# IMA 2 - Usability testing report



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## Introduction

Duolingo is an app that can be used by anyone with a smartphone or computer. Duolingo is a language learning app with the primary focus of helping users acquire the skills to speak a language of choice. Learners can also learn to read and spell with exercises such as matching, multiple choice, and typing questions. For the Duolingo test, the test administrator sat with participants and observed and took notes on the time it took to create an account, select a language, change the language, turn off and on auditory sound, go to the settings to change a preference, and how many times they clicked to accomplish each goal. At the end of the app portion of the test, the administrator asked them 5 end-of-session questions regarding how hard or easy the app was to use, and 19 questions on app satisfaction.

## Methodology

### Sessions

The test administrator contacted and recruited participants via friends and family. The test administrator called and texted them to see if they were willing and available to set time aside to participate in a usability test of Duolingo. Once the test administrator found two participants, both parties worked together to agree on a date and time. Both participants were available on 6/2/2025. The test duration was between 20 minutes to an hour. During the test, the administrator explained how they would be working through the questions, that participants need not worry about how they performed because the app is what is being tested, not them, and to think aloud during the process, including questions. It was explained that if they asked questions, they would be jotted down but not answered till the end of the session, once they had solved or completed the task. Before getting started, the administrator asked 5 pre-questions to get to know the participants on a more personal level while still gathering important information about typical app use, native tongue, and nationality. After the 5 tasks were completed, the administrator asked the participant a 5-item end-of-session questionnaire on app usability and 19 questions on app satisfaction.

The 5 end-of-session questions can be responded to using

Super easy, Easy, Not easy or hard, Hard, Super hard.

Questions

1. How easy or hard was it to complete the steps necessary to create a new account?
2. How easy or hard was it to find a language you like to learn and add it to your profile/account?
3. How easy or hard was it to change the language to other languages you like to learn
4. How easy or hard was it to turn off and turn on the auditory sound?
5. How easy or hard was it to go to a setting/preference and change a setting option

Next is the satisfaction questionnaire.

The Satisfaction questionnaire is rated as follows: 1=strongly disagree,

4= do not agree or disagree, and 7=strongly agree.

Questions

1. Overall, I am satisfied with how easy it is to use this language learning app.
2. It was simple to use this language learning app.
3. I could effectively complete the tasks using the language app.
4. I was able to complete the tasks quickly using this language learning app.
5. I was able to efficiently complete the tasks using this language learning app.
6. I felt comfortable using this language learning app.
7. It was easy to learn to use this language learning app.
8. I believe I could become productive quickly using this language learning app.
9. This language learning app gave error messages that clearly told me how to fix problems.
10. Whenever I made a mistake using the language learning app, I could recover easily and quickly.
11. The information (such as online help, on-screen messages, and other documentation) provided with his language learning app was clear.
12. It was easy to find the information I needed.
13. The information provided for this learning language learning app was easy to understand.
14. The information was effective in helping me complete the tasks.
15. The organization of information on the language learning app screens was clear.
16. The interface of this language learning app (buttons, menus, graphics) was pleasant.
17. I liked using the interface of this language learning app (buttons, menus, graphics).
18. This language learning app has all the functions and capabilities I expected it to have.
19. Overall, I am satisfied with this learning app.

In addition, the test administrator asked the participants the following overall website question: Study with the app for about 3 minutes (time), and then imagine that your friend just emailed you to ask about this. What would you tell your friend?

### Participants

This usability test had two participants, one of whom is male, age 31, mother tongue is English, and home country is the USA. The second participant is female, 67, her mother tongue is Spanish, and her home country is Venezuela. Both participants were on Sunday, June 1st, 2025.

### Evaluation Tasks/Scenarios

Test participants attempted completion of the following tasks (see Attachment for complete test scenarios/tasks)

* Complete the steps necessary to create a new account. Stop after your account has been created.
* Now, find one language you like to learn and add it to your profile/account.
* Change the language to another language you like to learn
* Turn the auditory sound on and off.
* Go to a setting/preference and change a setting option.

## Results

### Task Completion Success Rate

All participants successfully completed task 1 (Complete the steps necessary to create a new account. Stop after your account has been created.). All Participants successfully completed Task 2 (Now, find one language you like to learn and add it to your profile/account.). All participants successfully completed task 5 (Go to a setting/preference and change a setting option.). Approximately half (50%) of participants were able to complete task 3 (Change the language to other languages you like to learn.). Approximately half (50%) of participants were able to complete task 4 (Turn off and on auditory sound). Participate 2 during task 2, changing the language, deleted the course/selected language she was on, which, if she had been working on it for a while, would have lost all course data, then added another language. On task 4, participant 2 clicked all the portals but was not able to find settings, though they had previously taken themselves to the settings by mistake earlier. The administrator at this point found the page where the setting icon was and said, “Now look for the icon that looks like your iPhone setting icon.” Then the participant was able to locate and change the auditory sound.

**Task Completion Rates**

| **Participant** | **Task 1** | **Task 2** | **Task 3** | **Task 4** | **Task 5** |
| --- | --- | --- | --- | --- | --- |
| **1** | √ | √ | **√** | **√** | **√** |
| **2** | √ | √ | - | - | **√** |
| **Success** | **2** | **2** | **1** | **1** | **2** |
| **Completion Rates** | **100%** | **100%** | **50%** | **50%** | **100%** |

### Learnability: Time to complete a task successfully

Task 1 required participants to create a new account; the mean time was 00:04:69, and it was the task that took the longest time to complete. Task 4, participants turn the auditory sound on and off. The mean of this task is (00:02:07). In Task 3, participants change the language they have selected to another language they would like to learn; the mean for this is (00:01:07). In Task 2, participants change the language they have selected to another language. The mean is (00:01:06). The task that took the shortest amount of time was Task 5, where participants went to a setting/preference and changed a setting option. The mean of this was (00:00:18)

**Time on Task**

|  | **P1** | **P2** | **TOT** | **Avg.** |
| --- | --- | --- | --- | --- |
| **Task 1** | 00:00:22 | 00:09:16 | 00:09:38 | **4.69** |
| **Task 2** | 00:00:10 | **00:03:03** | 00:03:13 | 1.6 |
| **Task 3** | 00:00:05 | 00:03:25 | 00:03:30 | 1.7 |
| **Task 4** | 00:00:38 | 00:05:06 | 00:05:44 | 2.7 |
| **Task 5** | 00:00:09 | 00:00:27 | 00:00:36 | 0.18 |

### Errors

The task that had the most errors was Task 4, where participants needed to turn on and off the auditory sound. Participant 2 clicked on many things but then gave up. The participant was assisted for a moment; they were told, “Find the icon that looks like the iPhone settings icon.”. After this assistance, the participant completed the task. Task 3: The participant needed to change the selected language to another language. Participant 2 deleted the course they were taking, which, if they had been working on this language for an extended amount of time, they would have lost all data. After deleting the course/previously selected language, they picked another language.

|  | **P1** | **P2** | **TOT** | **Avg.** |
| --- | --- | --- | --- | --- |
| **Task 1** | 0 | 10 | 10 | 5 |
| **Task 2** | 0 | 0 | 0 | 0 |
| **Task 3** | 0 | 15 | 15 | 7.5 |
| **Task 4** | 3 | 20 | 23 | 11.5 |
| **Task 5** | 0 | 2 | 2 | 1 |

### Summary of Data

The table below displays a summary of the test data. Low completion rates, satisfaction ratings, and high errors and time on tasks are highlighted in red.

**Summary of Completion, Learnability (Time on Task), Errors**

| **Task** | **Task Completion** | **Learnability**  **(Time on Task)** | **Errors Avg.** |
| --- | --- | --- | --- |
| **1** | 2 | 00:09:38 | 5 |
| **2** | 2 | 00:03:13 | 0 |
| **3** | 1 | 00:03:03 | 7.5 |
| **4** | 1 | 00:05:44 | 11.5 |
| **5** | 2 | 00:00:36 | 1 |

**Task – end of session questionnaire table (example)**

| **Participants** | **Q1** | **Q2** | **Q3** | **Q4** | **Q5** | **Your tasks** | **Total**  **(per participant)** | **Mean**  **(per participant)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **P1** | 1 | 1 | 1 | 1 | 1 | ~ | 5 | 1 |
| **P2** | 2 | 2 | 4 | 4 | 4 | ~ | 16 | 3.2 |
| **Total**  **(per item)** | 3 | 3 | 5 | 5 | 5 | ~ | 21 | 4.2 |
| **Mean**  **(per item)** | 1.5 | 1.5 | 2.5 | 2.5 | 2.5 | ~ | 10.5 | 2.1 |

*\* Scale: 1 (super easy) – 3 (not easy or hard) – 5 (super hard)*

*\* Mean rating per participant = (total per participant from Q1 to your tasks) / # of items (above example used 5 items only)*

*\* Mean rating per item = (total per item) / 7 (# of participants)*

### Satisfaction

Overall, the mean of satisfaction was 5.9. The test administrator had two participants. Participant 1 had a mean of 7 and rated all responses a strongly agree meaning he was highly satisfied. Participant one is 31 and uses technology daily. Participant 2 has a mean of 4.84. This participant struggled with question 9: “This language learning app gave error messages that clearly told me how to fix problems.” Rating it at a 1, strongly disagree. 12 “It was easy to find the information I needed.” rated with a 5. 13 “The information provided for this learning language learning app was easy to understand.” with a 5. 14 “The information was effective in helping me complete the tasks.” with a 5. 17 “I liked using the interface of this language learning app (buttons, menus, graphics),” with a 5. 19 “Overall, I am satisfied with this learning app.” with a 5. Participant 2 is a 67-year-old female who, other than the typical Facebook or social media, doesn’t interact with technology often. She did have more trouble than participant 1, but still expressed that she liked the app, though she got frustrated with her body language at times.

**Satisfaction Questionnaire table**

| **Participants** | **Q1** | **Q2** | **Q3** | **Q4** | **Q5** | **Q6** | **Q7** | **Q8** | **Q9** | **Q10** | **Q11** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **P1** | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| **P2** | 5 | 5 | 5 | 2 | 5 | 6 | 6 | 6 | 1 | 4 | 4 |
| **Total**  **(per item)** | 12 | 12 | 12 | 9 | 12 | 13 | 13 | 13 | 8 | 11 | 11 |
| **Mean**  **(per item)** | 6 | 6 | 6 | 4.5 | 6 | 6.5 | 6.5 | 6.5 | 4 | 5.5 | 5.5 |

| **Participants** | **Q12** | **Q13** | **Q14** | **Q15** | **Q16** | **Q17** | **Q18** | **Q19** | **Total**  **(Per participant)** | **Mean**  **(per participant)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **P1** | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 133 | 7 |
| **P2** | 5 | 5 | 5 | 7 | 7 | 5 | 4 | 5 | 92 | 4.84 |
| **Total**  **(per item)** | 12 | 12 | 12 | 14 | 14 | 12 | 11 | 12 | 225 | 11.9 |
| **Mean**  **(per item)** | 6 | 6 | 6 | 7 | 7 | 6 | 5.5 | 6 | 112.5 | 5.9 |

*\* Scale: 1 (strongly disagree) – 4 (do not agree or disagree) – 7 (strongly agree)*

*\* Mean rating per participant = (total per participant from Q1 to Q19) / 19 (# of items) (above example used 8 items only)*

*\* Mean rating per item = (total per item) / 7 (# of participants)*

### User experience

Both participants enjoyed the app and would use it or recommend it to a friend in the future.

## Recommendations

| **Change** | **Justification** | **Severity** |
| --- | --- | --- |
| * The app had a lot of buttons and sections. Simplifying it may help people that are older or not used to technology. Though everything is colorful and elaborately designed maybe some areas don’t need as many elaborations to distinguish what is being shown. | The graphics were attractive, but a lot of the icons seemed misleading for participant 2 and they struggled to find their way back to the main home or find settings when needed. | High |

## Conclusion

The participants for this activity enjoyed the app, thought it was eye-catching, had no app issues other than user error, the lessons had a good pace, and the users could follow along from the first lesson.

## Attachments

Attachment – Completed observation sheets, completed task questionnaires, completed satisfaction questionnaires