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Managing Language Development in Film Production: Leveraging the Metaverse and VR for Enhanced English Proficiency and Workforce Efficiency

Orathai Piayura[1], Thidarat Boonmas[2], Niyom Wongphongkham[3], Phongthanat Sae-joo[4], Wanichcha Narongchai[5], Md Ahbabur Rahman Ahbab[6]

Abstract

This study investigates the potential of Virtual Reality as an instructional tool for improving English language skills in the Thai film industry. The research gauges the effectiveness of the "EngLab for Film" VR-based learning application, evaluating its impact on student engagement, motivation, and independent learning. As a result of the global shift to digital education due to COVID-19, this study investigates how immersive technologies like VR can support language development and workforce efficiency. Insights gathered and analysed from feedback provided by 100 participants revealing that VR can significantly boosts language proficiency, learner motivation, and workforce efficiency. Moreover, further improvements in technical and content design are necessary for optimal outcomes.

Keywords: *Virtual Environment, E-Learning, Active Methodology, Metaverse.*

Introduction

The internet is the primary technology in this digital epoch that drives people to replace their reality with its representatives. The most recent version of the Internet is the metaverse which is also the hottest topic nowadays that started its existence with the blockchain. However, it requires a few decades to reach its current projection (Park et al., 2022). Metaverse is an enormous 3D virtual environment parallel to our physical world where users can interact with digital avatars, making virtual reality (VR) the future of technology (Joshua, 2017; Lee, 2021). Virtual Reality has seen fast growth recently. Several studies propose that virtual reality holds significant potential for future growth as an instructional media for learning, while other studies suggest that virtual reality might not be as effective. In terms of digital learning platforms, Virtual learning environment (VLE) uses technology to supports Thailand 4.0 and enhance instruction, as for Thailand's 20-year National Strategy (Maryati et al., 2024). Virtual learning environment (VLE) allowing learners to study anytime, anywhere. It is a learning environment that is designed systematically by applying technologies to help in curriculum management and establishing learning activities (Sapliyan et al., 2023). The virtual learning environment (VLE) is regarded as a social space in which interaction takes place within a co-working space that is clearly represented by the creation of a 3D immersive learning environment. It provokes learners to have excitement to learn and promotes learning without borders and supports virtual classroom activities. It is the overlay between the virtual world and the real world. Due to technology's swift expansion, metaverse is seen as an alternative to education management that is compatible with learning in the world of new normal and raise ongoing learning.

Many studies have explored metaverse, its applications, and its history to explain how metaverse to its current state. Conversely, components of metaverse cannot be exactly specified and its structure is still ambiguous. Moreover, the structures of the available E-Learning systems based on the metaverse are either poorly described or only partially adopted. Metaverse combines virtual reality (VR) with web, internet, and extended reality (XR) technologies (Lee et al., 2021). The roadmap of the metaverse consists of four parts

[1] Faculty of Humanities and Social Sciences, Khon Kaen University, Thailand, Email: orapan@kku.ac.th.
[2] Faculty of Medicine, Khon Kaen University, Thailand, Email: bthida@kku.ac.th.
[3] Faculty of Fine and Applied Arts, Khon Kaen University, Thailand, Email: wniyom@kku.ac.th.
[4] Faculty of Education, Khon Kaen University, Thailand, Email: phongthanatsa@kku.ac.th
[5] Faculty of Humanities and Social Sciences, Khon Kaen University, Thailand, Email: wanicna@kku.ac.th
[6] Faculty of Humanities and Social Sciences, Khon Kaen University, Thailand, Email: muhammadahbab92@gmail.com, (Corresponding Author)

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that are augmented reality, life logging, mirror worlds and virtual worlds (Zhang et al., 2022). These four parts are categorized into four dimensions (external, augmentation, intimate and simulation). The authors discuss in this paper the impact of virtual reality (VR), based learning experience that was developed to be run on the metaverse. This study tries to give the answer of how the use of VR technology influences the acquisition of English language skills among learners and the effects of VR-based learning on student engagement, motivation, and independent learning. This study aims to evaluate the effectiveness of VR technology in improving English language skills within the context of the Thai film industry and assess the impact of VR-based learning on student engagement, motivation, and independent learning. In the rest of this paper, the authors demonstrate a part of the previous pieces of research in Section 2. Section 3 shows the methods and materials. Section 4 discusses output from a mixed-methods approach to assess VR technology's impact on language learning along with systematic review from previous research in accordance with the VR based learning and participants output highlighting factors like interactive communication, learner behaviors, and task-based instruction. Finally, Section 5 concludes this study.

Literature Review

Numerous facets of modern living, including education, have evolved due to rapid technological transformation (Kaputa et al., 2022; Lavicza et al., 2022). A value-driven economy marked by security, prosperity and sustainability is what the Thailand 4.0 initiative seeks to attain, as a component of the country's 20-Year (2017-2036) National Strategy (Puriwat and Tripopsakul, 2020; Phumphongkhochasorn, 2021). The concept stated in the 12th National Economic and Social Development Plan suggests that for Thailand to maintain competitiveness via research, innovation and human resource development, it must use advanced technologies (Chatwattana, 2023). The integration of technology such as Virtual Reality (VR) and Metaverse has greatly revolutionized the learning process (AlGerafi et al., 2023; Yuan et al., 2023).

Virtual Reality (VR) creates computer-generated environments that are either similar to real-life situations or completely fictionalized worlds (Harley, 2024). It presents an unprecedented potential for immersive learning and engagement unlike anything ever experienced in history. VR allows learners to take part in simulations and experiences that would be impracticable or difficult to replicate physically (Asad et al., 2021). For instance, VR can be used to place students in historical events, distant planets or complicated scientific phenomena, which enhance the understanding and retention of studied material through interactive experiences. This is also supported by a study carried out by Chatwattana (2023) who found that virtual classrooms could be set up using VR enabling learners to manipulate digital objects and settings just as they would if they were in a real room.

This immersion approach harmonizes different learning styles and improves the learning process. VR is especially useful in industries that require hands-on and skill development, such as medicine, engineering, arts and media (Radhakrishnan et al., 2021). For example, medical students can perform plastic surgery, engineers can experiment with models in nature, and art students can experiment with digital technology in a safe environment. One of the biggest advantages of VR is its ability to overcome geographic and physical barriers (Alawad et al., 2015). Students from remote or underserved areas can have access to educational opportunities previously unavailable to them.

Metaverse signifies a move beyond virtual reality (VR) into a more complete, all-encompassing digital universe where people can connect with each other and environments through avatars (Lee et al., 2021). This convergence involves various technologies such as virtual reality (VR), augmented reality (AR), and blockchain, to form an inclusive virtual space for socializing, learning and trade. These extensive educational experiences that provide an immersive setting may either mimic real-world situations or create entirely new educational settings. In the dynamic interactive environment of a virtual campus, students can attend classes, work in groups on projects, and participate in extracurricular activities. It can improve engagement by creating an immersive environment and providing more comprehensive learning experiences. Metaverse is highly effective in promoting social interaction among students which is key to successful pedagogy (Chen et al., 2022). Projects, group discussions as well as collaborative problem-solving activities are some of the things that learners could engage with each other within this world of education.

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With Metaverse, students can communicate and interact with one another in real-time, as they would in a physical classroom that has various channels of digital communication. Sapliyan et al (2023) assert the importance of collaborative skills that can be bettered by the interactive capabilities found on the Metaverse. The Metaverse allows learners to build personalized learning experiences custom-made to suit individual needs and preferences (Tinmaz and Dhillon, 2024). Additionally, adaptive learning systems embedded in the Metaverse can analyze learner behavior and performance, thereby adjusting content and teaching strategies. By so doing, this customization ensures learners get targeted support and resources that match their unique styles of learning. This improves overall educational outcomes. In virtual space, educational resources are available through the metaverse at any place or anytime it is needed thus democratizing access to them (Alam and Mohanty, 2022). Students can virtually question textbooks, experience simulated environments, go through expert lectures or even have an opportunity to use global research materials among other things irrespective resource availability or their location physically. Accessibility is critical for promoting a more inclusive and fairer educational environment.

Integrating VR and Metaverse in learning facilitates there is need to develop specific proficiencies that are crucial for effective learning in such environments (Lee and Hwang, 2022). One of these skills is effectively navigating and using VR and metaverse platforms, a good command of digital technology is required. Digital literacy means being able to create, understand, and use digital content through different tools including media literacy, information literacy, technology literacy, communication literacy as well as social literacy (Sapliyan et al., 2023). In the ever-changing dynamic world of VR and metaverse; it is critical to have an ability to generate new ideas and solutions. Creativity allows for innovation which allows learners to explore new virtual environment possibilities leading improvements advancing in various fields. An effective interaction with others within virtual spaces needs expertise in collaboration as well as communication. The metaverse enables group work and collective problem-solving approaches where learners must make positive contributions towards one another's ideas so as to reach common objectives (Damaševičius and Sidekerskienė, 2024). On this aspect of self-directedness as well as adaptability learners will have to overcome new technologies and learning experiences in cyberspace (Veiga et al., 2021).

Overall, the integration of Virtual Reality and Metaverse has the potential into educational systems to revolutionize learning by offering engaging experiences that enrich accessibility and engagement. These technologies create exceptional opportunities for practical learning, defeating physical and geographic barriers, and modifying educational experiences to better suit individual needs. This study intends to explore how VR and Metaverse technologies present distinct opportunities and prospects to enhance learning processes, improve access to education, and develop critical digital literacy skills crucial for flourishing in these advanced virtual environments.

Methodology

This study uses mixed method research to inquire into how effective a VR Metaverse project can be in improving students' and personnel in the Thai film production industry English language skills.

In systematic literature review, three top tier journals related to computer-assisted language learning were critically assessed. The criteria used include keywords that covered interactive communication, learner behaviors and task-based instructions and this helped identify and analyze 25 relevant studies published between 2005 and 2024. This review has aimed at contextualizing the use of VR in teaching English as a second language to improve pedagogical practices.

An "EngLab for Film" application was developed to enhance English language proficiency through virtual learning environment (VLE). It consists of ten interactive units covering various aspects of film production playable on PC and mobile platforms. These comprise vocabulary exercises, quizzes and final exams for validating users' knowledge and performance. Students and personnel in the Thai film production industry interact with VR elements so as to enrich their learning experiences while having feedback mechanisms that evaluate effectiveness put in place. To provide an overview on the methodology used in conducting this research, a questionnaire was distributed personally by the researcher for each participant separately. The

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primary data for the present study was collected through a personally administered questionnaire. In line with the objectives and significance of the research, a total of 100 questionnaires were supplied among the selected samples and were retrieved, coded and presented. All of the interviewer's statements about learning and engagement were measured on a Likert scale ranging from excellent (5) to poor (1). Structural data were collected using a structured questionnaire designed and modified from earlier studies and analyzed with SPSS to analyze the quantitative data. The qualitative data derived from students and personnel in the Thai film production industry perceptions were coded accordingly (Wibowo and Ahmad 2016; Hussain et al. 2016). Statistical methods are used to verify any significant improvements in language proficiency. Thematic analysis was applied to insights related to user experience and application effectiveness. Observational data analyzed to assess the VR features and user interface functionality.

Results and Discussion

A Systematic Review of Virtual Reality in Language Learning

Draws inspiration from content analysis through a systematic approach, as it allows us to examine more broadly the intersection of virtual reality-based learning and teaching and related topics, drawn from three top ranked computer-assisted language learning journals namely Language Learning & Technology, Computer Assisted Language Learning, and ReCALL. The searching was confined to using keywords such as "interactive communication", "behaviors, affections, and beliefs", and "task-based instruction" which were published from 2005 to 2024. Using this method of selecting the articles, we identified approximately 25 literary sources for analysis after screening. Each article was reviewed and analyzed to recognize the significance of the study in relation to virtual reality-based learning and teaching, and its impact on advancing the understanding of the subject.

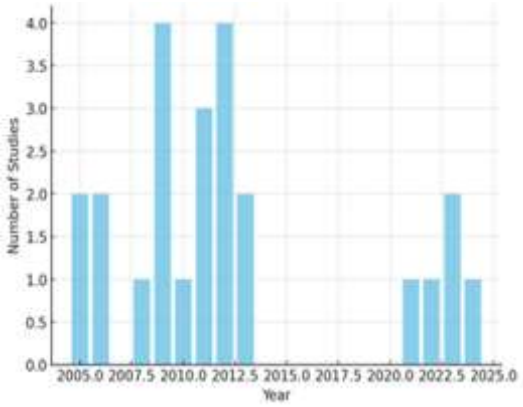

Figure 1. Years of Publication

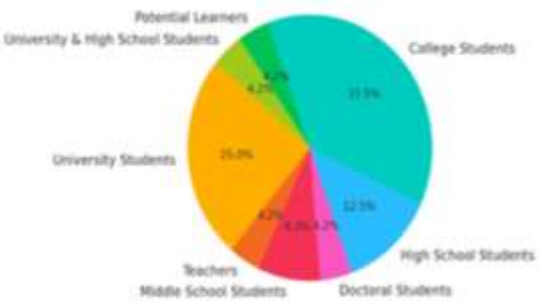

Figure 2. Participants in the Selected Published Articles From 2005 To 2024

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Table 1. Study Of Virtual Reality-Based Learning and Teaching of Last Twenty Years

Author(s) and Year	Language learning settings/participants	Method	Findings
Meei-Ling Liaw et al. (2024)	Group of teachers of an additional language (LX) in a telecollaborative project with VR devices	Qualitative	Integrating VR in a telecollaborative project augmented teachers' ability to accelerate language learning.
Kuo-Wei (2023)	30 Grade 12 high school students assigned to either the VR or PC group	Qualitative + Quantitative	VR provided a more engaging environment led to enhanced language proficiency contrasted to traditional PC based learning.
Naoko Taguchi (2023)	22 students enrolled in the intercultural communication class in a U.S. university	Quantitative	Use of advanced technologies in intercultural communication classes significantly enhanced students' pragmatic competence and facilitated effective communication in a second language.
Tzu-Yu Tai (2022)	49 Taiwanese seventh graders, randomly assigned to either the VR group or video group	Qualitative + Quantitative	VR technology provided better custody of vocabulary and improved language skills.
James York et al. (2021)	30 undergraduate Japanese university students utilizing voice, video, and virtual reality (VR)	Qualitative	Utilization of VR, voice, and video tools encounter in more authentic conversational practice and improve confidence.
Shih (2013)	FL 4 college English learners in Taiwan	Qualitative + Quantitative	Integration of advanced technologies led to enhanced engagement and improved language skills.
Canto et al. (2013)	FL 36 Spanish learners at the university of Utrecht 14 preservice teachers at the University of Valencia	Quantitative	Use of technology-enhanced learning environments accelerated better language acquisition among learners and preservice teachers.
Liou (2012)	FL. 25 potential English learners	Qualitative	Advanced technologies significantly supported potential learners in developing their language skills.
Rama et al. (2012)	FL. 6 college English learners	Qualitative	Use of VR and other immersive technologies leads to improved language proficiency and cultural understanding.
Cornillie et al. (2012)	FL. 83 first year university students and learners in high school	Qualitative + Quantitative	First-year university students and high school learners benefited from the interactive nature of VR.
Liang (2012)	Fl. 11 college English learners	Qualitative + Quantitative	Integration of advanced technologies facilitated more effective learning experiences.
Jauregi et al. (2011)	FL2 Spanish learners and 2 preservice teachers in universities	Qualitative	VR and other advanced technological tools enhance language learning by providing

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			immersive and interactive environments.
Wehner et al. (2011)	FL. 40 Spanish learners at 1 university	Quantitative	Use of VR was found to significantly increase language proficiency.
Collentine (2011)	FL. 58 college Spanish learners	Qualitative + Quantitative	VR and related technologies supported more effective language learning.
Peterson (2010)	FL. 7 college English learners in Japan	Qualitative	VR environments provided valuable practice improving language skills.
Peterson (2009)	FL. 14 college English learners in Japan	Qualitative	VR technology engages in meaningful conversations and significantly improves language proficiency.
Zheng et al. (2009)	FL. 61 middle school students in China	Qualitative	Immersive experiences provided by VR enhanced language learning outcomes.
Deutschmann et al. (2009)	FL. A comparison of 2 oral proficiency courses aimed at doctoral students	Qualitative + Quantitative	Advanced technologies develop oral proficiency and provide interactive practice environments.
Ho et al. (2009)	L2. 45 12th grade students	Qualitative	Advanced technologies in language learning accelerated improved language proficiency and cultural awareness.
O'Brien et al (2009)	FL. 1st semester: 42 German high school students FL. 3rd semester: 33 German high school students	Quantitative	Advanced technologies enhance language skills and engage learners towards high skill achievement.
Ranalli (2008)	L2.9 intermediate level English learners at a university	Qualitative + Quantitative	Use of advanced technologies enabled practicing language in authentic contexts and improved confidence.
Schwienhorst & Borgia (2006)	Language exchange. 34 German and 26 Irish college students in 2000-2001.18 German and 12 Irish college students in 2002-2003	Quantitative	Language exchange programs supported by advanced technologies enhance language skills.
Peterson (2006)	FL. 24 college English learners in Japan	Qualitative	Advanced technologies environments significantly upgrading language proficiency.
Rilling et al. (2005)	Language exchange. 34 German and 24 Irish college students. And 4 preservice language teachers	Qualitative	Advanced technological tools facilitated college students and preservice teachers for language skills and language exchange.
Hansson (2005)	FL. 10 7th-grade pupils	Qualitative + Quantitative	Seventh-grade pupils benefited from the immersive and interactive nature of advanced technologies which supported more effective language learning outcomes.

The findings of the selected articles collectively indicate that integrating advanced technologies can enhance language learning. Nevertheless, utilization of technology and traditional approaches must be adjusted to the learners' needs and context. Additionally, language exchange programs offer significant intercultural

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spotlight and real-world practice. The efficiency of these approaches varies based on learner's demographics and academic environment.

VR Application and Unit Details

There is a significant demand to improve English language learning skills in a fun and engaged way. Despite global recognition, challenges persist in the Thai film production industry, particularly the limited English language skills of personnel. We developed an application named "EngLab for Film" to address this gap by developing a modern learning model in a virtual space. The platform covers all aspects of the production process (Pre-production, Production, and Post-Production), utilizing technology like Metaverse for consistency and educational quality.

The application is developed for use on both PC and Mobile via Spatial, either through Web or Application. If using via web browser, it is recommended to use Microsoft Edge browser. On the Mobile side, it can also be played. For optimal performance, it is recommended to use the Spatial app. The application consists of 10 units and in each unit, users can interact with vocabulary, content, and quizzes to enrich their learning journey, aiming to overcome language barriers through VR. After starting the screen, the users can use their hands or pinch fingers together to grasp the desired object and utilize index finger to tap on the buttons and press down to activate them. To open the menu, position the left hand near the player's face, ensuring the player's gaze sees the hand in front to initiate the opening of the menu window. For object zooming, grasp the object with both hands, spread them apart to enlarge the object, and bring them together to reduce its size. The inclusion of 3D components will enhance the visual experience for users. Users can press the vocabulary buttons on the table to hear pronunciation from the narrator and read additional descriptive text about each term.

The course begins with an overview of essential filmmaking equipment, providing learners with a solid understanding of the tools and their functions, crucial for any film production aiming to overcome language barriers through VR. In unit 1, users can learn the basic names of various filmmaking equipment, including camera, tripod, monitor, slate, dolly, crane, light, recorder, boom microphone, boom pole, shotgun microphone, dead cat microphone, blimp, wireless, and headphone. Users can press buttons to hear the pronunciation of each name and view the characteristics of each piece of equipment. Additionally, players can practice their pronunciation by pressing the microphone button. If the pronunciation is correct, the corresponding object will be displayed for the player to see.

Figure 3. Unit 1 Of "Englab for Film" Application

It then moves into exploring the various roles within the film industry, highlighting the responsibilities and collaborative nature of different crew members. In the unit 2, users can learn the names of various positions and roles in filmmaking, including producer, legal department, scriptwriter, film director, assistant film director, director of photography, camera operator, art director, assistant art director, properties master, storyboard visualizer, costume designer, wardrobe, location manager, acting coach, and casting. Users can press the vocabulary buttons on the table to hear pronunciation from the narrator and read additional descriptive text about each term.

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Unit 2:
Roles of People in Film Industry

- Behind the Scenes: Understanding Film Crew Roles
- Unveiling the Roles: Exploring the Film Industry's Personnel
- From Script to Screen: Roles and Responsibilities in Filmmaking

Figure 4. Unit 2 Of "Englab for Film" Application

Then users are introduced to storyboarding, learning how this technique aids in visual storytelling and scene structuring. In the unit 3, users can learn various vocabulary used in creating storyboards and camera angles for filming, essential in the storyboard writing process (e.g. vocabulary includes storyboard, scene, script, extreme close-up, close-up, medium close-up, medium shot, medium long shot, long shot, extreme long shot, normal angle shot, bird/worm's eye view, low angle, high angle, over shoulder, and point of view).

Unit 3:
Storyboard

- Crafting Visual Narratives: The Art of Storyboarding
- Visualizing Stories: Exploring the World of Storyboards
- Storytelling with Pictures: A Guide to Storyboarding

Figure 5. Unit 3 Of "Englab for Film" Application

The course also covers the importance of selecting appropriate filming locations, detailing how these choices influence the narrative and overall production. In unit 4, users can learn the basic names of various locations used in filmmaking, including temple, floating market, elephant corral, military cemetery, riverbank, old town, ancient army camp, fortress, airport, the grand palace, and the temple of the emerald buddha.

Unit 4:
Location

- Setting the Scene: Exploring Filming Locations
- Discovering Film Settings: A Journey Through Locations
- Location Scouting: Finding the Perfect Film Setting

Figure 6. Unit 4 Of "Englab for Film" Application

Casting is explored next, focusing on the process and criteria for selecting actors, which enhances character development and film quality. In unit 5, users can learn various vocabulary used in casting actors, including casting director, audition, casting call, screen test, chemistry test, casting notice, headshot, lead actors, supporting actors, minor or day players, extras, stunt performers, and voice actors.

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Unit 5:
Casting

- Casting Call: Navigating the Casting Process
- Behind the Scenes: Exploring the World of Casting
- Finding the Right Fit: A Guide to Casting in Filmmaking

Figure 7. Unit 5 of "Englab for Film" Application

Then, fitting (costume design and wardrobe) are explored in unit 6, showing how they contribute to storytelling and character portrayal. Users can learn vocabulary related to costumes and costume-related roles in filmmaking, including traditional attire, ornate jewelry, traditional hairstyles, embellishments, sarong, headdress, character wardrobe, costume fitting schedule, wardrobe department, wardrobe trailer, and screen test.

Unit 6:
Fitting

- Dressing the Part: Exploring Wardrobe and Costumes
- Costume Couture: A Dive into Film Wardrobe
- Behind the Seams: Exploring Costume Design in Film

Figure 8. Unit 6 of "Englab for Film" Application

The film production process is reviewed comprehensively, from pre-production to shooting, offering practical insights into bringing a film project to life. In unit 7, users can learn basic vocabulary used in the filmmaking process, including: pre-production, production, visual elements, audio components, ambient effects, dialogue, sound effects, filmmaking team, scene, scripts, casting, location scouting and budgeting.

Unit 7:
Film Production

- Lights, Camera, Action: Exploring the Film Production Process
- The Filmmaker's Journey: Navigating Production Phases
- Behind the Camera: A Guide to Film Production

Figure 9. Unit 7 of "Englab for Film" Application

In post-production at unit 8, learners learn to review footage and sync sound, ensuring audiovisual harmony in the final product. Users can learn various vocabulary related to the editing process, which involves checking the accuracy and smoothness of captured film footage, as well as sound synchronization. Key

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terms include check footage, sync sound, audio, recorders, ambience, beat sync, sound on film, frame, mickey mousing, sound clip, adobe premiere pro, and digital audio.

Unit 8:
Checking Footage and Sync Sound

- Perfecting the Edit: A Guide to Footage Review
- Sound Sync: Ensuring Audiovisual Harmony
- Post-Production Mastery: Reviewing Footage and Syncing Sound

Figure 10. Unit 8 Of "Englab for Film" Application

Visual effects and color grading are discussed in unit 9, emphasizing their role in enhancing the film's visual appeal. Users can learn various vocabulary used in the editing process of visual effects and color grading in films, including visual effects (vfx), color grading, color correction, hue, saturation, dissolve, freeze, superimposition, jump cut, super or caption, fade and crosscutting.

Unit 9:
Visual Effect and Color Grading

- Enhancing Visuals: Exploring VFX and Color Grading
- Color and Effects: A Guide to Visual Enhancement in Film
- Visual Magic: Exploring the World of VFX and Color Grading

Figure 11. Unit 9 Of "Englab for Film" Application

The course concludes with a detailed exploration of sound editing in unit 10, focusing on integrating audio elements to enrich the film's auditory experience. Users can learn various vocabulary used in the sound editing process in films, including video editing, subtitle, sound mixing, cut, dialogue, sound effects, music, sound mixer, splice, rendering and audio sync.

Unit 10:
Post-production: Sound Editing

- The Sound of Cinema: Exploring Sound Editing
- Audio Artistry: A Guide to Sound Editing in Film
- Behind the Mix: Exploring Sound Design in Post-Production

Figure 12. Unit 10 Of "Englab for Film" Application

Finally, users take a comprehensive exam covering all topics to receive a certificate, validating their acquired knowledge and skills. The exam content will cover all units from 1 to 10 that the users have studied through the Web EngLabForFilm. After the player selects the Final Exam in the Web EngLabForFilm, the system will lead them to complete the exam in a Google form. The user will need to provide their email, full name,

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age, and gender as information for the certificate. If the player scores more than 60% on the exam, they will receive a certificate with their name and other information sent to the email they provided at the beginning of the exam.

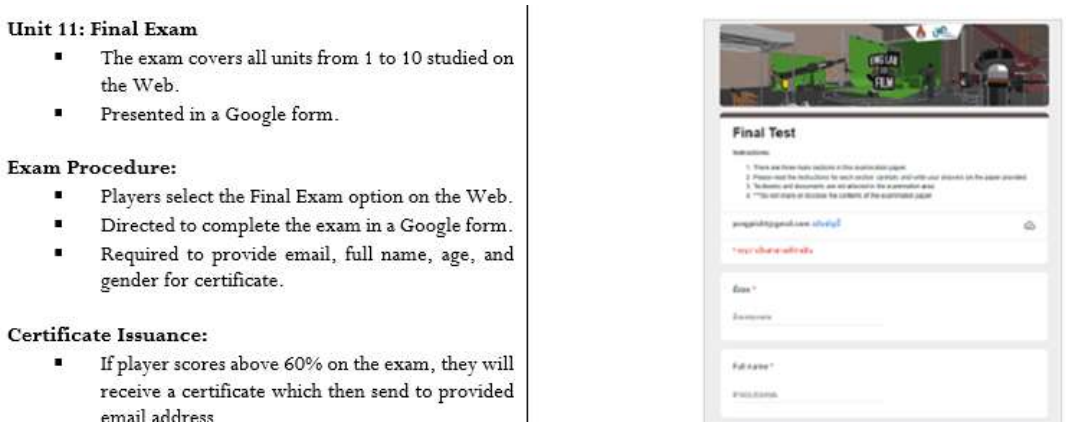

Figure 13. Unit 11 Of "Englab for Film" Application

Participants Feedback

The activities and task theme were introduced outlining the objectives and procedures. Then detailed instructions were given to students. Students were instructed to put on the VR headset. The video stimulus was initiated. Students engaged with a VR scenario where an instructor provided directions (see table below).

Table 2. Instructions Were Given to Students

SL.	Specific instruction
1	Locate the interactive object near the door that engages you the most. Can you describe your first task in a VR English learning session? (Perceived Level of Engagement)
2	Find the item to the left that captures your interest. What was the most engaging activity in your VR learning experience? (Perceived Level of Motivation)
3	Identify the object to the left of the dining table that gives you a sense of understanding or control. Can you see number 3? (Perceived Level of Autonomy)
4	Look left to find the element that actively involves you in practice. How did VR help you improve your pronunciation and conversational skills? (Perceived Level of Engagement)
5	Locate the activity that boosts your confidence in using English. Did VR activities make you feel more confident in using English in real-life situations? (Perceived Level of Motivation)
6	Find the feature in front of the sofa that gives you a sense of independence in your learning. Would you recommend VR as a tool for learning English to others? (Perceived Level of Autonomy)

Each student's responses to the VR experience were monitored and noted their engagement within the VR content. Students were presented with an identical set of picture cards and questioned to name them in English again to allow for an assessment with their initial responses. After then, students were requested to complete a survey questionnaire to rate their perceptions of the VR experience using a range from Excellent to Poor. Once the survey was completed, students were urged to share their thoughts about VR in learning

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language. The survey was persistent on students' responses to the VR experience, with the goal of assessing their levels of motivation, engagement, and perceived independence in learning.

In line with the research objectives and importance, a total of 100 questionnaires were distributed among the selected sample and were received back, coded, presented, and analyzed with SPSS to analyze quantitative data. Qualitative data from the students' insights were coded accordingly.

Several intriguing findings were discovered. Descriptive analysis (see Table 2) showed high level of engagement (M = 4.64, SD = 0.80), high level of motivation (M = 4.73, SD = 0.64), and high level of independent learning (M = 4.65, SD = 0.67). Besides, participants successfully adhered to the instructions (M = 4.38, SD = 0.80). Further analysis on the relationships of the affective variables (see Table 3) revealed a strong significant relationship between motivation and independent learning (r = 0.88, p < 0.01). Nonsignificant relationships were revealed between engagement and motivation (r = 0.55, *n.s.*) and engagement and independent learning (r = 0.47, *n.s.*). For language vocabulary learning, there was a significant difference on the students' vocabulary performance before and after the use of VR, $t(10) = 6.70$, p = 0.000). Individual feedback revealed negative comments relating to the picture's clearness in the 360 VR stimulus video and their incapability to recall the words. However, students positively said things such as "It was an enjoyable experience" and "I was moving instead of sitting down".

Table 3. Descriptive Analysis

Variables in the study	Mean of scores	SD
Level of engagement	4.64	*0.80*
Level of motivation	4.73	*0.64*
Level of independent learning	4.65	*0.67*
Vocabulary test (pre-test)	1.18	*0.39*
Vocabulary test 2 (post-test)	2.73	*0.80*
Ability to follow instructions	4.38	*0.80*

Table 4. Relationships of Affective Variables

	Engagement	Motivation	Independent learning
Engagement	-	0.55	0.47
Motivation	-	-	0.88**

**Correlation is significant at the 0.01 level (two-tailed)

The use of virtual reality in the process of learning languages can foster students' motivation and vocabulary, which agrees with numerous studies on the importance of technology in education. However, effective integration calls for appropriate technology selection. It has been noted that well-selected VR tools can improve student's participation and relevance of their learning experiences. Early findings indicate a strong correlation between motivation and independent learning where self-organization is seen to be an essential condition for language acquisition. The study is formative, but it confirms what has already been established that autonomous learning leads to better results because it helps learners to recognize their errors and develop their skills further.

In addition, the qualitative feedback highlights the potential of VR as a transformative approach to language learning, fostering an inclusive educational experience. The aim of this study is to explore the efficiency of a VR-based Metaverse project in enhancing language skills. The study provided valuable insights into how immersive VR experiences accelerate language learning through quantitative interviews with 100 participants. Participants found the immersive nature of the VR environment substantially motivating and engaging. The realistic virtual reality model and engaging interactive elements making the learning experience more relatable and enjoyable and allowed participants to practice English in a contextually immersive environment. Such as in units focusing on vocabulary (e.g., Units 2 and 5), participants stated

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an intensified retention of words because of the ability to visualization and interaction. Participants mentioned that the VR units were a strong practical demonstration of the utilization of English as a utilitarian language. These activities allowed participants to develop their spoken English in a safe environment. According to the interviewees visual, kinesthetic and auditory inputs proved beneficial in serving them bridge gaps in knowledge. Units like those which confined pronunciation exercises as well as descriptive texts (e.g., Units 1 and 7) contributed significantly towards enhancing the listening and speaking abilities of the learners. While the feedback was primarily positive, some participants pinpointed areas for enhancement. A few participants found technical issues such as VR equipment bugs and motion sickness that indicated a need for better user acclimatization protocols and technical enhancements.

Conclusion

As technology advances at a blistering pace and the metaverse emerges, language learning is at the precipice of change that might be transformative. This study has explored the incorporation of Virtual Reality (VR) in language teaching system as it applies to Thai film industry. The aim of this research is to fill gaps in language proficiency that are affecting this sector, through developing "EngLab for Film" application using VR technology which will boost English speaking skills. Our findings indicate that VR-based learning environments offer a dynamic and engaging alternative to traditional methods, potentially improving both language acquisition and learner engagement. The use of "EngLab for Film" demonstrates how virtual reality can be employed effectively as part of educational experiences. By giving learners an interactive feel with practical examples on filmmaking, vocabulary building process and contexts, application enhances understanding of what they can view and talk about so far overcoming any linguistic hurdle. Moreover, the study demonstrates the significance of adapting technology tools to match learners' interests and their professional settings. Even though VR has been praised in numerous instances, whereas it works well when carefully implemented and aligned with educational objectives. This study's mixed-methods technique is used to underscore that while VR enhances language learning as well as motivation; its success comes from blending it with conventional teaching approaches and considering learner demographics. In conclusion, the use of Virtual Reality (VR) in language learning as exemplified by "EngLab for Film" project represents a momentous stride in merging technology with pedagogy. Future research should continue delving into and refining VR applications across different educational contexts to fully harness their potential while at the same time addressing technical issues for promoting a rich learning experience.

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References

Alam, A., & Mohanty, A. (2022). Metaverse and Posthuman animated avatars for teaching-learning process: interperception in virtual universe for educational transformation. In International Conference on Innovations in Intelligent Computing and Communications (pp. 47-61). Springer, Cham.

Alawad, A., Aljoufie, M., Tiwari, A., & Daghestani, L. (2015). Beyond geographical and cultural barriers: the concept of a virtual gallery for arts, design & architecture schools in Saudi Arabia. Art and Design Review, 3(04), 87.

AlGerafi, M. A., Zhou, Y., Oubibi, M., & Wijaya, T. T. (2023). Unlocking the potential: A comprehensive evaluation of augmented reality and virtual reality in education. Electronics, 12(18), 3953.

Asad, M. M., Naz, A., Churi, P., & Tahanzadeh, M. M. (2021). Virtual reality as pedagogical tool to enhance experiential learning: a systematic literature review. Education Research International, 2021(1), 7061623.

Chatwattana, P. (2023). The Virtual Technology Towards Future Learning and Digital Transformation. Journal of Education and Innovation, 25(3), 331-350.

Chatwattana, P. (2023). The Virtual Technology Towards Future Learning and Digital Transformation. Journal of Education and Innovation, 25(3), 331-350.

Chen, Y., Lin, W., Zheng, Y., Xue, T., Chen, C., & Chen, G. (2022). Application of active learning strategies in metaverse to improve student engagement: An immersive blended pedagogy bridging patient care and scientific inquiry in pandemic. Available at SSRN 4098179.

Damaševičius, R., & Sidekerskienė, T. (2024). Virtual worlds for learning in metaverse: a narrative review. Sustainability, 16(5), 2032.

Dwivedi, Y. K., Hughes, L., Baabdullah, A. M., Ribeiro-Navarrete, S., Giannakis, M., Al-Debei, M. M., ... & Wamba, S. F. (2022). Metaverse beyond the hype: Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. International journal of information management, 66, 102542.

Harley, D. (2024). "This would be sweet in VR": On the discursive newness of virtual reality. New Media & Society, 26(4), 2151-2167.

Joshua, J. (2017). Information bodies: computational anxiety in neal stephenson's snow crash. Interdisciplinary Literary Studies, 19(1), 17-47.

Kaputa, V., Loučanová, E., & Tejerina-Gaite, F. A. (2022). Digital transformation in higher education institutions as a driver of social oriented innovations. Social innovation in higher education, 61, 81-85.

Lavicza, Z., Weinhandl, R., Prodromou, T., Anđić, B., Lieban, D., Hohenwarter, M., ... & Diego-Mantecón, J. M. (2022). Developing and evaluating educational innovations for STEAM education in rapidly changing digital technology environments. Sustainability, 14(12), 7237.

Lee, H., & Hwang, Y. (2022). Technology-enhanced education through VR-making and metaverse-linking to foster teacher readiness and sustainable learning. Sustainability, 14(8), 4786.

Lee, J. Y. (2021). A study on metaverse hype for sustainable growth. International journal of advanced smart convergence, 10(3), 72-80.

Lee, L. H., Braud, T., Zhou, P., Wang, L., Xu, D., Lin, Z., ... & Hui, P. (2021). All one needs to know about metaverse: A complete survey on technological singularity, virtual ecosystem, and research agenda. arXiv preprint arXiv:2110.05352.

Lee, L. H., Braud, T., Zhou, P., Wang, L., Xu, D., Lin, Z., ... & Hui, P. (2021). All one needs to know about metaverse: A complete survey on technological singularity, virtual ecosystem, and research agenda. arXiv preprint arXiv:2110.05352.

Maryati, I., Fisher, D., Yatim, S. A. M., & Mauladaniyati, R. (2024). Statistical Literacy Ability of Students through Virtual Learning Environment Based on Moodle-Learning Management System. International Journal of Information and Education Technology, 14(1), 99-106.

Park, S. M., & Kim, Y. G. (2022). A metaverse: Taxonomy, components, applications, and open challenges. IEEE access, 10, 4209-4251.

Phumphongkhochasorn, P. (2021). The Development Model for School Administrators the office of the Basic Education Commission in Thailand 4.0. PSYCHOLOGY AND EDUCATION, 58(1), 3832-3838.

Puriwat, W., & Tripopsakul, S. (2020). Preparing for Industry 4.0—Will Youths Have Enough Essential Skills?: An Evidence from Thailand. International Journal of Instruction, 13(3), 89-104.

Radhakrishnan, U., Koumaditis, K., & Chinello, F. (2021). A systematic review of immersive virtual reality for industrial skills training. Behaviour & Information Technology, 40(12), 1310-1339.

Sapliyan, S., Chatwattana, P., & Nilsook, P. (2023). A constructionist, imagineering learning system with the metaverse: a study of learning outcomes at secondary schools in Thailand. Global Journal of Engineering Education, 25(2), 90-98.

Smart, J., Cascio, J., Paffendorf, J., Bridges, C., Hummel, J., Hursthouse, J., & Moss, R. (2007). A cross-industry public foresight project. Proc. Metaverse Roadmap Pathways 3DWeb, 1-28.

Tinmaz, H., & Dhillon, P. K. S. (2024). User-Centric Avatar Design: A Cognitive Walkthrough Approach for Metaverse in Virtual Education. Data Science and Management.

Veiga Simão, A. M., Costa Ferreira, P., Pereira, N., Oliveira, S., Paulino, P., Rosa, H., ... & Trancoso, I. (2021). Prosociality in cyberspace: Developing emotion and behavioral regulation to decrease aggressive communication. Cognitive Computation, 13(3), 736-750.

Yuan, J., Liu, Y., Han, X., Li, A., & Zhao, L. (2023). Educational metaverse: An exploration and practice of VR wisdom teaching model in chinese open university english course. Interactive Technology and Smart Education, 20(3), 403-421.

Zhang, X., Chen, Y., Hu, L., & Wang, Y. (2022). The metaverse in education: Definition, framework, features, potential applications, challenges, and future research topics. Frontiers in Psychology, 13, 1016300.

Appendix 1: Questionnaire

Section 1: Demographic Information

What is your age?

- ☐ Under 18
- ☐ 18-24
- ☐ 25-34
- ☐ 35-44
- ☐ 45+

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What is your gender?

- Male
- Female
- LGBTQ

What is your native language?

What is your current level of English proficiency?

- Beginner
- Intermediate
- Advanced

Section 2: VR Experience

How often do you use VR for learning English?

- Daily
- Weekly
- Monthly
- Rarely
- Never

What type of VR content have you used for English learning? (Select all that apply)

- Interactive simulations
- Virtual classroom sessions
- Language games
- Conversational practice with avatars
- Virtual tours and cultural experiences

How would you rate your overall experience with VR for English learning?

- Very Satisfactory
- Satisfactory
- Neutral
- Unsatisfactory
- Very Unsatisfactory

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Section 3: Learning and Engagement

Locate the interactive object near the door that engages you the most. Can you describe your first task in a VR English learning session?
[Perceived Level of Engagement: Excellent (5), Very good (4), Good (3), Fair (2), Poor (1)]
Find the item to the left that captures your interest. What was the most engaging activity in your VR learning experience?
[Perceived Level of Motivation: Excellent (5), Very good (4), Good (3), Fair (2), Poor (1)]
Identify the object to the left of the dining table that gives you a sense of understanding or control. Can you see number 3?
[Perceived Level of Autonomy: Excellent (5), Very good (4), Good (3), Fair (2), Poor (1)]
Look left to find the element that actively involves you in practice. How did VR help you improve your pronunciation and conversational skills?
[Perceived Level of Engagement: Excellent (5), Very good (4), Good (3), Fair (2), Poor (1)]
Locate the activity that boosts your confidence in using English. Did VR activities make you feel more confident in using English in real-life situations?
[Perceived Level of Motivation: Excellent (5), Very good (4), Good (3), Fair (2), Poor (1)]
Find the feature in front of the sofa that gives you a sense of independence in your learning. Would you recommend VR as a tool for learning English to others?
[Perceived Level of Autonomy: Excellent (5), Very good (4), Good (3), Fair (2), Poor (1)]

Section 4: Challenges and Suggestions

What challenges did you face while using VR for English language learning? (Select all that apply)

- ☐ Technical issues (e.g., VR headset problems)
- ☐ Difficulty in navigating virtual environments
- ☐ Lack of engaging content
- ☐ Language level mismatch
- ☐ Other (please specify)

What improvements would you suggest for enhancing VR-based English language learning experiences?
Additional comments or experiences you would like to share: