ENHANCING MONDLY -LANGUAGE LEARNING APP IN VIRTUAL REALTY VISUALIZATIONS CARDBOARD

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Abstract— Experimental learning (EXL) is the process of learning by experience. MONDLY virtual reality cardboard app was proposed as a means of simulating events with experimental learning concentrating especially on language learning in virtual reality visualizations. Virtual reality provides quick support and useful feedback for language learners. Using virtual reality this will improve two separate viewpoints' learning of a certain language (fixed and stimulated groups' performance and engagement). The app named MONDLY cardboard provides users an affordable learning of language for all the users. The MONDLY app is platform dependent designed only for the web and android users .Using MONDLY VR experience the immediate and delayed memory tests (7 days later) for the viewpoints are conducted, the fixed group learnt and performed worse than the stimulated groups. The mental aptitude of the groups also varied. Consequently, the efficacy of performance and engagement results indicate that stimulated groups outperform fixed groups and require much less mental effort and time. (Abstract)

Keywords— experimental learning, adaptive learning systems, virtual reality, language learning

I. INTRODUCTION

In education, training, facilitation, coaching and organizational development, experiential learning (EXL) is a well-known learning strategy. EXL stands for "learning by doing," which is a process of experience-based learning. The Kolb's learning model is one of the EXL models with the most sway. According to this paradigm, EXL is the process of forming knowledge through experience. Experience that has been grasped and transformed produces knowledge.

The use of advice is advantageous in learning, including experiential Learning. The term guidance has a broad connotation, but generally understood definition of, guidance as "any sort of assistance supplied to users so they can attain a learning goal". The purpose of guiding, to put it more precisely, is "to simplify, provide a view on, elicit, replace, or prescribe the scientific reasoning skills" necessary to achieve a goal. It can be explicit, such as when a teacher gives directions on how to solve a mathematical issue with all the in-depth explanations of concepts and abilities pupils need to master, or when a teacher gives feedback on how a student is doing right now.

Guidance is useful in learning, including experiential learning. Although the term "guidance" has a broad definition, we choose to use the commonly accepted one, which states that it refers to "any form of assistance offered to users so they can achieve a learning goal." In precise terms, the role of guidance is “to simplify, provide a view on, elicit, supplant, or prescribe the scientific reasoning skills” [3] involved in pursuing a goal.

In the end, we proposed a virtual reality app using INSTA VR which provides user a virtual reality based learning a particular language.

Kolb's experiential learning cycle requires learners to cycle through all four stages, creating a "learning spiral of ever-increasing complexity". Currently, we are unaware of any work that focuses on providing guidance to support learners move from one stage to another in the experiential learning cycle and progress on the learning spiral.

A) *CONTEXT OF THE RESEARCH*

1) EXPERIMENTAL LEARNING:

The experiential learning theory asserts that learning is the process of "learning through reflection on doing" or "gaining knowledge through experience" [3]. The Kolb, Walker, and Joplin five-stage models, among others, have all been proposed as "theories-in-use" in the ongoing theoretical study on experiential learning. The Kolb's experiential learning

approach may have had the greatest influence on academic research. [3].

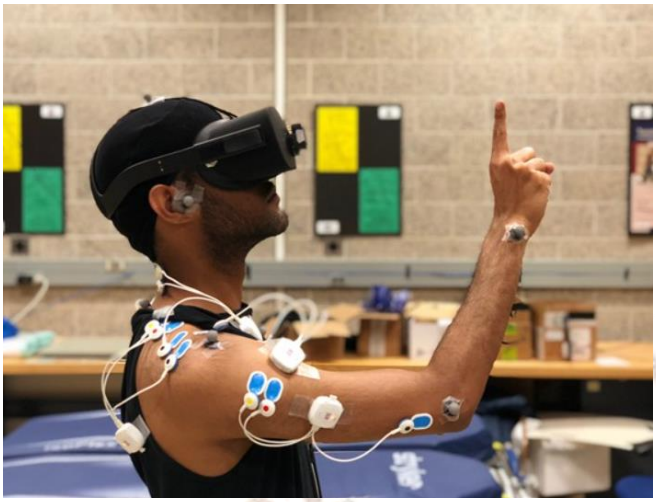

Figure1: virtual reality oculus visualizations through sensors.

Figure 2: Affordable virtual reality cardboard visualizations

1) *USER ENGAGEMENT*:

Indicators of a learner's internal state, such as motivation, feelings, etc.., (affective dimension) [2], mental effort, perceptions, etc.., (cognitive dimension) [2], and observable actions, such as carrying out various tasks, interacting with a system, etc.., (behavioral dimension) [2] are all factors that contribute to engagement.

Engagement is a complex and multidimensional process [5]. A fourth degree of involvement, engagement, was also explored by Reeve and Tseng [4]. An engagement is the proactive and deliberate behavior of the learner to enhance external learning objectives and to personalize the learning environment.

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2) *STUDY CONDITIONS:*

Japanese was chosen for this study because it is foreign to the Indo-European language family and because we anticipated that few people would be familiar with its syntax and vocabulary

The amount of instruction (FIXED-AMOUNT, which is the same for everyone, and ADAPTIVE-AMOUNT, which decreases based on the learners' performance) and the type of instruction (FIXED-ASSOCIATIONS using predefined 3D AR models of the vocabulary being learned and ADAPTIVE-ASSOCIATIONS using self-selected 3D AR models to create associations ("keyword method")) were the two different aspects of instructional guidance that could be adapted.

The study, which included both within- and between-subject comparisons, was expected to last between 60 and 75 minutes. This cognitively taxing learning study would last about two to three hours longer using a typical within-subjects design, which would impair participant performance and have a detrimental impact on the outcomes. Other approaches, such as dividing the study into multiple sessions, would also present additional biases and practical problems.

MONDLY LANGUAGE LEARNING APP IN VIRTUAL REALITY VISUALISATIONS

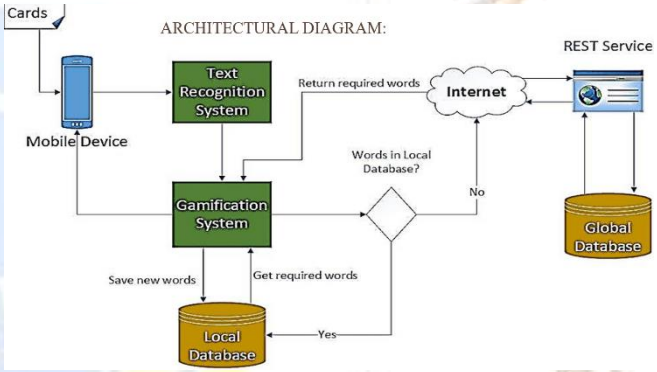

Figure: 3 Architectural diagram of MONDLY cardboard app.

An original and cutting-edge method of language learning is MONDLY VR. Putting yourself in a virtual environment and interacting with virtual characters seems like a terrific method to learn a new language.

How do you utilize MONDLY cardboard VR, though? Look at it now. MONDLY cardboard VR is a virtual reality language-learning app with a straightforward concept. With MONDLY VR, the tried-and true method of practicing conversations in the language of your choosing takes on a new dimension. You can view virtual environment while wearing a VR cardboard, and they will utter words, phrases, and sentences for you to practice speaking.

Nothing particularly innovative or novel is added to the process of language learning through MONDLY VR app.

You will see a virtual environment, they will visualize some words under what language you have chosen. You should practice over it in the app. It is an adaptive session of learning the language. First will visual some of the words then phrases will be shown and for your comfortable a virtual character with help you in the right pronunciation. Without any sensors, we can able to hear all pronunciations of languages. Some users may find this system frustrating because it doesn't give immediate feedback for errors.

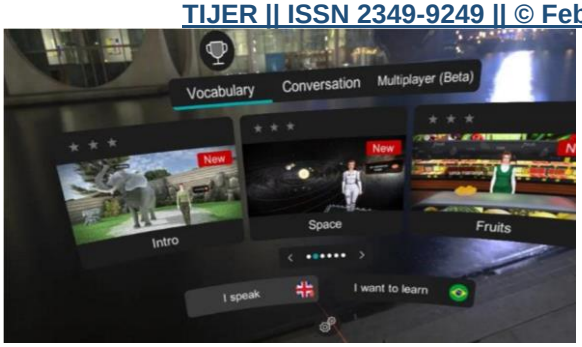

Figure 4: MONDLY app main menu screens

EXISTING SYSTEM WITH ITS DEMERITS:

1. The average age of participants was 25 years, which presents a possible age bias. Now-a-days all age group is worth studying as it is highly mobile, spending an extended period of time in a foreign speaking country.

2. Language learning through AR systems were shown. In future, this use-case should be expanded to other use-cases to confirm its generalizability.

3. The usage of sensors and the glass are much costlier than others. So that many of the language learners are not supposed to take the prototype.

PROPOSED SYSTEM:

- An original and cutting-edge method of language learning is MONDLY VR app. putting yourself in a virtual environment and visualizing virtual characters seems like a terrific method to learn a new language.
- MONDLY VR app is a virtual reality language-learning app with a straightforward concept of learning a language with the right pronunciations of the choosing language.
- With MONDLY VR, the method of practicing conversations in the language of your choosing takes on a new dimension. You can view virtual characters while wearing a VR cardboard glass, and they will utter words and phrases for you to practice speaking with the right pronunciations.
- Nothing particularly innovative or novel is added to the process of language learning through MONDLY VR app, just an affordable VR app.

CONCLUSIONS

In this endeavor of invented app using virtual reality system for language learning. VR has been identified as an ideal platform to supporting and simulating various experiences for experiential learning and we explored the VR's design space in the learning context rather than comparing it. In this app, the investigation of how the amount of guidance (fixed vs. adaptive-amount) affects the engagement and consequently the learning outcomes of language learning in VR environment. Compared to the adaptive-amount, the fixed-amount of guidance group scored better in the immediate and delayed (after 7 days) recall tests. However, this group also invested a significantly higher mental.

In measures of immediate memory, delayed recall (after 7 days), and learning efficiency, the adaptive-associations group beat the fixed-associations group.

Additionally, the group that used adaptive associations worked far less hard mentally and took less time to accomplish the assignment. Both findings suggest that in similar learning contexts, archetypal user models may be useful in enabling users to "transfer motivation" between other students or between instructors and students, as well as gradually adjust procreated personal models.

With this method, the amount and kind of (adaptive) input could be balanced to minimize the amount of mental work required to accomplish the learning task.

The outcomes also highlight VR's potential for adaptive learning scenarios where a simulated learning environment is necessary.

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