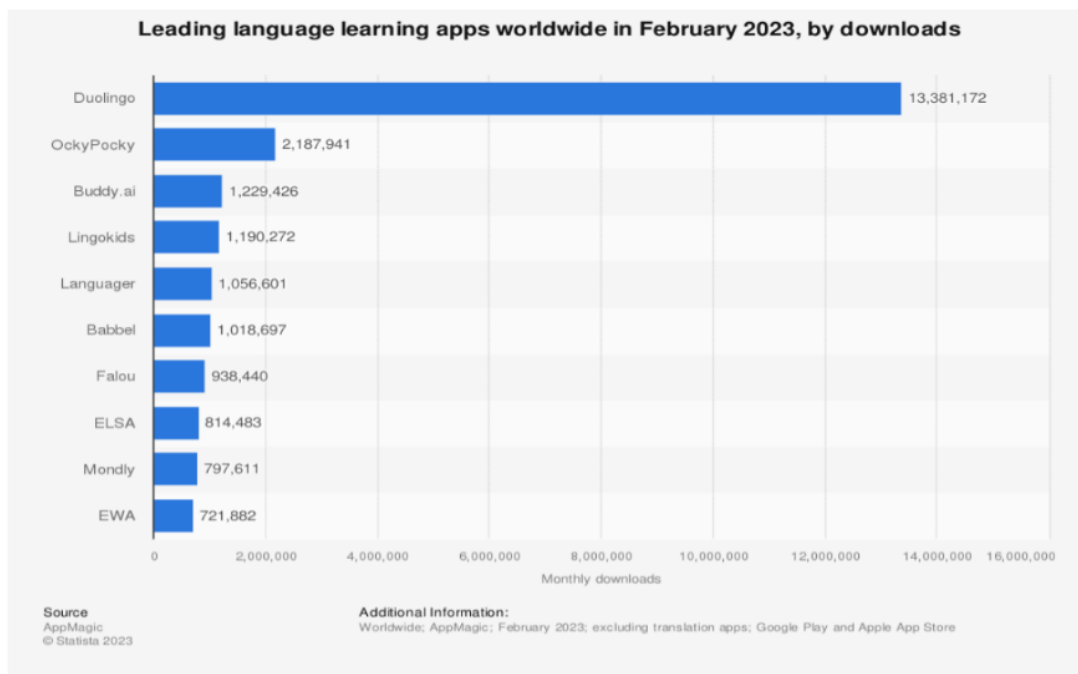


Figure 1: Statistic of leading language learning apps

9

Test type	Sections	Item type	Number of items	Range of score	Passing scores
TOPIK I	Listening (40 mins.)	Multiple choice	30	0–100	0–79 (Fail) 80–139 (Level 1)
	Reading (60 mins.)	Multiple choice	40	0–100	140–200 (Level 2)
TOPIK II	Listening (60 mins.)	Multiple choice	50	0–100	0–119 (Fail) 120–149 (Level 3)
	Writing (50 mins.)	Supply type	4	0–100	150–189 (Level 4) 190–229 (Level 5)
	Reading (70 mins.)	Multiple choice	50	0–100	230–300 (Level 6)

Source: From NIIED (2014), www.topik.go.kr

Figure 2: Score table of TOPIK Test

⁹ www.statista.com/statistics/1239522/top-language-learning-apps-downloads/. Accessed 13 Aug. 2023.



Figure 3: Heading of the Online Questionnaire

CaseNo	Who is answering?	How old are you?	What is your current occupation?	How did you come across Duolingo?	Why did you choose to use Duolingo?	How would you rate the app's convenience?	How would you rate the app's content quality?	What language did you learn?	Did you finish the course?	Did you test your skills?	Yes - Did you feel it was worth the effort?
11.5.2023	14:14:43	Male	Older than 40	Working person	Recommendation	Convenience	5	5	20 languages in rotation	No	Not yet
11.6.2023	18:41:28	Female	Older than 40	Working person	Recommendation	Convenience	2	2	André	No	Not yet
11.5.2023	15:37:28	Male	Age 30-40	Working person	Recommendation	The design of the app	2	2	Bad	No	No
11.5.2023	14:30:36	Female	Older than 40	Rated	Recommendation	Good reviews online	3	3	Carian	Yes	Yes
11.4.2023	16:04:14	Female	Older than 40	Working person	Recommendation	Convenience	4	4	Danish	Yes	Yes
11.5.2023	15:34:53	Female	Age 21-30	Student	Recommendation	The design of the app	3	5	Danish	No	Yes
11.5.2023	15:49:39	Male	Age 18-20	Student	Advertisement	Convenience	3	2	Danish	No	Not yet
11.5.2023	15:21:43	Female	Age 30-40	Working person	Advertisement	Good reviews online	4	3	Spanish	No	No
11.4.2023	6:08:36	Female	Younger than 15	Student	School	Convenience	2	4	Dutch	No	Not yet
11.5.2023	15:34:37	Male	Age 21-30	Student	Advertisement	Convenience	4	4	Dutch	No	No
11.5.2023	20:42:26	Male	Age 18-20	Student	School	Convenience	4	3	Dutch	No	Not yet
11.5.2023	22:36:30	Male	Age 21-30	Working person	Advertisement	Convenience	3	3	Dutch	No	Not yet
11.5.2023	23:35:11	Male	Age 30-40	Working person	Recommendation	Convenience	3	3	Dutch	Yes	No
11.5.2023	23:37:36	Female	Older than 40	Working person	Recommendation	Convenience	3	3	Dutch	Yes	No
4.11.2023	10:54:57	Female	Age 21-30	Working person	Advertisement	Good reviews online	5	5	English	Yes	Yes
11.5.2023	17:06:27	Male	Age 21-30	Student	Advertisement	Convenience	3	4	English	Yes	Yes
11.6.2023	13:45:58	Female	Age 21-30	Student	Advertisement, Recurrent	Good reviews online	4	5	English	Yes	Yes
11.5.2023	21:02:55	Female	Age 18-20	Student	Advertisement	Convenience	3	3	Every language but Japanese the most	No	No
11.5.2023	19:32:31	Female	Older than 40	Rated	Recommendation	Convenience	4	4	Finnish	Yes	Not yet
11.3.2023	12:12:54	Male	Age 18-20	Student	Advertisement	The design of the app	5	5	French	No	No
11.3.2023	23:22:38	Male	Age 21-30	Working person	Recommendation, School	Convenience	5	2	French	No	Yes
11.4.2023	0:16:29	Male	Older than 40	Working person	Recommendation	Convenience	4	4	French	No	Yes
11.4.2023	12:19:06	Female	Age 30-40	Working person	Advertisement	Good reviews online	3	3	French	No	Yes
11.5.2023	11:25:18	Female	Older than 40	Rated	Advertisement, Recurrent	Convenience	4	3	French	No	Yes
11.5.2023	13:59:25	Male	Age 30-40	Working person	Advertisement, Recurrent	Convenience	4	4	French	No	Not yet
11.5.2023	15:15:34	Female	Age 30-40	Working person	Recommendation	Convenience	5	4	French	Yes	No
11.5.2023	15:29:24	Male	Age 30-40	Student	Recommendation	Convenience	4	4	French	Yes	Yes
11.5.2023	15:50:12	Female	Age 21-30	Student	Recommendation	Convenience	4	5	French	No	No
11.5.2023	18:49:07	Male	Younger than 15	Student	Advertisement, Recurrent	Convenience	3	4	French	No	Yes
11.5.2023	18:32:28	Male	Age 21-30	Student	Recommendation	Convenience	4	4	French	No	Yes
11.6.2023	5:58:26	Female	Age 21-30	Working person	Advertisement, Recurrent	Good reviews online	3	5	French	No	Not yet
11.6.2023	8:06:13	Male	Age 21-30	Student	Advertisement	Convenience	2	3	French	No	Yes
11.6.2023	13:17:53	Female	Age 21-30	Working person	School	Convenience	3	3	French	No	No
11.6.2023	14:17:53	Female	Older than 40	Working person	Advertisement	Convenience	3	4	French	Yes	No
11.6.2023	14:32:40	Male	Age 21-30	Working person	Recommendation	Convenience	4	4	French	Yes	Yes
11.7.2023	4:15:40	Female	Older than 40	Rated	Recommendation	The design of the app	5	5	French	No	No
11.7.2023	12:19:25	Female	Age 30-40	Working person	Recommendation	Convenience	4	3	French	No	Not going to do a test
11.7.2023	23:31:42	Male	Age 21-30	Working person	Advertisement	Convenience	5	5	French	No	Yes
11.16.2023	8:25:52	Male	Younger than 15	Student	Advertisement, Recurrent	Convenience	4	5	French	No	Yes
11.6.2023	8:25:58	Male	Age 21-30	Working person	Advertisement	Convenience	3	4	French	No	No
11.5.2023	23:52:20	Male	Age 21-30	Student	Advertisement	Good reviews online	3	4	German	No	Not yet
4.11.2023	11:30:12	Female	Age 21-30	Student	Advertisement	Convenience	4	5	German	No	Not yet
11.3.2023	14:09:21	Female	Age 21-30	Working person	Advertisement	Convenience	4	3	German	No	Not yet

Figure 4: Raw data from the survey

Yes	No	Yes	No	Yes	No
No opportunity to travel to said country.	Yes	No	Yes	A forum, being able to ask questions.	No
Duolingo content isn't very useful or applicable.	No	No	No	A good explanation on grammar, and the ability to learn.	No
I didn't feel I was learning much.	No	No	No	Actual learning. I wouldn't.	No
Not after Duolingo alone.	Yes	No	Yes	Basic methodology is wrong. It's based on translation.	No
Time constraints and I felt there were better methods of learning.	Yes	No	Yes	Duolingo is a decent beginner's app, especially for grammar explanations.	No
Lack of speaking practice.	No	No	Yes	Good content and speaking exercises for lesser known languages.	No
Lack of grammar education in the app.	No	No	Yes	Grammar rules and a forum for discussions.	No
Repetitive.	Yes	No	No	Grammar, construction, actual voice recognition.	No
The course is bad and doesn't actually prepare you for real conversations.	No	No	No	It's lacking ways to keep me engaged.	No
Not enough basic words/sentences were taught.	No	No	No	It's mainly lacking in speech practice.	No
Language production was still very difficult.	Yes	No	Yes	It's too repetitive.	No
Very slow pace of the course.	Yes	No	Yes	More useful vocabulary, speaking practice, explicit grammar writing exercises, I would not recommend it.	No
The course could not catch up to my actual level in the language.	No	No	No	Professionals making the content instead of relying on AI.	No
The sentence examples were a bit weird and unrealistic, which did not help with conversational skills.	No	No	Yes	Proper grammar explanations, spaced repetition, real life usefulness, it teaches direct translation.	No
Duolingo is only meant to debilitate in a language and is not meant to teach you more than basic things.	Yes	Yes	No	The ability to whatever lesson you want and not just tutors that help.	No
My inability to recall vocabulary.	Yes	No	No	A good SRS, more focus on only recommending it to a way to practice your fluency and use.	Yes
Didn't complete the course.	Yes	Yes	Yes	A way to study vocabulary.	Yes
Test had a listening section that was beyond my knowledge.	Yes	Yes	No	Better listening exercises at the end of the day.	Yes
The course introduces things but nothing for listening.	Yes	No	Yes	Classes for younger kids that are convenient and useful.	Yes
I only knew a lot of vocabulary but couldn't form grammatical sentences.	Yes	No	No	Communication aspect. It's free and a good start.	Yes
	Yes	Yes	No	Consistency across languages beyond language learning.	Yes
	Yes	Yes	No	Things are free, it's fun, it works.	Yes
	Yes	Yes	No	Depth. It's a good start to some extent.	Yes
	Yes	Yes	No	Different types of exercises. It's the best app to learn.	Yes
	Yes	Yes	No	Doesn't show grammar overall, it's a good app.	Yes
	Yes	Yes	No	Equal material across all levels. Easy way to practice.	Yes
	Yes	Yes	No	Expansive grammar, free to use.	Yes
	Yes	Yes	No	Explaining the grammar. It's definitely a start into it.	Yes
	Yes	Yes	No	Explanations on why. It's free and accessible.	Yes
	Yes	Yes	No	Flexibility to create your own. It's an ok introduction.	Yes
	Yes	Yes	No	Focus on grammar more. It is comprehensible and fun.	Yes
	Yes	Yes	No	For my course, grammar I think that this app is a good start.	Yes

Figure 5: Filtered answers from the survey

Male	Age 16 - 20	Student	Recommendation	Convenience
Male	Age 16 - 20	Student	Advertisement	Convenience
Prefer not to say	Age 21 - 30	Working person	Recommendation	Convenience
Female	Older than 40	Retired	Recommendation	Good reviews online
Male	Age 21 - 30	Working person	Advertisement	Convenience
Female	Age 30 - 40	Working person	Advertisement	Convenience
Male	Age 16 - 20	Student	School	Convenience
Male	Age 21 - 30	Student	Recommendation	Convenience
Female	Older than 40	Working person	Recommendation	Convenience
Female	Older than 40	Working person	Advertisement	Good reviews online
Female	Age 21 - 30	Working person	Advertisement	The design of the app
Female	Age 21 - 30	Working person	School	Convenience
Male	Age 21 - 30	Working person	Recommendation	Convenience
Female	Age 30 - 40	Working person	Advertisement	Convenience
Female	Age 21 - 30	Working person	Recommendation	Good reviews online
Female	Age 16 - 20	Student	Advertisement	Convenience
Male	Age 21 - 30	Working person	Recommendation	Convenience
Female	Older than 40	Working person	Advertisement	Convenience
Male	Age 16 - 20	Student	Recommendation	Convenience
Male	Age 21 - 30	Student	Advertisement	Convenience
Prefer not to say	Age 21 - 30	Working person	Advertisement	Good reviews online
Female	Age 21 - 30	Student	Advertisement	Convenience
Male	Age 16 - 20	Student	Advertisement	The design of the app
Female	Age 30 - 40	Working person	Advertisement	Good reviews online
Male	Age 30 - 40	Working person	Recommendation	The design of the app
Female	Younger than 15	Student	School	Convenience
Female	Age 30 - 40	Working person	Recommendation	The design of the app
Prefer not to say	Age 21 - 30	Student	Advertisement	Convenience
Female	Age 21 - 30	Student	Recommendation	Convenience
Female	Age 30 - 40	Student	Recommendation	Convenience
Female	Age 21 - 30	Student	Recommendation	Convenience
Male	Age 21 - 30	Student	Advertisement	Good reviews online
Prefer not to say	Age 21 - 30	Working person	Advertisement, Recomm	Convenience
Female	Age 16 - 20	Student	Recommendation	The design of the app
Female	Age 16 - 20	Student	School	Convenience
Female	Older than 40	Working person	Recommendation	Convenience
Male	Age 21 - 30	Student	Recommendation	Convenience
Female	Age 21 - 30	Working person	Recommendation	Good reviews online
Female	Age 21 - 30	Student	Recommendation	Convenience
Male	Age 21 - 30	Student	School	Convenience
Female	Age 30 - 40	Working person	Advertisement	Convenience
Female	Age 21 - 30	Student	Advertisement	Convenience
Female	Age 21 - 30	Student	Advertisement, Recomm	Good reviews online

Figure 6: Colour coded Close-ended questions

How did you come across Duolingo?

113 odpovědí

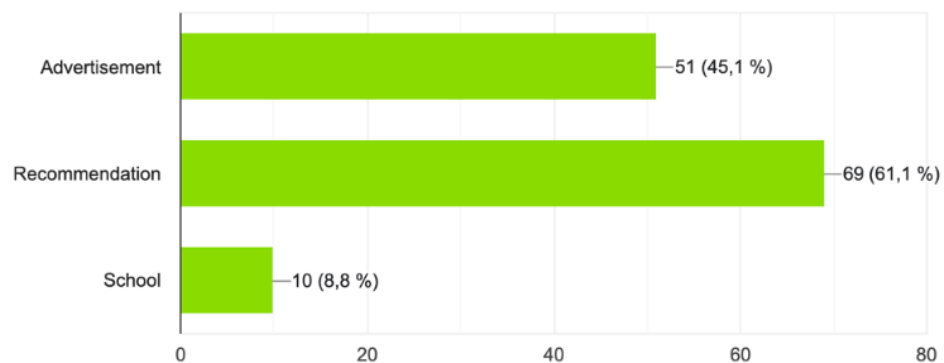


Figure 7: How did you come across Duolingo?

Why did you choose to use Duolingo?

113 odpovědí

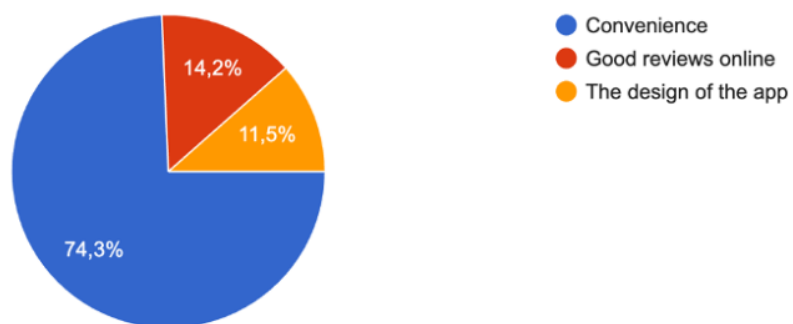


Figure 8: Why did you choose to use Duolingo?

Did you finish the course?

113 odpovědí

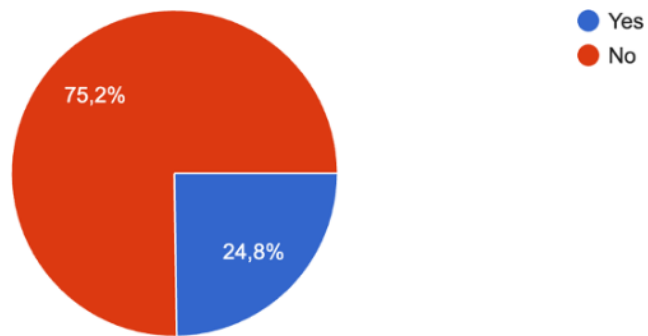


Figure 9: Did you finish the course?

Would you recommend Duolingo to others?

113 odpovědí

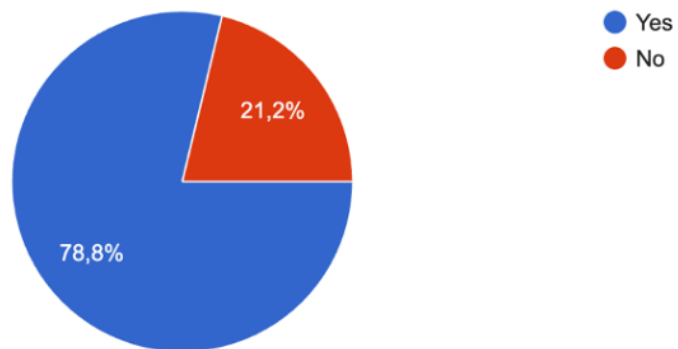


Figure 10: Would you recommend Duolingo to others?

	Listening	Reading	Vocabulary	Grammar	Writing	Speaking
Student 1	3	3	4	3	4	2
Student 2	2	4	2	2	3	1

Table 1: Rating of Test Sections