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ORIGINAL RESEARCH PAPER

Teacher-made 360-degree VR Tours for Foreign Language Learning: Insights into Learned Helplessness in a Low Socioeconomic Status Context

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ABSTRACT

Background and Objectives: Educational technology has long been recognized as a powerful tool for enhancing foreign language learning opportunities, with particular relevance for students in under-resourced environments where instructional quality and materials are often limited. Among emerging tools, virtual reality (VR) videos have gained increasing attention for their capacity to create immersive, authentic learning experiences in recent years. Despite the promise of these emerging technologies, little is known about how their pedagogical effectiveness varies among learners with different psychological profiles. One such psychological factor-learned helplessness (LH)- plays a critical role in students' academic behaviours, motivation, and resilience. Learners with high LH often experience persistent negative expectations about their abilities, reduced perseverance, and diminished engagement, potentially limiting the benefits they receive from technology-enhanced learning environments. Although previous research has explored LH in EFL settings and the equity implications of educational technology, no study to date has examined how teacher-made 360° VR videos influence language learning outcomes across LH levels in a low socioeconomic status (SES). Therefore, the present study was designed to fill this gap by examining the effects of teacher-made 360° VR tours on English achievement among students with different levels of LH in an underprivileged setting.

Materials and Methods: The study employed a mixed-methods experimental design. Fifty-eight female 10th-grade students (aged 15-16) from an underprivileged school were randomly assigned to an experimental (n=29) and a control group (n=29). The experimental group used tailored 360° VR tours, made by a Samsung Gear 360 camera, and the control group used ready-made 360 VR videos from YouTube for one academic year. The learning gains were assessed by the English final exam, and the level of LH was evaluated by the EFL-LH scale. Quantitative data were analyzed using a two-way analysis of variance (ANOVA) to compare post-test performance between research groups and participants with different levels of LH. To explore learner perceptions, an open-ended questionnaire was used with a purposive subsample representing both high- and low-LH groups. Qualitative data were analyzed thematically to identify patterns in learners' perceptions of the VR learning experience.

Findings: Quantitative results showed no statistically significant difference in English achievement between the teacher-made 360° VR tour group and the ready-made VR video group, although the experimental group demonstrated slightly higher mean gains. However, LH emerged as a strong differentiating factor [$F(2, 52)=5.311$, $p=0.008<0.05$]. Learners with low LH significantly outperformed high-LH learners both within and across the two instructional conditions. Low-LH learners in the experimental group demonstrated the greatest improvement, suggesting that immersive, teacher-designed experiences may be particularly effective for motivated and self-efficacious learners. Qualitative findings illustrated that low-LH learners expressed positive attitudes, describing the tours as engaging, relevant, and helpful in improving vocabulary and comprehension. In contrast, high-LH learners reported difficulties in maintaining interest, scepticism about the educational value of the VR tours, and occasional feelings of being overwhelmed by the immersive environment.

Conclusions: The study highlights the nuanced role of LH in shaping learners' responses to immersive educational technologies. While teacher-made 360° VR tours have the potential to enhance engagement and learning, their benefits are not equally distributed among all

learners. In low-SES contexts, where LH may be more prevalent due to environmental and systemic constraints, simply introducing advanced technologies is not sufficient for ensuring equitable learning outcomes. Effective integration of VR tools requires pedagogical scaffolding, emotional support, and targeted interventions to address LH-related barriers. These findings underscore the need for context-sensitive technology integration frameworks that consider both technological affordances and learners' psychological differences.

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مقاله پژوهشی

بکارگیری تورهای واقعیت مجازی ۳۶۰ درجه معلم ساخت در یادگیری زبان خارجی: وا کاوی درماندگی آموخته شده در یک بافت اقتصادی-اجتماعی پایین

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چکیده

پیشینه و اهداف: تکنولوژی آموزشی همواره به عنوان ابزاری قدرتمند در جهت ارتقای فرصت های یادگیری زبان دوم شناخته شده است. استفاده از فناوری در آموزش به ویژه در مناطق کم برخوردار، که عموماً در آن کیفیت آموزشی پایین و منابع آموزشی محدود است، اهمیت بیشتری می یابد. در میان ابزارهای نوظهور، محیط های مبتنی بر واقعیت مجازی توجه بسیاری را به دلیل توانایی ایجاد تجربه های اصیل و احاطه گر جلب کرده است. با وجود قابلیت های آموزشی این فناوری ها، اثربخشی آنان در میان فراگیرانی که ویژگی های روانشناختی متفاوتی دارند چندان مشخص نیست. یکی از این ویژگی های مهم، درماندگی آموخته شده است که نقش تعیین کننده ای در عملکرد تحصیلی، انگیزش و تاب آوری دانش آموزان دارد. فراگیران با درماندگی بالا معمولا انتظارات منفی مداومی نسبت به توانایی های خود دارند، از خود پشتکار کمتری نشان می دهند و کمتردر فعالیت های کلاسی درگیر می شوند؛ عواملی که ممکن است مزایای محیط های یادگیری فناورانه را برای آنان محدود سازد. اگرچه پژوهش های گذشته به بررسی درماندگی در بافت آموزش زبان انگلیسی به عنوان زبان خارجی و کاربردهای فناوری در جهت ارتقا برابری آموزشی پرداخته است، اما هیچ پژوهشی تا کنون تأثیر فیلم های واقعیت مجازی طراحی شده توسط معلم را بر یادگیری زبان انگلیسی در میان سطوح مختلف درماندگی آموخته شده در مناطق کمتر برخوردار بررسی نکرده است. از این رو، مطالعه حاضر تأثیر تورهای واقعیت مجازی ۳۶۰ درجه معلم-ساخت را بر پیشرفت تحصیلی درس زبان انگلیسی با در نظر گرفتن سطوح درماندگی آموخته شده در یک بافت اجتماعی-اقتصادی پایین بررسی کرده است.

روش‌ها: این پژوهش با استفاده از یک طرح آزمایشی با رویکرد آمیخته انجام شد. ۵۸ دانش آموز دختر پایه دهم (دامنه سنی ۱۶-۱۵) مدرسه ای واقع در یکی از مناطق کم برخوردار شهر تهران به صورت تصادفی به دوگروه آزمایشی (۲۹ نفر) و گواه (۲۹ نفر) تقسیم شدند. آموزش گروه آزمایشی با تورهای واقعیت مجازی ۳۶۰ درجه که همسو با محتوای کتاب درسی توسط معلم و با استفاده از دوربین گیر ۳۶۰ درجه سامسونگ تهیه شده بود به مدت یک سال تحصیلی انجام شد؛ در حالیکه برای آموزش گروه کنترل طی این زمان از ویدئوهای آماده واقعیت مجازی ۳۶۰ درجه برگرفته از یوتیوب با موضوعات مشابه استفاده شد. عملکرد زبان آموزان با نمره ی نهایی درس زبان انگلیسی ارزیابی شد و سطح درماندگی آموخته شده به وسیله مقیاس درماندگی آموخته شده زبان اندازه گیری شد. داده های کمّی با استفاده از تحلیل واریانس دو سویه برای مقایسه عملکرد پس آزمون گرو ها بررسی شد. نگرش شرکت کنندگان از طریق

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بافت اقتصادی-اجتماعی پایین

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پرسشنامه باز-پاسخ که در بین نمونه ای هدفمند از فراگیران دارای درماندگی بالا و پایین توزیع شده بود جمع آوری و سپس با روش تحلیل محتوا بررسی شد.

یافته‌ها: نتایج تحلیل کمّی نشـــان داد تفاوت معنادارای بین عملکرد گروه تورهای واقعیت مجازی ۳۶۰ درجه معلم ساخت و گروه ویدئو های آماده وجود ندارد، هرچند که میانگین پیشرفت تحصیلی گروه آزمایش از گروه گواه بالاتربود. در مقابل، درماندگی آموخته شـده نقش بسـیار تعیین کننده ای در یافته ها داشـت، بطوریکه عملکرد دانش آموزان با درماندگی پایین در آزمون نهایی، چه در مقایســه درون گروهی و چه در مقایســه بین گروه ها، بطور معناداری بهتر از دانش آموزان دارای درماندگی بالا بود [۰/۰۵ > ۰/۰۰۸ =p ، ۵/۳۱۱ = $F(۲،۵۲)$]. بالاترین میزان پیشرفت تحصیلی در میان دانش آموزان کم درمانده ی گروه آزمایشی مشاهده شـد که نشـان می دهد تجربه با فناوری های احاطه گر و طراحی شده توسط معلم، برای فراگیران با انگیزش و خودکارآمدی بالا سودمندتر است. یافته های کیفی نیز نشان داد که فراگیران با درماندگی پایین، تورهای مجازی را جذاب، مرتبط و موثر بر بهبود واژگان و درک مطلب توصـیف کردند. در مقابل، فراگیران با درماندگی بالا از نبود علاقه، تردید نســبت به ارزش آموزشـــی ویدئوهای واقعیت مجازی و گاهی احساس تردید و سردرگمی سخن گفتند.

نتیجه‌گیری: این مطالعه نقش نهفته و پیچیده ی درملندگی آموخته شـــده را در واکنش فراگیران به فناوری های احاطه گر نشان می دهد. در حالیکه تورهای واقعیت مجازی ۳۶۰ درجه معلم ساخت می توانند یادگیری و میزان درگیر شدن دانش آموز با محتوای آموزشی را افزایش دهند، مزایا و ارزش آموزشی این فناوری ها برای همه فراگیران یکسان نیست. درمناطق محروم و کم برخوردار که میزان درماندگی آموخته شده در میان دانش آموزان بیشتر است، بکارگیری صرف فناوری های نوظهور و پیشرفته تضمین کننده عدالت آموزشی نیست. ادغام این فناوری ها نیازمند حمایت های آموزشی، عاطفی و مداخلات هدفمند برای کاهش موانع ناشی از درماندگی وبی انگیزگی دانش آموزان است. یافته های این پژوهش بر ضـرورت کاربسـت فناوری با در نظر گرفتن متغیرهای بافت زندگی و تحصـیلی دانش آموزان با در نظر گرفتن ویژگی های فناوری آموزشی و تفاوت های روانشناختی دانش آموزان تأکید می کند.

Introduction

The diffusion of information and communication technologies (ICTs) has significantly contributed to educational equality by providing the resources disadvantaged learners need and helping them reach their full potential in academic and professional arenas. However, providing technological services to narrow the digital divide does not automatically lead to academic success or community empowerment in low-socioeconomic-status (SES) environments. The reason lies in the fact that using technology for pedagogical purposes depends on many factors, including “economic conditions, teachers, social dynamics, and institutional culture differences” [1, p. 1070] in this milieu. While previous research on this issue has mainly focused on technological variables [2], the role of disadvantaged students’ psychological characteristics in benefiting from technology to support their academic success remains under-researched. One particular motivational variable in this survey scheme is learned helplessness (LH), defined as a psychological condition in which people come to believe that they have no control over their situation and stop their effort to change [3]. People who experience persistent failure, abuse, and poverty are more prone to suffer from LH and often stop trying to improve their situations, even when opportunities to change are provided. LH is reported to be connected to living status in underprivileged areas [4], where individuals and communities often face chronic poverty, economic hardship, limited access to social services, undeveloped technological infrastructure, and educational disadvantages.

In underprivileged environments, the experiences of being overlooked or excluded from society may lead to the passivity of the elder members of the family and their withdrawal from fighting for their rights or better living conditions. Unfortunately, this may deeply affect young people because children

often learn from their parents' behaviors, attitudes, and beliefs. Doubting the ability to overcome difficulties leads to low confidence and self-esteem that immensely impacts learning, motivation, and academic success at school. In this context, the students may not show any willingness to pursue their academic tasks, not because of resource disparity or digital divide, but because of their LH, which may be the underlying reason for the modest effect of technology on disadvantaged students' learning [5]. As no study has examined the role of emerging technologies in learning outcomes and LH among disadvantaged students, the current study aimed to probe into the effect of teacher-made 360° VR virtual tours on learning English as a foreign language (EFL) in an underprivileged area when students' LH is taken into account. The study utilized an exploratory sequential mixed-methods design where the quantitative and qualitative data collection and analyses were integrated sequentially. The purpose of this study is threefold:

(a) Identifying the effects of teacher-made 360° VR tours on learning English as a school subject in a low SES environment;

(b) Assessing the role of students' level of LH in learning English when teacher-made 360° VR tours are integrated into instruction in a low SES environment; and

(c) Understanding the participants' perceptions of the experience of teacher-made 360° VR tours in their English classes with a focus on their level of LH.

Review of the Related Literature

Educational Technology and Digital Divide (DD)

The advent of different types of technologies and their presence in almost all spheres of human professional and personal endeavor have raised awareness of DD, where a sector of society is deprived of access and use [6]. As for pedagogical purposes, the use of educational technologies at schools is reported to be immensely correlated with the SES of where the school is located and where the students live [7]. Three levels of DD, including deprivation of devices and infrastructure at schools, a lack of teachers' readiness to integrate technology in instruction, and technology use to empower each student [8], cause digital inequality between advantaged and disadvantaged areas.

The first level of DD that has been frequently surveyed is concerned with the equitable access to technology, including hardware, software, and internet connection within school environments. Insufficient IT infrastructure development (environmental determinants) as a first-order barrier to technology use at schools [9] plays a key role in technology acceptance and integration by both teachers and students. Previous literature shows that satisfactory access to technology at schools increases the quantity and quality of educational activities [10], causes more collaboration among teachers and school staff [11], and lowers technostress while enhancing IT literacy [12].

It is notable to mention that satisfactory access to technology at schools is associated with the diffusion of technology and its normalization in a social system [13]. This includes a range of technologies that have been in the process of being normalized in different learning contexts (advantaged vs. disadvantaged) for the past two decades, such as computer simulations and interactive white boards (IWB), learning platforms, mobile devices, digital games, electronic books, immersive technologies (AR, VR), robotics, and AI [10]. Therefore, schools' digital capacity is dependent on school leadership, management, and strategic planning [14] and how the school culture inspires teachers and students to adopt

a positive mindset towards technology and its educational benefits [15].

Central to this argument is the fact that DD is never eradicated, considering the reluctance of the educational stakeholders to accept constant change that takes place in the realm of educational technology and the limited resources the governments have for the development of technological infrastructure [16]. Hence, in this context, there is a need to understand why a satisfactory IT infrastructure does not necessarily guarantee widespread use of technology for pedagogical purposes [17]. This concern widens the avenue of research on second-order barriers, that is, personal determinants [9], including teachers and students, and their role in technology disparity.

Teachers' ICT integration is often studied within the 'Will Skill Tool' framework [18] that deals with teachers' attitudes to technology, their competence to work with technological systems and devices, the time they spend working with technology, and whether they own any technological devices. Type of school leadership, as well as availability of technological tools and devices, are found to be the determinants of these three attributes. Teachers' attitudes and motivation to use technology are reported to be related to school culture, where the school administration supports and encourages technology integration [19]. Also, teachers' knowledge base to use technology operationalized in the TPACK framework [20] is influenced by how schools provide them with innovative technologies and ways of using them in their instruction. Teachers' willingness to own modern digital devices is hugely impacted by their job satisfaction, job demand, and the financial resources and professional support they receive from administrators and policymakers [12].

As for students' use of educational technologies, past research indicates a variance in the way students used technologies for academic purposes, with task type and social context of learning playing a mediating role [21]. In addition to academic gains, other student variables, including pedagogical (e.g., skill development), psychological (e.g., attitudes), sociological (e.g., gender), and technological (e.g., technology type), have been studied [22]. The results of the studies show mixed findings with respect to the effect of educational technology on students' academic performance and an insignificant correlation between ICT use and learning gains, suggesting more research is required on the issue when school culture, philosophy of education, and learning environments are taken into account.

Learned Helplessness and EFL Learning

Learned Helplessness is a psychological phenomenon through which an individual stops trying to change their situation after experiencing repeated negative events beyond their control, even if opportunities for improvement arise [23]. LH shows its effects in almost any human activity that needs concerted effort to set goals and reach them with persistence and endeavor, such as education, professionalism, and social/individual relationships. The negative impact of LH often shows itself in lowering motivation or depression, where people feel powerless to progress and thus quit trying to overcome problems or improve their conditions. LH can be a major barrier to success and productivity because when people repeatedly encounter failure, setbacks, or uncontrollable obstacles, they may develop negative perceptions and beliefs that their actions do not matter in altering the circumstances. This mindset leads to inaction, reduced effort, and a lack of motivation, even if a positive and healthy

environment provides the conditions for thriving and improvement. Research shows that LH can reduce initiative, creativity, and problem-solving skills [24] and lead to procrastination, avoidance, and stress [25].

Learned Helplessness plays a pivotal role in education as it can affect students' learning motivation, engagement, and overall academic success [26]. When students experience failure on different occasions during learning different subject matters, they may develop an attitude that their efforts will not aid them in acquiring knowledge or improving their skills. Previous research shows that a high level of LH results in disengagement from schoolwork [27] and poor performance in tasks or tests [28] and thus creates a sense of reluctance for trying harder to achieve academic goals. LH leads students to avoid challenging assignments because the fear of failure causes avoidance of difficult subjects, assignments, or projects. The constant fear of failure and low self-esteem may create learning anxiety [29] and lead students to lose their worth and capability for participating in class activities. This feeling gradually turns them into passive learners and destroys their risk-taking potential to take the initiative to answer questions or take the responsibility of completing group or individual tasks. The interplay among these negative feelings causes students to lose their interest in studying and reinforces lower academic performance as a result of poor grades [30].

Learned Helplessness in students may develop due to various factors rooted in repeated experience of failure or a lack of control over academic progress. Schools, teachers, teaching content, assessment techniques, and the type of syllabus, as well as parents and students themselves, are among the sources of school LH. Consistently struggling with school subjects, tests, and assignments without receiving appropriate feedback and/or guidance to help them thrive makes students believe that their effort for success is pointless and doomed to failure. A system of education that puts lots of pressure on students for unrealistic objectives through overemphasizing product-oriented syllabuses creates a strong fear of committing mistakes and self-worthlessness among students, which heavily affects their willingness to try hard. Overwhelming expectations from the students by their parents hinder students from improving their problem-solving skills, and thus, their self-confidence is destroyed, leading to the feeling of incapability to do anything [24]. Teachers' authoritative approach limits students' freedom and engagement in school work and lowers their autonomy and self-directedness, which ultimately results in passive learning behaviors. Students' negative feelings towards themselves and their capabilities may increase their fear of making mistakes or being judged by other students. These emotional struggles may drain learning motivation and contribute to the development of depression and stress over time, and lead to avoiding taking risks or learning new skills [31]. When LH is examined within an EFL setting, it leads to a condition called EFL LH or a language learner's perception of their intrinsic incapability to master English, typically formed through a pattern of repeated failures in their language acquisition journey. Unlike other school subjects, foreign language learning distinctly demands regular public risk-taking (e.g., speaking in front of peers). Several factors, such as fear of speaking, repeated negative feedback, and overemphasis on accuracy over communication, which often expose learners to anxiety, embarrassment, and judgment, are ideal conditions for helplessness to take root [32].

EFL LH is a critically important issue, as students with this mindset start to believe that

being successful in language learning is gained only due to their innate skills rather than their efforts. This fixed mindset can affect language learners' lives in different ways. The first one is the motivational aspect, which is viewed as the heart of LH. Lack of motivation in this context may manifest as unwillingness to participate in language tasks or undermining goal-setting and persistence in language learning [3]. Another aspect of EFL LH is the emotional dimension of language learning that often triggers intense emotions such as anxiety, shame, frustration, and hopelessness in language learners [32]. Moreover, there is the cognitive aspect of EFL LH, which involves maladaptive beliefs about one's capabilities, like overgeneralization of past failures and low self-efficacy [33]. Finally, the behavioral deficit of EFL LH is the most visible factor observed by teachers. It includes disruptive behaviors, passivity, and task avoidance [34]. Since the negative interaction of these four dimensions can hinder language acquisition, understanding EFL LH as a complex, intertwined system of different psychological aspects is of utmost importance.

Into the bargain, several studies have been done investigating the relationship between LH and English language learning since the conception of LH. It is known that an individual's outlook has a great influence on their sensitivity to LH, and the neuroticism trait, which refers to people with emotional instability and vulnerability to failure, increases the risk of experiencing LH in learning English [35]. Students' self-concept and beliefs toward themselves have a crucial role in developing a sense of helplessness during language learning [31]. To put it another way, students with an internal locus of control and a low level of LH tend to show a more positive attitude toward English [36]. Evidently, LH and language learning anxiety are two affective variables that adversely affect the educational process [29].

A few studies underscore the fact that LH has a domain-specific component, and there is a negative relationship between helplessness and academic achievement in language [36, 37]. Sucu and Bulut [38] found a significant relationship between students' level of LH in English language learning and their objectives in terms of perceived English achievement levels. Interestingly, people who had good career expectations as their objective in learning English experienced a higher degree of LH than those who learned English because they enjoyed it. Similarly, Kolber [39] claimed that the degree of LH in English lessons is nearly the same as in other high school subjects, such as Polish and math, and motivational deficit strongly influences the growth of LH.

It should not be neglected that teachers' positive attitudes toward students' capabilities improve students' English language performance [40]. The significant role of teachers' care in alleviating LH is undeniable, as it increases students' motivation and educational success in EFL classrooms [26]. Motivational intervention, along with supportive feedback provided by the teacher, exhibited successful results in reducing learners' LH and enhancing English language learners' academic achievements [41]. Investigation into the influence of the L2 Motivational Self System program on secondary students' LH in English language learning shows that the intervention program improved learners' future self-guides, visualization capacity, and scholastic achievements, as well as minimizing the negative effects of LH [42].

Method

Participants

A total of 58 female 10th-grade students, aged 15-16, participated in the study as the control (n=29) and the experimental groups (n=29). The

study was conducted in a public high school located in District 18 of Tehran. This area is classified as one of the less developed neighborhoods of the capital, considering the indices of life quality, including population density, economy, culture and identity, safety and urban management, sports/recreation centers, and quality of transportation/passages [43]. Due to financial issues the families faced, the majority of the students had to work to enhance their living conditions. No student owned a digital device, and this was their first experience of using portable digital devices for educational purposes.

Instruments

The English Test

An English achievement test was used to assess participants' knowledge of the content covered in the Grade 10 English textbook (Vision 1). The test was developed by the English Department of the Ministry of Education (MOE) and had 53 multiple-choice items and 4 parts, including vocabulary (14 items), pronunciation (4 Items), grammar (25 items), and reading (10 items). Before the intervention, the test was administered as a pretest to assess students' baseline knowledge of the course content and to ensure the homogeneity of the control and experimental groups. The same test was administered again at the end of the study as a posttest to measure students' learning gains following the instructional intervention.

Test validity and reliability were calculated before the experiment through a pilot study based on test development guidelines [44]. To this aim, first, a detailed table of specifications was outlined to encompass a well-balanced representation of the content of the book. Then, the test items were studied in detail, and a thorough assessment was conducted to ensure the effectiveness of the distractors. Following that, the test was piloted with 104 students, and a thorough item analysis (item distribution, item facility, and item discrimination) was done in order to evaluate test validity. The indices were checked by two experienced English teachers, and the final version of the test was approved after undergoing revisions on specific items. Internal consistency reliability was estimated using the Kuder-Richardson formula 21 (KR-21), yielding a coefficient of 0.92.

EFL-LH Scale

To assess students' LH in English classes, the EFL-LH scale [25] was used. The scale has 25 items rated on a five-point Likert-type scale, ranging from *'1=strongly disagree'* to *'5=strongly agree'*. The EFL-LH scale measures four dimensions of LH in learning English as a foreign language, including motivational (M), emotional (E), cognitive (C), and behavioral (B) deficits. The reliability coefficients of the EFL-LH scale and its factors were estimated by Cronbach's alpha and found to be 0.93, 0.82, 0.85, 0.87, and 0.85, respectively.

The Open-Ended Perception Questionnaire

The participants were asked to express their perceptions of their experience of watching teacher-made 360° VR tours by completing a researcher-made open-ended perception questionnaire. The questionnaire consisted of seven open-ended questions designed to elicit students' reflections on engagement, perceived learning benefits, teacher role, and challenges encountered during the intervention.

Before the main study, the questionnaire was piloted with 30 students from a school with similar socioeconomic and educational characteristics. Based on the pilot results, minor revisions were made to the wording of some questions to improve comprehensibility. The final version was reviewed by two experienced EFL teachers for content clarity and relevance.

Example questions are: *"How did watching the 360° VR tours affect your understanding of the lesson content?"* and *"How would you describe your teacher's role in encouraging you to use this technology?*

Materials

The Textbook

The textbook was Vision 1, developed by Iran's MOE for grade 10 of high school [45]. The book has four lessons focusing on teaching all four language macro skills, as the Vision Series is developed based on the Nation's four strands proposition [46]. Vision Series utilizes ''an adapted version of communicative approach labeled 'the self-esteemed and active approach'' [16, p. 486] and follows the Content and Language Integrated Learning (CLIL) framework to present the content [46].

360° VR Tours

Teacher-Made 360° VR Tours

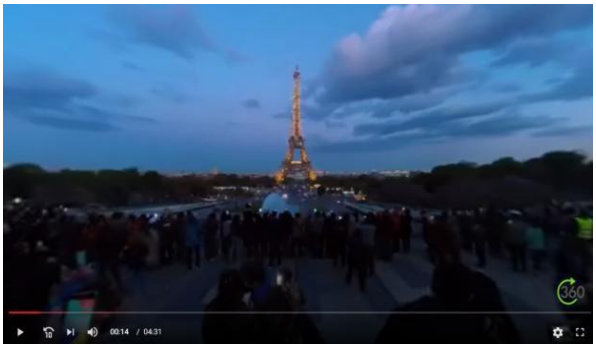
Eight 360° VR videos were prepared by the teacher to be incorporated into teaching the content of Vision 1 (Fig. 1). To design the videos, certain stages were taken as described below:

- Identifying the subthemes and topics of each lesson of Vision 1;
- Identifying the parts of the book where 360° VR videos were to be incorporated (coursebook reading, workbook reading, and the passages of the fluency section);
- Selecting the venues for making the 360° VR tours in Tehran in association with the themes of the lessons;
- Writing the scenarios of the tours, considering the general and linguistic (vocabulary and grammar) contents of each lesson;
- Reviewing the scenarios by two colleagues;
- Finalizing the scenarios;
- Recording the 360° VR tours by Samsung Gear 360 camera; and
- Editing and finalizing the VR videos with Movavi 360 Video Editor

Ready-Made 360° Virtual Tours

Unlike the experimental group, the control group was provided with authentic 360° tours. The videos were selected based on their compatibility and relevance with the topics and content of the lessons of Vision 1 (Fig 1).

(a)



(b)

Fig 1: 360° VR Tours: (a) Teacher-made 360° VR tour (Darabad Wild Life Museum in Tehran), and (b) Ready-made 360° VR tour (Paris Tour)

Digital Devices

The Samsung Gear 360 camera was utilized by the teacher (the first author of the study) to capture 360° videos. The 360 Dual lens video recording resolution of the camera is up to 2048 x 4096 (24 fps), and the Single lens video recording resolution is up to 1920 x 1080 (60 fps). The camera comes with a special application called Samsung Gear 360 Manager that lets users manage the recorded content (Fig. 2).

GTab S8X tablets were used in the classes so that the students could watch 360° videos during instruction. The tablets had an 8-inch screen with a resolution of 800 x 1280 pixels of the IPS type that provided a completely acceptable image resolution and readability to watch 360° videos.

The Software

The Samsung Gear 360 Manager was used to control the process of filming teacher-made 360° videos with the Samsung Gear 360. The application allows users to create, view, and share 360° content on their smartphones.

Movavi 360 Video Editor was used to edit teacher-made 360° VR videos after filming. Special effects, background music, graphics, animations, and texts were added to the recorded tours to make the content more pedagogical. VR Media Player was installed on the tablets to enable students to watch the videos easily. The application not only supports 360° or spherical videos and photos but also allows users to have 180° equirectangular, regular lens, and fisheye lens views (Fig 2).

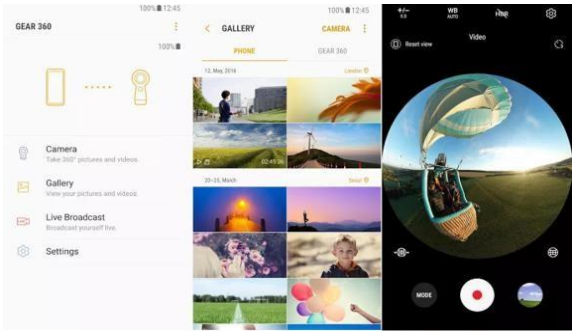
Research Design

The study adopted an exploratory sequential mixed methods design, combining quantitative and qualitative data [46]. The quantitative phase employed a pretest-posttest quasi-experimental design with an experimental and a control group. The qualitative phase was subsequently conducted to provide deeper insights into learners' experiences and perceptions of 360° videos and to support the quantitative findings.

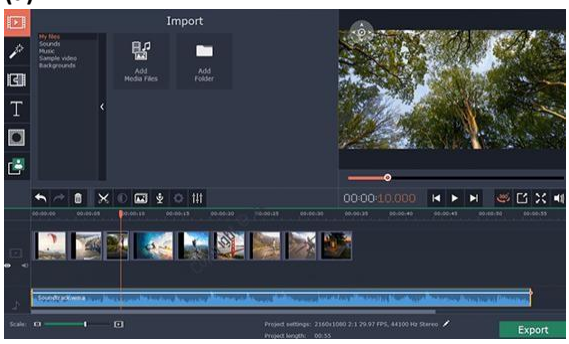
Procedure

Research Procedure

Fifty-eight female grade 10 students were selected randomly and were assigned to be the control and experimental groups by the fishbowl draw. The students were informed about the research study and the upcoming events. Participants were assured that all findings and data gathered from tests and the open-ended questionnaire would remain confidential and exclusively utilized for research objectives, without being shared with external parties. To ensure participant anonymity, pseudonyms were used when reporting excerpts from participants' written responses to the open-ended questionnaire.



(a)



(b)

(c)

Fig 2: Software used for creating, editing, and viewing 360° virtual tours: (a) Samsung Gear 360° Manager, (b) Movavi 360° Video Editor, and (c) VR Media Player

Since this study was the students' first encounter with VR videos at school, an introduction along with certain instructions was

given to make them familiar with the technology. Before the study, all participants took part in pretests in two consecutive sessions, including English test administration and questionnaire completion. The study lasted for one academic year from October 2023 to June 2024. At the end of the study, both groups participated in posttests, and the experimental group members completed the open-ended questionnaire.

Instructional Practice

The 360° VR videos were integrated into teaching reading sections of Vision 1 since reading texts function as the context of introducing new words and grammar, and a basis for developing the other three language skills (listening, speaking, and writing) in this book. Reading passages were taught based on the pre-during-post reading cycle. This approach involves the initial step of stimulating students' prior knowledge of the subject before instructing them to engage in reading and understanding the text. After reading the passage, the teacher assesses the student's comprehension through post-reading exercises like reading comprehension questions [46]. 360° videos were used in the pre-reading stage to make students familiar with the topics and contents of the text they were going to read. The goals of each phase of reading instruction are depicted in Table 1 [47].

Table 1: Table 1. Major goals of each phase of the pre-during-post reading framework [47, p. 249]

Pre-Reading Phase	During-Reading Phase	Post-Reading Phase
-Establish reading purpose -Tap prior knowledge -Provide information needed for comprehension (e.g., vocabulary, background) -Set up expectations -Stimulate interest -Build confidence and motivation -Explain or support text organization	-Guide reading to facilitate comprehension -Help students construct meaning and monitor comprehension -Give students opportunities to connect what is read with what is known; to evaluate what is being read -Provide opportunities for fluency development -Support ongoing summarization	-Check comprehension -Explore how text organization supports comprehension -Consolidate learning -Provide opportunities for students to summarize, synthesize, evaluate, elaborate, integrate, extend, and apply text information -Give students the chance to critique the author and aspects of the text (e.g., writing, content) -Establish and recognize comprehension successes

Results and Findings

Pretests

To examine the entry-level performance of the participants on the English test and EFL-LH scale, two independent samples t-tests were run. The results showed that both groups were homogeneous in their English knowledge [t (56)=0.54, p=0.591>0.05] and LH level [t (56) =0.54, p=0.360>0.05] before the experiment.

Effects of Teacher-Made 360° VR Tours on Achievement

Two-way Analysis of Variance (ANOVA) was used to explore the effect of teacher-made 360° virtual tours on the achievement of students across groups, considering their level of LH. Before running ANOVA, the preliminary assumptions (normality, linearity, multicollinearity, and homogeneity of variances) were checked [48]. As the result of ANOVA shows (Table 2), the interaction effect

between research group (type of intervention) and level of LH was not statistically significant [F(2, 52) = 0.068, p = 0.934>0.05]; however, there was a statistically significant main effect for LH level [F(2, 52)=5.311, p = 0.008<0.05], with a big effect size (ηp^2 = 0.17>0.14) [49].

Post-hoc comparisons using the Tukey HSD test indicated that the mean score of achievement for the low LH group (M = 42.85, SD = 7.672) was significantly different from the mid LH (M = 33.556, SD = 13.249) and the high LH (M = 33.950, SD = 9.610) groups. The main effect for group did not reach statistical significance [F(2, 52) = 0.957, p = 0.333>0.05].

The estimated marginal means of both groups' performance in the posttest across levels of LH show that students with a lower level of LH outperformed those with mid and high levels of LH in both control and experimental groups. Moreover, students of all three sub-sets in the experimental group outperformed their counterparts in the control group (Fig. 3).

Table 2: The result of a two-way ANOVA on post-test across research groups, considering the levels of LH

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1206.671	5	241.334	2.188	.070	.174
Intercept	76925.225	1	76925.225	697.527	.000	.931
Group	105.505	1	105.505	.957	.333	.018
LH level	1171.406	2	585.703	5.311	.008	.170
Group* LH level	15.010	2	7.505	.068	.934	.003
Error	5734.709	52	110.283			
Total	85900.000	58				
Corrected Total	6941.379	57				

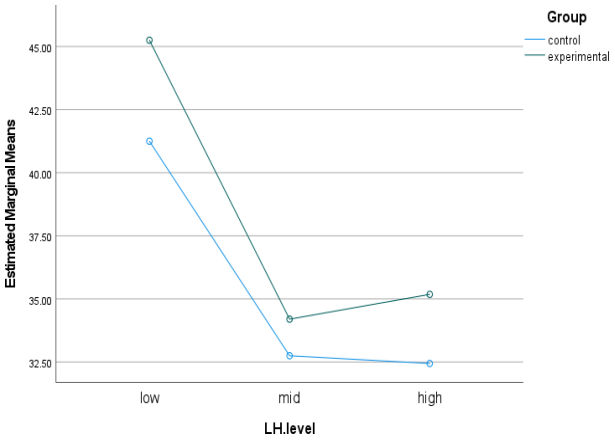


Fig 3: Estimated marginal means of post-test

Perceptions of Teacher-Made 360° VR Tours

The qualitative data were obtained from the participants' written responses to the open-ended questionnaire administered at the end of the intervention. The responses were analyzed using qualitative content analysis. The texts were coded first manually and then by utilizing QSR NVivo Enterprise 20. To do the content analysis, first, both researchers read the texts carefully and independently and coded the responses manually. In three elaboration sessions, the codes were compared, and disagreements were resolved (Kappa index=0.92). The coded responses were then grouped into themes and subthemes. The codes, themes, and subthemes were inserted into the software for further analysis. The frequency and percentage of codes are presented in Table 3 to support the interpretation of the themes.

As can be seen in Table 3, five main themes emerged from the students' perceptions of

their experience with 360° VR tours, including: attitudes/evaluative perceptions, perceived disadvantages, language learning, perceived challenges, and teacher role.

Table 3: Participants' perceptions of 360° VR tours for learning English

Themes	Rank	Word	Count	Percentage	Subthemes
Attitude and evaluative perceptions	1	Effective	21	4.30	Likes
	2	enjoyable	18	3.72	Dislikes
	3	think	15	3.33	
	4	interesting	14	3.26	
	5	good	16	2.97	
Perceived Advantages	1	watching	19	3.98	-Motivation
	2	self-confidence	16	3.90	-Cognition -Self-confidence
	3	better	12	2.93	
	4	work	14	2.36	
	5	involve	10	2.32	
Language learning	1	words	57	8.86	-Macro skills -Micro skills
	2	reading	54	7.28	
	3	improved	26	4.11	
	4	grammar	22	3.48	
	5	comprehension	26	2.85	
Perceived Challenges	1	questions	17	12.9	-Technology -Language tasks
	2	tasks	7	5.22	
	3	difficult	6	3.98	
	4	discussion	5	3.73	
	5	details	4	2.99	
Teacher role	1	motivated	9	5.00	-Caring behavior -TPACK
	2	explained	6	3.33	
	3	tried	6	3.33	
	4	energetic	5	2.78	
	5	encouraging	6	2.22	

Attitudes and Evaluative Perceptions towards 360° VR Videos

Students generally expressed positive feelings and perceptions toward the 360° VR tour experience, often highlighting the enjoyment and novelty of exploring new places virtually. Many described the tours as engaging and immersive, as Mina (a low-LH student) explained that the experience allowed her *"to get familiar with famous places and people in Tehran and learn many words about them."* Mid-LH students echoed this appreciation, emphasizing the realism and accessibility of the virtual visits. Sara noted that *"the 360° videos allowed us to experience the locations as if we were actually there",* and Zahra said that the experience motivated them *"to study more about these places and … plan to visit these great tourist attractions."*

Students also expressed enthusiasm for working with mobile devices as Shamim found the technology *"user-friendly",* noting that *"interacting with the videos multiple times supported accessibility, especially for students with low eyesight".* Low-LH learners like Atena described the experience as *"very interesting",* explaining how surprising and exciting it was *"to work with tablets in our school"* for the first time. The sense of enjoyment was frequently mentioned, as Hadis (one low-LH student) stated, *"It was an interesting experience … I get eager to listen and watch more English content"* and highlighted the immersive quality of the videos by referring to their *"high resolution and high-quality sound".*

Despite the overall positivity, some high-LH students expressed negative perceptions, primarily due to the difficulty they had with the content. Maryam stated that, *"It made me confused because I couldn't understand the contents of it,"* while Yara noted that they *"would rather have more practice and teaching on grammar"* instead of using the tours.

Perceived Advantages of 360° VR Videos

Across LH levels, many students emphasized the motivational impact of the 360° videos. Several described how the tours activated prior knowledge and made subsequent readings more comprehensible. Sima (a low-LH student) noted, *"The videos introduce you to new information, and then when you read passages*

with the same topic, it is much more comprehensible". Mid- and high-LH learners also reported increased interest in English, as Sanam (one mid-LH student) stated, *"I am more interested in learning English now,"* and Yekta (a high-LH learner) explained that the videos encouraged them *"to try my best to learn new things".*

Students also described clear cognitive benefits, particularly in comprehension, memory retention, and working memory. Low-LH learners reported that the videos *"boosted our comprehension skills"*, while mid-LH students emphasized the advantage of visual support, noting that *"pictures will be remembered more than sounds",* giving 360° videos superiority over audio files or ordinary videos. Many highlighted the value of multimodal input; for example, Nasim (one low-LH student) appreciated receiving information *"from different sources, such as pictures, voices, some transcriptions, and words";* and Hasti (a mid-LH student) added that watching and listening simultaneously helped them understand context that would be missing from audio-only files.

Despite overall benefits, a few high-LH students reported that the videos were *"too difficult" and "not interesting",* noting that they sometimes struggled with comprehension and found this technology less useful for learning some parts of their books, like grammar and writing.

Language Learning by 360° VR Videos

Students widely agreed that 360° tours supported their language learning, particularly in receptive skills and vocabulary development. Many described improved reading comprehension. Mobina (a mid-LH student), for instance, stated that *"I could understand the reading of my textbook and workbook better after watching these videos,"* and Rojan (a high-LH student) similarly reported that her reading had *"grown much better,"* despite still struggling with some comprehension questions.

Vocabulary development emerged as a strong outcome as well. Low-LH students described recalling words by *"referring to their pictures in the video,"* while high-LH students acknowledged vocabulary growth even when other areas felt less supported, stating that the experience enabled them to *"write new sentences and express… opinions"* with newly learned words. However, consistent with earlier themes, some high-LH suggested that the benefits were more pronounced for receptive language skills than for form-focused aspects of language learning.

Perceived Challenges in Using 360° VR Videos

Students reported a few technical challenges or minor technical problems while using the devices. More commonly, students highlighted challenges with the follow-up language tasks. Some low-LH learners initially found the tasks difficult but engaging, explaining that looking for unfamiliar words in the videos using their fingers *"was some kind of a game and drove our curiosity,"* and encouraged them to persist despite the difficulty. A few high-LH learners, however, were more likely to describe the activities as difficult or overwhelming. Kiana, for instance, noted that *"I found them too difficult for me",* while Roshanak stated that fill-in-the-blank and writing tasks were challenging *"since my English language skills are low".*

Teacher role

Students across all LH levels consistently highlighted the teacher's crucial role in shaping their experience with VR videos. Many described the teacher as caring, supportive, and motivating, emphasizing her efforts to guide them and encourage participation. Students

also appreciated the teachers' technological and pedagogical skills. Low-LH learners were impressed by the creation of the 360° content, as Roya stated, *"I have never imagined that someone could make such educational content by recording 360° videos."* Mid-LH students praised her creativity, noting that she *"always came up with new tasks and ideas"* to stimulate their interest, while high-LH students valued her patience and clarity, describing her role as *"a facilitator who helped us in need and explained everything clearly."*

Despite this overwhelmingly positive view, a few high-LH students felt that the teacher's effort could not fully compensate for the difficulty they experienced with the videos. Pardiss explained that although the teacher *"explained everything multiple times, the videos were more beneficial for more proficient students,"* suggesting a mismatch between the technology's demand and their own proficiency level.

Discussion

Over the past decade, researchers have explored how LH manifests in EFL learners, its underlying causes, and its impact on language acquisition and motivation. Since this condition significantly impacts language learning and teaching, this study was done to find a remedy for enhancing EFL achievement and helplessness in a low SES setting by integrating teacher-made 360° VR tours into English classes.

Based on the findings of the study, the implementation of 360° VR videos, either ready-made or teacher-made, was found to have a statistically positive effect on EFL learning gains at the end of the experiment, supporting what is already reported in the literature that using VR technology leads to better language learning outcomes as it offers an active learning experience [50]. As a form of multimedia, VR can cognitively engage learners with the content by helping them select relevant information, organize it into visual or verbal formats, and connect it with what they already know. Using VR multimedia can reduce the cognitive load on WM and help students manage their intrinsic cognitive load, freeing their capacity to process information more confidently [51]. Also, optimization of the germane cognitive load minimizes the extraneous cognitive load that ultimately leads to better retention and learning outcomes [52].

Virtual videos increase learners' engagement and motivation and lower their language learning anxiety as they offer an opportunity for learners to practice, understand, and build their confidence in real-life interactions through simulated environments [53]. Further, virtual learning environments are perceived positively by students as they facilitate interactional behavior through developing cross-cultural competence [54]. It is obvious that physical travel for the purpose of language learning is not always feasible. Thus, the simulated environment that the 360° VR videos offer can reinforce language learning as the learners have the opportunity to practice the target language in a virtual world [55]. In addition, former studies show that integrating VR into the CLIL framework can increase comprehension and language learning as students are engaged both physically and cognitively in the learning environment [51].

Noteworthy to mention, however, that although the experimental group outperformed their counterparts in the achievement posttest, the difference between both groups was not significant when the group members' level of LH was not considered. In other words, what could make a change in benefiting from the integration of teacher-made 360° VR videos was

students' level of LH, as students with a lower level of LH in the experimental group outperformed their peers in the control group in all three subsets. In other words, students with high LH did not benefit from the intervention as low LH groups did, and LH is an underlying key factor in making students exploit the advantages of technology-enhanced learning environments. One reason for this outcome can be the study context, that is, a low SES setting, where the classes are not homogeneous, and many students lack the prerequisite knowledge base when they enter the upper grades. Schools in this area are overcrowded with many low achievers who show no motivation for learning English as a school subject. Their weakness in English accumulates grade after grade, and a challenging situation arises as learners with low English levels struggle to fit in the class and keep up with other students. Many of these students lack enough knowledge of grammar and vocabulary, and their language proficiency in the four skills is lower than expected grade [25].

In this process, repeated failure and consistently disappointing results lead to withdrawal from any classroom participation and, at higher levels, self-abandonment. This sense of constant failure is reinforced by what they experience out of school, where they live, as well. Families with low socio-economic status may experience repeated job rejections, low wages, and limited economic status, and over time develop the belief that no matter how hard they try, their situation will not change, and thus they may stop seeking better jobs or education. When parents feel powerless in the face of challenges and consistently express defeat, hopelessness, or the belief that they cannot change anything, children may develop the same fixed mindset [3]. As a result, the students lose their passion, motivation, and hunger for progressing in their studies and develop the belief that studying does not help them have better lives.

Furthermore, the analysis of the qualitative data showed noteworthy results in all five main themes. Regarding feelings and evaluative perceptions, students with a lower LH level had more positive feelings toward virtual tours and their overall experience compared to those in the mid and high LH groups. Generally, using teacher-made VR videos made the students able to not only travel to different places in their city but also listen to the familiar voice of their teacher and learn new vocabulary and grammatical items better because of its context-based approach. Therefore, teacher-made 360° VR videos could lower students' foreign language anxiety and improve students' interaction with the content that was more familiar to them. Meanwhile, one of the reasons for some negative perceptions toward virtual tours could be the educational and financial status of the students' families. This study was conducted in a school where the majority of the students came from families with low educational levels and financial problems. As a matter of fact, most of the students were not willing to study, let alone learning a foreign language. Since their priority is to financially support their families, learning English tends to be neglected over time, and sometimes it leads to school drop-out, corroborating the fact that ill-suited academic courses and financial and personal issues are the main reasons that make a student not willing to continue an educational program [56].

Considering the benefits, all students in the low and mid LH group found the experience useful and effective in motivation, cognition, and self-confidence. However, a few students in the high LH group doubted the efficiency of virtual tours in their language learning experience. Evidently, utilizing teacher-made

360° videos along with related activities in the process of language learning brought about positive perceptions among the students of the experimental group, as the instructional content was attractive and impressive. The teacher-made materials have been reported to be encouraging for students because of the sense of relativity that the learners feel while doing them, since the contents are created with the students' culture in mind [57]. As the pupils can relate to the content and activate the related schemata, they have a sense of accomplishment. In terms of language learning, all students claimed significant improvements in developing their receptive skills, vocabulary, and pronunciation. Yet, a few members of the high LH group were not sure about the effectiveness of 360° VR videos in learning language structures and grammar. One possible reason for this finding is that the experimental group was provided with teacher-made 360° videos in which the instructor narrated the scenes with her own voice. Obviously, teacher-generated materials are more appropriate in terms of language and vocabulary for students, as they are simplified or developed in accordance with lexical and linguistic norms [58]. This provided an environment for exchanging ideas and negotiation, which boosted participants' interactions in the classroom that ultimately improved their pronunciation [59]. Notably, the effective use of voice is pivotal for students' academic achievements and overall well-being in school, as it significantly affects their information processing and comprehension abilities [60]. The native accent of the speakers and the speed of speaking may sometimes cause problems in the comprehension and understanding of the students as non-native speakers, but intelligible English pronunciation is reported to be more understandable for EFL learners [61].

It is worth mentioning that some students had challenges with tasks that followed the 360° VR videos. Despite facing some difficulties, the low-LH learners were able to deal with the situation by applying language learning strategies. However, the high-LH ones struggled with the tasks due to their low English levels and questioned the benefits. This could be because of the fact that students have different capacities to handle difficult situations and adjust to the challenges. The more helpless a participant thinks they are, the more likely they are to withdraw from tasks [25].

Finally, the role of the teacher was claimed to be facilitating, motivating, and supporting by all the students with either low LH or high LH. The caring behavior and knowledge of teaching were two factors that highlighted the positive role of the teacher in the process of using 360° videos for language learning. Regardless of the constructive role of the teacher, few high-LH learners assumed that language learning via virtual tours was a better option for students with a high proficiency level in English. The interactions between learners and educators play an undeniably significant role in different domains of a learner's progress. The consistent and active support that the students receive from their teacher leads to their development and, as a result, builds self-esteem [62]. Also, healthy relationships between students and educators hinder the level of LH and reduce the possibility of experiencing higher levels of this phenomenon [63]. Former studies have highlighted the crucial role of teachers in learners' academic success, as they were suggested to pay more attention to students' emotional state and build positive rapport with them [12] [41], which can be achieved more effectively by teacher empathy in VR learning environments [64] [65]. Teachers' care is not only concerned with learners' emotional well-being but also with the guidance they can provide to help the students reach their highest

level of capacity [26] through integrating presence and agency as two key affordances of VR lessons [66].

Conclusions

The present study explored the effects of teacher-made 360° VR tours on EFL achievement and helplessness in an underprivileged setting. Through a mixed-methods research design, quantitative and qualitative data were collected from 58 Iranian female high-school students. Insignificant differences between experimental and control groups in terms of learning gains at the end of the experiment were revealed, with the experimental group members outperforming their counterparts. In terms of different levels of LH, students in the low LH group surpassed their peers in the high LH group within and between study groups. Further, learners in the low LH group demonstrated positive perceptions toward virtual tours and the effectiveness of this technology in their foreign language learning journey, while some high LH group members expressed their unwillingness to learning by this technology and questioned the educational benefits of the 360° videos. The outcome indicated that 360° VR tours not only acted as an entertaining agent and adventure guide but also as an educational medium, which facilitated the language learning process by exposing students to the use of different language items in specific contexts.

Certain limitations were identified in this study, which highlight the need for cautious interpretation of the results and pave the way for future research to address these constraints. One key limitation was the prohibition of smartphones or personal devices in the school, forcing the study to rely on a limited number of tablets supplied by the researchers. Another constraint stemmed from Iran's single-gender education system, as the study included only female participants. While this allowed a focused examination of factors affecting female students, it overlooked potential gender-based differences that might emerge in co-educational settings, restricting the applicability of the results to mixed-gender populations. Furthermore, selecting culturally and educationally appropriate 360° VR videos posed a challenge for the researchers. The videos needed to align with the national coursebook and reflect Iranian cultural values, leading to the use of authentic content with caution after being evaluated by two colleagues.

Despite the limitations, further investigation by other researchers on this topic is recommended. In future studies, it would be advantageous to conduct a similar study that includes both male and female participants, allowing for a comparison of their performances, since this study highlighted only female participants. Moreover, it is advised to conduct further studies with a larger sample size to improve the generalizability of the findings. Also, a comparable study between students of different fields of study or learners from different high schools would be beneficial for the future of this research scope.

The results of this study provide valuable insights into the field of EFL and immersive technologies, thanks to its novel focus on VR-based language instruction. With ongoing technological advancements, the future of VR-based language learning looks very promising; thus, it is not impossible to think that VR can revolutionize language learning and teaching. Considering the EFL helplessness, the findings of the present study showed that learners with lower levels of LH demonstrated higher engagement and reported improved comprehension and vocabulary learning when using teacher-made 360° VR tours, while some high-LH learners expressed difficulty

maintaining interest and confidence. This suggests that the technology works in favor of EFL students when appropriate pedagogical support is improved, as it creates an enjoyable learning experience. EFL learners may become more engaged in the lesson, and the positive learning experience reported by participants may help reduce negative feelings associated with helplessness during the process of learning a foreign language. Thus, immersive technologies could be considered as a potential supportive approach for addressing EFL LH.

The study's implications extend beyond the classroom, potentially benefiting educational authorities, including the MOE, by addressing learned helplessness, which could lead to better academic outcomes and fewer dropouts. Introducing VR into teacher training programs could also equip new educators with knowledge of its potential. Additionally, material developers could capitalize on this approach by creating tailored 360° VR videos for various lessons, supporting teachers, and addressing the lack of culturally relevant content online. Local material developers, in particular, could produce educationally and culturally appropriate videos for language learners that boost their learning motivation and outcomes.

Authors' Contribution

Author 1 carried out the study and gathered the data. Author 2 conceptualized, designed, and supervised the research and drafted the manuscript. Both authors cooperated in writing the final edit of the manuscript. The authors have read the article and approved the submitted version.

Acknowledgments

Not applicable

Conflicts of Interest

The authors have no conflicts of interest.

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