**EME 6208- IMA 2 – Usability Testing Report**

**Busuu**



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**Introduction:**

Busuu is a leading language learning application that is available on devices such as smartphones, tablets and laptops. It is available on I-store and Google Play Store.

Busuu was founded in May 2008 by Bernhard Niesner and Adrian Hilti. The company has launched free versions of the application. In 2009, Premium membership was introduced to access to all features on the platform and in 2010, the first Busuu mobile app was launched. Busuu is named after the endangered language [Busuu](https://en.wikipedia.org/wiki/Busuu_language), spoken in [Cameroon](https://en.wikipedia.org/wiki/Cameroon). (Wikipedia, n.d.).

A usability test was conducted to understand how five diverse learners were able to use the app which was tested on learnability, errors and satisfaction with learners who have different technological know-how (novice to experienced). People of different age-groups and nationalities were selected as task users. They had different professions that were not related to language acquisition or language education.

**Methodology:**

Each user was tested individually using an interview method and a subsequent survey with pen and paper. They could ask doubts to the administrator and were encouraged to think aloud. Upon the completion of three pre-determined tasks to creating an account, finding one language the user likes to learn and changing the language to other language the user wants to learn, the user completed three lessons based on the language they ultimately selected. Time and number of clicks per task were noted and a satisfaction questionnaire was administered for understanding and improving the user experience of Busuu as a learning tool and as an educational product.

Participant #1 is a 61-year-old Indian woman who has been an early childhood educator. She has retired and is currently visiting family in USA. She has not been teaching students for a while. She was observed on Sunday, 29th September, 2024. She likes spending time on her phone speaking to her family, especially her granddaughter. She uses WhatsApp and Facebook on her mobile and has never used any educational app including any language learning app. She also uses fitness related apps on her mobile. She is fluent in Hindi and knows a bit of Sanskrit. She took 8 minutes to create an account (she linked it to her Facebook account) and select a language and then change to another language. She is at A2 level English, so she selected English as the language when she logged in to the Busuu app. Her choice to change to French was based on the popularity of the language in India.

She wants to learn a new language but feels at her age, it is very difficult. She could be considered as a novice user of technology as she can navigate on her iPhone, but she does not use any other device. For the observations, she used her I phone. She took a long time to click to complete the tasks. She also struggled with the settings and changing the language. Once guided, she was able to execute the tasks smoothly. She complained that the ads were too long and unwanted.

Participant #2 is a 9-year-old Indian girl studying in grade 3 at Chiles Elementary school, Tampa who was tested on Monday, 30th September, 2024. She uses her Apple I-pad for games, especially Roblox when she is bored. She completes her assignments on the Clever portal. She likes Duolingo and has used it to learn Hindi. She selected English as her language, and struggled a bit to change to another language, Italian. The total time taken to complete the three pre-determined tasks was around 3 minutes as she needed her mother’s help. She had used her mother’s login credentials as she does not have her own email id. However, she completed the three video lessons in Italian in less than 3 minutes. She selected Italian as the second language as she was curious and wanted to learn a new language. She completed the tasks with fewer clicks once her language was changed in the app.

Participant #3 is a 67-year-old Indian gentleman who lives in Jaipur, India. He was interviewed on Sunday, 29th September, 2024.He is visiting family in USA. He served in the Indian army for over 30 years. He had served in the United Nations on deputation to Maputo, Mozambique where he had to speak basic Portuguese. While he selected English as his primary language in the app, he switched to Portuguese for the lessons. The time taken for him to complete the three pre-determined tasks was 8 minutes. He uses his I-Pad for listening to news related to geo-politics. He uses Facebook as well. He can be considered as a novice user for the language learning app. He has never used any educational apps on his I-pad or mobile phone. He took a very long time to complete the tasks and clicked several times as he needed guidance to complete the pre-determined tasks and the video lessons.

Participant #4 is a Mexican immigrant who works in HR in a financial services firm in Tampa. She was tested on Sunday, 29th September, 2024. She is fluent in Spanish and knows A2 level (intermediate) French. She selected Spanish as her initial language and switched to German as she was interested in learning the language. She is tech-savvy and took less than 4 minutes to complete the three pre-determined tasks with minimum clicks. She completed the three video lessons in less than 3 minutes. She seems to have a flair for learning new languages. She spends most of her time on Instagram on her Pixel phone. She liked the app but felt that the advertisements were too long.

Participant #5 is an American gentleman working in a leading bank in Tampa as a Business Analyst. He was tested on Monday, 30th September, 2024. He knows English (mother tongue) and a bit of Spanish. He selected English as his initial language and switched to Chinese. He wanted to try to learn a difficult language. The three pre-determined tasks were completed in less than 3 minutes. He completed the tasks in a few clicks and did not ask for help from the administrator.

All the test users were impressed by the app and felt that they would recommend it to others. They found it easy to use. They also commented on the videos of the speakers who instruct the learners. The use of videos in particular reduces the cognitive load of learning the new language. The users felt that videos that can be played again to understand the concepts are useful.

**App Design/Layout:**

* The participants felt that the app had a user-friendly layout. They liked the blue and white colour combination. They liked the buttons and felt that they can navigate easily from one point to the other.
* The app incorporates recognizable icons for different sections (like vocabulary, grammar, and practice) and uses videos to enhance engagement and comprehension. The use of flags of the countries where the language is spoken makes the app easier to use.
* **Bottom Navigation Bar**: The app typically features a bottom navigation bar that allows users to easily switch between key sections like "Home," "My Course," "Community," and "Profile."
* Users can see their progress in real time, which is visually represented through progress bars and completion percentages. This encourages users to continue learning.
* The app is fully functional on all devices and follows the principle of responsive design.
* The audio for speaking and the space for typing are all suitable for all users.
* More customization could be provided to help learners select their own themes and layout.

**Results:**

The three tasks were–

Task 1. Complete the steps necessary to create a new account. Stop after your account has been created.

Task 2. Now, find one language you like to learn and add it to your profile / account.

Task 3. Change the language to other language you like to learn.

The other two tasks of turning off and turning on the auditory sound and going to a setting/preference and changing a setting option were also performed but timings were noted for the first three tasks.

**Task completion success rate**

|  |  |  |  |
| --- | --- | --- | --- |
| Participant | Task 1 | Task 2 | Task 3 |
| 1 | **Tick with solid fill** | **Tick with solid fill** | **Tick with solid fill** |
| 2 | **Tick with solid fill** | **Tick with solid fill** | **Tick with solid fill** |
| 3 | **Tick with solid fill** | **Tick with solid fill** | **Tick with solid fill** |
| 4 | **Tick with solid fill** | **Tick with solid fill** | **Tick with solid fill** |
| 5 | **Tick with solid fill** | **Tick with solid fill** | **Tick with solid fill** |
| Success | **5/5** | **5/5** | **5/5** |
| Rate of completion | **100%** | **100%** | **100%** |

All the 5 test users completed the tasks successfully. Participant #1 and #3 took time to create a new account as they are not that tech-savvy. Participant#2 being a child needed her mother’s help and her mother’s login credentials were used. Tasks 2 and 3 were easy to execute by the participants.

**Learnability: Time to Complete a Task successfully**

According to the table below, the participants took the maximum time in completion of Task 1 as they found creation of account and logging in difficult. The participants used their Google and Facebook accounts to log in, participants #1 and #3 needed help to create their accounts and log in. Tasks 2 and 3 were the easiest even for the child as selecting a language and then changing the language was not time-consuming.

**Time on task in seconds**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | P1 | P2 | P3 | P4 | P5 | Total | Average |
| Task 1 | **300** | **75** | **365** | **66** | **72** | **878** | **175.6** |
| Task 2 | **45** | **22** | **67** | **20** | **22** | **176** | **35.2** |
| Task 3 | **27** | **21** | **30** | **16** | **11** | **105** | **21.0** |

**Learnability: Click per Task**

Participants #1 and #3 clicked a greater number of times for task 1 as they found creating an account and logging in difficult. After a while, they asked for help from the administrator and were then able to complete the task. Perhaps, the action of multiple clicks could be attributed to them being novice users to the app. The number of clicks is significantly lower for Tasks 2 and 3 as the tasks are simpler to complete and need to be done once the user has logged in. Once logged in, the user is comfortable with navigating the app. The icon with the flag of the country where the language is spoken helps the users follow the steps to complete Tasks 2 and 3.

**Clicks per task**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | P1 | P2 | P3 | P4 | P5 | Total | Average |
| Task 1 | **12** | **4** | **8** | **4** | **4** | **32** | **6.4** |
| Task 2 | **3** | **3** | **6** | **3** | **4** | **19** | **3.8** |
| Task 3 | **2** | **2** | **3** | **3** | **3** | **13** | **2.6** |

**Errors**

The participants hardly made any errors. Participants #1 and #3 made a few errors in task 1 , creating their accounts. They needed guidance from the administrator. Task 3 was the easiest had no errors. This lack of errors could be attributed to the comfort gained by the user once logging in and using a similar interface thereafter.

**Errors per task**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | P1 | P2 | P3 | P4 | P5 | Total | Average |
| Task 1 | **2** | **1** | **4** | **0** | **0** | **7** | **1.4** |
| Task 2 | **1** | **0** | **0** | **0** | **0** | **1** | **0.2** |
| Task 3 | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

**Summary of Data**

As per the data, task 1 seems to be the most difficult one. Task 3 was the easiest as the users had already entered the app and were able to change to a new language with ease.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Task completion | Learnability (Time on Task) | Errors |
| Task 1 | **100%** | **175.6** | **1.4** |
| Task 2 | **100%** | **35.2** | **0.2** |
| Task 3 | **100%** | **21.0** | **0** |

**Task Questionnaire Results**

As per the table below, the participants found the tasks mostly super easy or easy. Super easy was a rating of 1 and super hard was a rating of 5. Participant 4 found changing the setting or managing the setting preferences quite hard. Participant 1 took the most time for creating an account but said it was super easy. Since she is not very tech-savvy, she would have felt it was super easy. Task 3 took the least time for completion; however, the users have a slightly higher rating compared to tasks 1 and 2.

If we consider the three tasks (1,2 &3), participants 1&4 found the tasks slightly easier than participants 2,3 & 5, though the difference is not significant.

**Task Questionnaire data**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Q1 | Q2 | Q3 | Total (per participant) | Mean (per participant) | Q4 | Q5 | Total (per participant) | Mean (per participant) |
| P1 | **1** | **1** | **2** | **4** | **0.8** | **2** | **2** | **8** | **1.6** |
| P2 | **1** | **2** | **2** | **5** | **1.0** | **1** | **3** | **9** | **1.8** |
| P3 | **2** | **1** | **2** | **5** | **1.0** | **2** | **2** | **9** | **1.8** |
| P4 | **1** | **1** | **2** | **4** | **0.8** | **2** | **2** | **8** | **1.6** |
| P5 | **1** | **2** | **2** | **5** | **1.0** | **3** | **4** | **12** | **2.4** |
| Total per item | **6** | **7** | **10** | **23** | **4.6** | **10** | **13** | **46** | **9.2** |
| Mean per item | **1.2** | **1.4** | **2.0** | **4.6** |  | **2.0** | **2.6** | **9.2** |  |

*Scale: 1 (super easy) – 3 (not easy or hard) – 5 (super hard)  
o \* Mean rating per participant = (total per participant from Q1 to your tasks) / # of items (above example used 5 items only)  
o \* Mean rating per item = (total per item) / 5 (# of participants*

**Satisfaction Questionnaire Results**

As per the data based on the satisfaction questionnaire, the participants were most satisfied with Q1 (overall satisfaction with the ease of use of the app), Q10 (recovery from mistakes), Q16 (pleasant interface), Q17(use of interface), Q19 (overall satisfaction with the app). These results are congruent with the responses of the test users who felt that the app has a modern-looking interface and was easy to navigate.

The participants were least satisfied with Q11 (the information provided with the app), Q14(the usefulness of the information in task completion) and Q18 (the app has all the expected functions and capabilities).

Participant 2 was the most satisfied with the app, perhaps she is a child and found it very useful and engaging. She uses several apps on her I-pad and plays games on her device as well. Hence, she must have found using a new app appealing. Participants 3 and 5 were least satisfied with the app. Participant 3 is not that tech-savvy due to his seniority in age and participant 5 did not find the app very informative.

**Satisfaction Questionnaire Table**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Participants | P1 | P2 | P3 | P4 | P5 | Total (per item) | Mean (per item) |
| Q1 | **7** | **7** | **6** | **7** | **7** | **34** | **6.8** |
| Q2 | **6** | **4** | **6** | **7** | **6** | **29** | **5.8** |
| Q3 | **5** | **6** | **5** | **6** | **6** | **28** | **5.6** |
| Q4 | **6** | **7** | **5** | **6** | **6** | **30** | **6.0** |
| Q5 | **6** | **5** | **5** | **6** | **6** | **28** | **5.6** |
| Q6 | **6** | **7** | **6** | **6** | **5** | **30** | **6.0** |
| Q7 | **6** | **6** | **6** | **6** | **5** | **29** | **5.8** |
| Q8 | **6** | **5** | **6** | **6** | **6** | **29** | **5.8** |
| Q9 | **6** | **7** | **5** | **5** | **6** | **29** | **5.8** |
| Q10 | **7** | **7** | **6** | **6** | **5** | **31** | **6.2** |
| Q11 | **4** | **6** | **5** | **4** | **2** | **21** | **4.2** |
| Q12 | **6** | **6** | **5** | **5** | **5** | **27** | **5.4** |
| Q13 | **6** | **4** | **5** | **5** | **5** | **25** | **5.0** |
| Q14 | **5** | **4** | **5** | **5** | **5** | **24** | **4.8** |
| Q15 | **6** | **7** | **5** | **6** | **5** | **29** | **5.8** |
| Q16 | **6** | **7** | **6** | **6** | **6** | **31** | **6.2** |
| Q17 | **6** | **7** | **6** | **6** | **6** | **31** | **6.2** |
| Q18 | **3** | **3** | **5** | **6** | **5** | **22** | **4.4** |
| Q19 | **6** | **7** | **5** | **7** | **6** | **31** | **6.2** |
| Total per participant | **109** | **112** | **103** | **111** | **103** | **538** |  |
| Mean per participant | **21.8** | **22.4** | **20.6** | **22.2** | **20.6** | **107.6** |  |

*\* 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) \* Mean rating per item = (total per item) / 5 (# of participants)*

**Additional analysis –**

Learnability is enhanced by **predictability**, where users can anticipate the system's behavior; **synthesizability**, which allows users to assess the impact of their actions; **familiarity**, where prior knowledge is leveraged to reduce the learning curve; **generalizability**, enabling users to apply knowledge from one part of the system to another; and **consistency**, which ensures uniform behavior across the interface, further facilitating user comprehension. (Dix, Finlay, Abowd, & Beale, 2004).

A few more questions were added to understand more about how learnable the app is to the test users. Participant 2 (the young girl) did not find the app to be predictable. The participants found the app useful in integrating their prior knowledge to the tasks learned. They also found the content and the use of the app familiar and felt they could apply what they learned to other areas. In addition, they found the app to be consistent in structure.

**Elements of Learnability Questionnaire Results**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | P1 | P2 | P3 | P4 | P5 | Total (per item) | Mean (per item) |
| Predictability | **Q1** | **5** | **1** | **5** | **5** | **3** | **19** | **1.9** |
| **Q2** | **4** | **4** | **5** | **6** | **5** | **24** | **2.4** |
| Synthesizability | **Q1** | **4** | **4** | **6** | **6** | **5** | **25** | **2.5** |
|  | **Q2** | **5** | **5** | **6** | **6** | **5** | **27** | **2.7** |
| Familiarity | **Q1** | **5** | **3** | **6** | **6** | **5** | **25** | **2.5** |
|  | **Q2** | **6** | **4** | **6** | **6** | **6** | **28** | **2.8** |
| Generalizability | **Q1** | **6** | **5** | **5** | **6** | **6** | **28** | **2.8** |
|  | **Q2** | **6** | **5** | **6** | **6** | **6** | **29** | **2.9** |
| Consistency | **Q1** | **6** | **5** | **6** | **7** | **6** | **30** | **3.0** |
|  | **Q2** | **5** | **6** | **6** | **7** | **6** | **30** | **3.0** |
| Total per participant |  | **52** | **42** | **57** | **61** | **53** |  |  |
| Mean per participant |  | **10.4** | **8.4** | **11.4** | **12.2** | **10.6** |  |  |

*\* Scale: 1 (strongly disagree) – 4 (do not agree or disagree) – 7 (strongly agree)  
\* Mean rating per participant = (total per participant from Q1 to Q10) / 10 (# of items) \* Mean rating per item = (total per item) / 5 (# of participants)*

Similarly, a few more questions were asked to understand the errors that could be made by the app. Participants felt that the app is easy to navigate, does not take time to load or does not crash, provides timely and accurate feedback to erroneous responses and motivates them to continue to use the app due to repetitive tasks.

**Classification of errors - Analysis**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | P1 | P2 | P3 | P4 | P5 | Total (per item) | Mean (per item) |
| User Interface errors | **Q1** | **6** | **6** | **6** | **7** | **6** | **31** | **6.2** |
| **Q2** | **6** | **7** | **6** | **7** | **7** | **33** | **6.6** |
| Technical errors | **Q1** | **6** | **7** | **6** | **7** | **7** | **33** | **6.6** |
| Instructional errors | **Q1** | **5** | **7** | **6** | **7** | **7** | **32** | **6.4** |
| Engagement errors | **Q1** | **7** | **7** | **6** | **7** | **7** | **34** | **6.8** |
| Total per participant |  | **30** | **34** | **30** | **35** | **34** |  |  |
| Mean per participant |  | **6.0** | **6.8** | **6.0** | **7.0** | **6.8** |  |  |

*\* Scale: 1 (strongly disagree) – 4 (do not agree or disagree) – 7 (strongly agree)  
\* Mean rating per participant = (total per participant from Q1 to Q5) / 5 (# of items) \* Mean rating per item = (total per item) / 5 (# of participants)*

**User Experience:**

Participant 1 enjoyed using the app immensely. However, she did not appreciate the frequent lengthy ads in between lessons. She is somewhat fluent in English, so she tried learning French. The use of real-life videos of people instructing helps learners acquire vocabulary. She would like to learn more languages and also ameliorate her English-speaking skills with the help of the app. She struggled with the task for creation of account, but that could be attributed to her limited digital literacy.

Participant 2 being a child felt that the cartoon like characters in the competitor app, Duolingo were more effective. She was the only participant who replayed the instructional video. Being curious and a tech-savvy child of today’s generation, she did not struggle with further navigation once she was logged in to the app.

Participant 3 found the app easy to use. He also had limited digital literacy, so he struggled with login and also changing to another language. On being guided, he was able to complete the tasks. He found the ads interfering to the learning process. Once he began learning, he took time to complete the video lessons, however the intrinsic load of learning Portuguese made him take time to move on to the next lessons.

Participant 4, a tech-savvy HR professional, found the app easy to use and navigated it quickly but felt that the long ads disrupted her experience. She appreciated the simple, user-friendly design.

Participant 5, a business analyst, had a smooth experience with the app, easily completing tasks without assistance. He found the experience of logging in and selection and changing to another language easy but the intrinsic load of learning Chinese made his learning experience a bit overwhelming.

All participants liked the layout, buttons, graphics and the design of the app on their devices. The administrator also noted that the app followed responsive design as it adapted seamlessly to different devices. The participants positively recommend the app to their family, friends and acquaintances.

**Recommendations:**

While the feedback for the app was positive, there were a few suggestions –

1. Task 1 – creating an account was found to be the most difficult (175.6 seconds) and task 3 changing to another language was the easiest (21.0 seconds). The login page could have a few instructions to help novice users create an account.
2. More information could be provided for helping learners access the information on the app. (Least scores in satisfaction- Q11 – 4.2 score in the Satisfaction Questionnaire)
3. While the task of changing languages was eventually completed by all users, some participants required assistance. A more prominent and intuitive interface for language switching, possibly with a tutorial or in-app guidance for new users, would improve the user experience.
4. The app uses instructional videos for helping learners understand the content. This use of real-life human characters reduces cognitive load for language learning. However, a few gamification elements or images in the video lesson could also be used to help learners.
5. The presence of lengthy advertisements after every lesson diminishes the user experience. The app should show ads but after completing more lessons.
6. The button for taking the learner to the Weekly leaderboard is not very prominent. Taking the learners to the leaderboard will help the learners feel part of a collaborative learning setup.
7. Similarly, the notifications button needs to be highlighted as more exercises and community-based activities are highlighted in that space.
8. There are two aspects of understanding the app users, those who learn the languages differently, those who learn how to use the app differently. The app should adapt to the novice users who find moving to the next steps and using the information on the app challenging.

**Conclusion:**

Overall, Busuu is a user-friendly app with an interactive UI that helps learners acquire languages with ease. It has appealing graphics with suitable font and texts. It helps learners navigate through the app.

It is bit challenging for novice users or senior users and they should be informed about the way to go ahead. A tutorial at the beginning and an adaptive learning system for the app’s usage should be incorporated in the app. It has too many frequent lengthy ads that need to be reduced. Gamification and collaborative learning should also be highlighted more prominently.

The app's integration of multiple languages and the ability to switch between them easily were positively received by users. The diverse learners in the study emphasize the app's broad appeal and adaptability for different age groups.

Overall, the app is an effective tool to help learners find the enthusiasm to learn new languages. It is definitely an educational product that will help learners and teachers accelerate and feel motivated in their language learning journey.

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**Attachments:**

* Completed questionnaires and completed observation sheets

** **