Oussema Dhieb, 2024, 12:5
ISSN (Online): 2348-4098
ISSN (Print): 2395-4752

International Journal of Science, Engineering and Technology

An Open Access Journal

ImmerseMe: Review of a VR Language Learning Tool

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Abstract- This paper is a review of an online language learning tool called ImmerseMe. It opens with an overview of the technology involved such as Virtual Reality and Automated Speech Recognition, as well as the content available on the platform. Followingly, an evaluation is provided for the design, and it addresses methodological foundations, audience, and user experience accompanied with feedback and suggestions for improvement. In conclusion, ImmerseMe harnesses VR and ASR to offer realism and authenticity which are support language learning. Thanks to its rich content and its user-friendly interface, it can be integrated into language curriculums for learners with basic IT skills and various proficiency levels.

Keywords- Virtual Reality, Automated Speech Recognition, CALL, Design Case, Technology Review

I. INTRODUCTION

ImmerseMe is an online tool built for language learners. It stands out with its multilingual content which includes videos recorded in 360 degrees. Users can watch, listen, and interact with these videos that were recorded by native speakers in authentic sets and scenes. It debuted in 2015 as a project thanks to funding collected from a Kick-starter campaign by Jeremy Hanff, Sam Leslie, and Scott Cardwell who is its current CEO. Today, its headquarters are in New Zealand, and its list of contributors has grown longer to include research-ers, teachers, graduate interns, and native speakers.
When launched in 2018, ImmerseMe could only be accessed via web browsers (Chrome, Firefox, and Safari) on desktops. Followingly, in 2019, it became accessible on smartphones and tablets through Chrome for Android devices and Safari for iOS devices. Finally, in 2020, it achieved its ultimate goal of entering the realm of Virtual Reality, and it gained accessibility on various VR-headsets. In 2021, ImmerseMe won the People's Choice Award at the international educa-tional technology competition called LaunchPad.

ImmerseMe is continuously updating its con-tent and adding new features. The following is a review of the platform as it is by mid-2024. It overviews the technology employed, and the con-tent offered. It also evaluates the platform from a user's point of view.

II. OVERVIEW

1. Technology

ImmerseMe is a language learning tool avail-able on a website with the address www.immerseme.co. Content is not downloadable.

Fig.1. Home page

Hence, internet connection is required to visit the online platform on all types of devices. Seen below in Figure 1, the home page provides a brief introduction of the platform which includes new

releases, recent awards, sample feedback, media mentions, pricing, and contact information.

Once signed in, the interface becomes a menu arranged in rows of rectangles, each representing a language (Fig.2). After selecting a language, the user is presented with a list of units grouped by topics and labeled by level (beginner, intermediate, advanced).

Fig.2. Menu

Each unit covers a series of scenarios. For example, seen in Figure 3, there is a beginner level scenario in French entitled "buying a coffee" which is recorded in a cafeteria where the user plays the role of a customer talking to a bartender standing behind the counter.

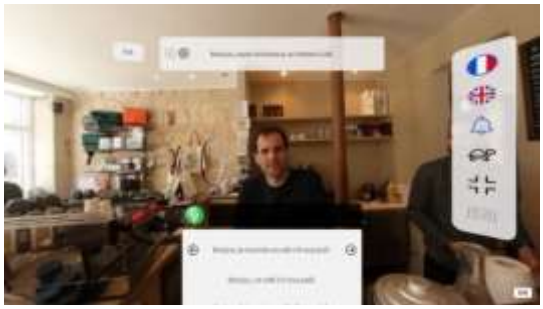

Fig.3. Example of Scenario in French

Before playing a scenario, the user can choose one of five modes that are pronunciation, typing, spelling, translation, and immersion (Figure 4).

Fig.4. Learning modes

In the pronunciation mode, shown in Figure 5, the user can respond to the actor by speaking. Recording is indicated by a beep and a red microphone icon, and it gives the user a one-minute window to read out loud one of the possible responses displayed on the screen or to come up with their own approximate one.

Fig.5. Pronunciation mode

If the user's response is intelligible, a speech bubble pops up with a confirmation message such as "WOW!" or "Cool" (Figure 6), and the conversation continues; if the response is not accepted, the user must continue trying until an acceptable response is detected. When the recording minute is over, the microphone icon turns green, and recording ceases. The user can reinitiate recording for another minute by clicking on the microphone icon. If the user does not manage to come up with an acceptable response, or they wish to skip, they can click on the skip ahead arrow.

Fig.6. Speech bubble

In the typing mode, the user must type in a dialogue box what the actor says. A transcription is displayed in a faint grey font as a guidance, and the user's entry shows over the grey text (Figure 7). This can be considered a tracing activity. Then, they can pick a response by clicking one of the option

buttons that show up on the screen. Incorrectly typed words are underlined in red. There is no timer in this mode. The conversation does not continue until the spelling in the dialogue box perfectly matches the original script.

Fig.7. Typing mode

In the spelling mode, the typing box only shows underscores as clues for the number and the length of different words, in addition to punctuation (see Figure 8). However, as the user types, correctly spelled words appear in black while any misspelled words are colored red.

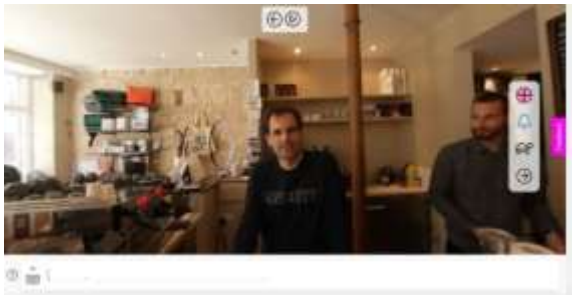

Fig.8. Spelling mode

In the translation mode, as seen in Figure 9, the user listens to the scenario playing out in the target language, and sees their assigned utterances in their native language, and then they are expected to translate them verbally to the target language.

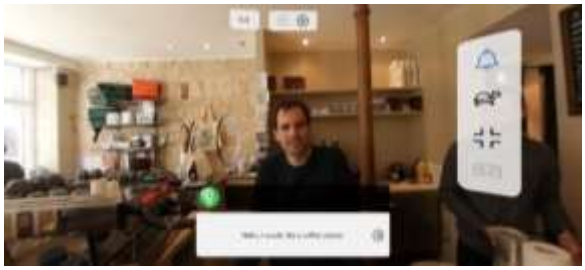

Fig.9. Translation mode

In the immersion mode, the user listens to the native speaker, and they only see a short prompt in the target language that they can base their response on (Figure 10). This mode requires the user to rely fully on their listening skill as well as their speaking skill.

Fig.10. Immersion mode

Upon clicking "Start Lesson", the user can additionally select extension (regular or delayed) and accuracy (easy, medium, or fluent), then hit "Play!" to initiate the scenario.

Fig.11. Delayed extension

Extension, when set to delayed, gives the user as much time as they need to practice reading and saying the desired response, which is written on the screen (Figure 11). Once they feel confident enough, they can click on the timer icon to start a five-second countdown as all text is removed from the screen. Hence, the user must rely on their memory to repeat the response for it to be recorded. Accuracy, in the platform, refers to how forgiving or how strict the voice recognition algorithm is when it processes and evaluates the user's performance. For example, if accuracy is set to easy, the algorithm will disregard most spelling and grammatical errors, and it will allow the user to progress faster.

Up to the moment a scenario starts, ImmerseMe

looks the same on all devices, and it is navigated traditionally through scrolling, pointing, and clicking. ImmerseMe relies on two main technological tools: Virtual Reality and Automated Speech Recognition. For the user to enjoy the full experience that this platform offers, they need a Virtual Reality headset. The VR feature is achieved thanks to the special cameras that were used to record all the scenarios. Unlike traditional cameras, these cameras can capture the entirety of their surrounding environment and produce 360-degree videos. As a result, the user's view is not locked on their interlocuter. Instead, they are in control of their view as they can look around freely as if they teleported inside the scene. Automated Speech Recognition (ASR), in ImmerseMe, serves to convert the user's speech into a script displayed on the screen, similarly to the Speech-To-Text (STT) process in personal assistants such as Siri and Alexa.

2. Content

At times, As of August 2024, ImmerseMe offers a total of over 5,000 scenarios in 12 different languages that are English, Arabic, French, German, Greek, Indonesian, Italian, Japanese, Mandarin, Portuguese, Russian, and Spanish. Old scenarios are regularly updated with new footage, and new scenarios are continuously added. Scenarios cover a plethora of topics, and they are grouped into units such as food, colors, and sports. Under each language, scenarios can be navigated by unit or by level (beginner, intermediate, advanced). There is also a search box where the user can type key words for lessons they are interested in.

More languages and even dialects are expected to become available in upcoming updates. Colombian Spanish lessons have already been added in beta version (Figure 12), and they shall serve as an expansion from European Spanish. In addition, ImmerseMe have announced they are working on "virtual homestays". These are similar to documentaries that language learners can watch to simulate visiting a family in a foreign country. This new type of content could make for a fun as well as beneficial break from the lessons, and it could reinforce the inclusion of culture in the language learning process.

Fig.12. Colombian Spanish lesson

Every account has a points counter which serves as a quantitative scoring system. Learners collect points by completing scenarios. These points have no real-life value except in May, when ImmerseMe holds an annual competition called ImmerseMe Games where winners are decided according to scores. At the end of the one-week duration of the event, the top scoring students and schools in multiple categories receive certificates and digital vouchers. Points could become more of an incentive for users throughout the year if they could be exchangeable for material rewards such as merch, or for digital rewards like unlocking bonus content or collectible digital stamps, or if there were a leveling up system with regional and international ranking, similar to many online video games, which would further motivate learners.

III. EVALUATION

1. Methodological Foundation

According to its Co-founder and CEO, Scott Cardwell (2022), ImmerseMe adheres to a constructivist approach to language learning as users actively use pre-existing knowledge to tap into new knowledge which manifests as an increase in fluency and autonomy. Briand (2021) further justifies this approach and describes a "learning continuum" where the learner progresses from pronunciation mode to immersion mode, or from "introduction to spontaneity". It is to be noted that scaffolding, which is needed for successful task completion (Brown & Lee, 2015), is provided in all modes except the immersion mode. Cardwell (2022) also describes four phases that are pre-ImmerseMe, ImmerseMe assisted repetition focus, ImmerseMe autonomy focus, and post-ImmerseMe. The first phase, as its name indicates, involves

introducing or exposing learners to the target language in class or online. Hence, ImmerseMe is not designed to be used solely, but rather to be incorporated as a complementary part of a language course. In fact, ImmerseMe can be considered a practice space, which employs Task-Based Language Teaching, where learners utilize their new knowledge to complete realistic tasks in the target language (Richards & Rodgers, 2014).

2. Target Audience

ImmerseMe offers its services to anyone wanting to learn or practice using one of the languages available on the platform. There are no specifically targeted age groups as current clients include everyone from children to older people, and they can all enjoy and benefit equally from using ImmerseMe. Thanks to on-screen subtitles and transcription and to typing and spelling modes, ImmerseMe is accessible to hearing or speech impaired persons. Academic background is also irrelevant since the lessons use general language and not language for specific purposes. In fact, they mostly revolve around everyday language use. Access to ImmerseMe can be granted to an institution and its affiliates, or to individual users. Meanwhile, there are 3 subscription plans for individuals. These are priced at NZ$56.25 per month, NZ$112.50 per trimester, and NZ$300 per annum (Figure 13). Anyone can have a demo visit by logging in with email: demo and password: demo. Enterprises can also be presented with a trial period upon contacting ImmerseMe. Despite the facilitations, pricing remains an obstacle especially for individuals in developing countries where the number of potential users who can afford the subscription fee narrows down drastically, even before considering the cost and the availability of VR headsets.

Fig.13. Pricing

3. User experience

As a learning platform, ImmerseMe is practical and easy to navigate. It is accessible exclusively online through its web address. Thereby, it does not require the installation of software. The user simply needs to head to the login page https://my.immerseme.co/login, and enter their info or use the sign in with ClassLink function (Figure 14).

Fig.14. Login page

Regardless of IT expertise level, most, if not all, users could quickly manage to learn the ropes of the platform thanks to its friendly structure. The interface is highly intuitive and straight forward as it makes use of self-explanatory clickable buttons. The screenshots in the earlier part of the review showcase examples of outlined buttons such as “Exit”, “Next”, and “Previous”. There are also buttons with icons that are symbolic of their functionality such as the floating action buttons for play and pause, in addition to toggle buttons like the flags indicating different languages, the turtle referring to slow mode, and the bell controlling sound effects. Additionally, placing the mouse cursor on these icons brings up a bubble with text that hints at their functionality.

The on-screen real-time transcription of the user’s speech is convenient, and it can count as an indirect form of feedback since it shows which words were not captured correctly, so that the user can work on improving their pronunciation. However, as He and Smith (2019) point out, ImmerseMe’s voice recognition program can be too lenient and accept incorrect or incomplete utterances. The only aspect that might require some figuring out by first time users is operating the VR headset.

Fig.15. Lesson with key vocabulary and grammar

ImmerseMe should not be used by itself to learn a language. It is primarily focused on improving listening and speaking skills. It can also be a useful space for learning and practicing vocabulary. Some lessons contain a list of key vocabulary as well as key grammar (Figure 15), although these grammar points are not addressed at any part of the website. Language instructors can pre-teach grammar and vocabulary in class, then ask students to do relevant scenarios on ImmerseMe for practice. What's more, ImmerseMe allows the download of the script of any scenario in PDF format. Teachers can print out these scripts and have their students reenact scenarios in class before or after practicing them online.

Learners can find themselves doing the scenarios multiple times and memorizing entire sentences. Berti (2020) interprets this as drilling and concludes that the audiolingual method is applicable to ImmerseMe. Additionally, ImmerseMe can be correlated with Communicative Language Approach in that it makes rote learning both fun and interesting. Moreover, teachers can assign ImmerseMe scenarios as homework. The platform allows the teacher to keep track of the students' work easily thanks to Teacher Dashboard which shows active time, response number, and response accuracy, in addition to more valuable data, for each student and each class.

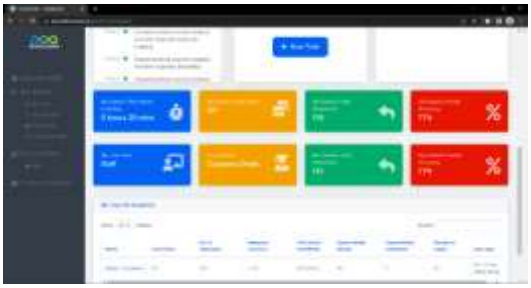

Fig.16. Teacher Dashboard

IV. CONCLUSION

ImmerseMe is an online language learning tool that harnesses Virtual Reality together with Automatic Speech Recognition. Users can explore scenarios where they can practice using their target languages. Compared to other Computer Assisted Language Learning tools, this platform promises a more realistic environment for conversational practice while providing proper scaffolding. ImmerseMe can be integrated into language courses by teachers. Learners can also use it independently to improve their speaking and listening skills. It can be utilized by a wide range of learners with different IT and language proficiency levels, as it is highly user-friendly. Despite the room for improvement when it comes to affordability and speech recognition accuracy, ImmerseMe is a great addition to language learning applications, and it represents a technological advancement by virtue of its pioneering immersive experience.

Conflict of Interest

This is a genuine review of an instructional tool which was not incentivized in any means, shape, or manner.

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