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EFL Students' Perspectives on VR-Mediated EAP in the Indonesian Higher Education Settings: A Qualitative Case Study

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Abstract

This qualitative case study investigates how Virtual Reality (VR) mediates English for Academic Purposes (EAP) in a History course from the standpoint of Indonesian EFL undergraduates. Thirty students at a public university in East Java participated in a two-session VR sequence of short 360° "field trips" followed by evidence-anchored speaking and writing. informed by disciplinary literacy in History and genre-based EAP pedagogy. Data were generated through non-participant classroom observations, semi-structured interviews, and brief open-ended reflections. Data were analyzed using reflexive thematic analysis. Findings indicate predominantly positive attitudes toward VR-mediated EAP in the Indonesian higher education setting. Students reported that VR sharpened attention to historical features, supplied shared visual evidence that made discussion more purposeful, and supported movement from description to interpretation and evaluation in short academic products. Learners perceived gains in discipline-relevant lexis (materials/condition, spatial relations, chronology) and increased willingness to speak when guided-noticing prompts and sentence stems were available. Reported constraints, brief motion discomfort, bandwidth/device interruptions, and elevated cognitive effort at the moment of articulation were mitigated by short viewing segments, a one-minute reset, and role rotation during device sharing. The study concludes that, when braided with genre-aware scaffolds, VR functions as a practical mediational tool for fostering participation, clarity of ideas, and discipline-specific vocabulary in History-oriented EAP within Indonesian higher education.

Keywords: English for Academic Purposes (EAP); English as a Foreign Language (EFL); Higher Education; Virtual Reality

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INTRODUCTION

Virtual reality (VR) Virtual reality (VR) is an interactive technology that places users inside simulated, three-dimensional visual scenes, enabling them to look around, notice details, and act as if they were physically present in another setting. In language education, VR is attracting attention because these rich visual environments can supply shared experiences and concrete reference points for communication. Learners can jointly observe a scene, identify salient features, and then describe, compare, and interpret what they see in the target language. Reviews of VR in language learning report encouraging effects on motivation, engagement, and language performance, while also emphasizing that outcomes depend on sound pedagogical design rather than on the technology alone (Parmaxi, 2023). In this view, VR becomes a mediational tool that supports language learning only when activities are short, well guided, and clearly linked to specific communicative tasks.

Within education more broadly, VR and 360° video are now used to simulate laboratory work, field excursions, and professional practice placements, particularly when travel is costly or impossible. In higher education, for example, short immersive sequences have been used to familiarise students with clinical environments, archaeological sites, and engineering installations before real-world visits. For language education, such applications offer an appealing way to provide "virtual field trips" that would otherwise be beyond the institutional budget or timetable (Parmaxi, 2023). Yet, despite rapid growth in VR applications, much of the existing work either focuses on general vocabulary or conversation practice, or it treats VR primarily as an engagement tool rather than as a structured source of disciplinary evidence. This leaves a gap for designs that integrate VR with the specific reading, reasoning, and writing practices of particular subjects, such as History, and that do so in resource-variable classrooms.

The present study addresses that gap in the context of English for Academic Purposes (EAP) for History. History-oriented EAP courses require students to work with evidence, describe time and space, compare interpretations, and write short academic texts that explain what the evidence suggests. Research on disciplinary literacy highlights that each subject develops characteristic ways of reading, reasoning, and writing, and that instruction should make these disciplinary routines visible to learners (Shanahan & Shanahan, 2017). In History, classic work in the learning sciences shows that expert historians interrogate sources, attend to context, and build warranted claims rather than merely list facts (Wineburg, 1998). Genre-based writing research similarly recommends explicit teaching of rhetorical "moves" and the language resources that realise those moves (Hyland, 2007). When these strands are brought into dialogue with VR, a simple pedagogical pattern emerges: shared 360° visuals can provide common evidence, while carefully designed stems and checklists can help students turn "what is seen" into "what it means" in clear academic English.

The Cognitive-Affective Model of Immersive Learning (CAMIL) offers a theoretical frame for understanding why the same VR tool can sometimes support and sometimes hinder learning. CAMIL proposes that presence (the feeling of "being there") and agency (the sense of control) are core affordances of immersive media, and that these operate through interest, motivation, self-efficacy, cognitive load, embodiment, and self-regulation to influence learning outcomes (Makransky & Petersen, 2021). An experimental study illustrates a key caution: adding a high-immersion head-mounted display (HMD) to an already effective simulation

increased presence but reduced learning (Makransky et al., 2019). The central implication is that higher immersion does not automatically improve outcomes; rather, design choices must manage cognitive and affective demands so that presence and agency feed into "generative processing" instead of overload. This study adopts CAMIL as a guiding framework by prioritising brevity, comfort, and clear follow-up activities in the design of VR-supported tasks.

Design constraints related to comfort and cognitive load further shape this approach. Reviews of immersive displays document symptoms of "cybersickness," such as nausea, eye strain, and disorientation, particularly in HMD-based experiences (Rebenitsch & Owen, 2016). These reviews recommend short exposures, seated viewing, regular breaks, and attention to visual motion and frame rate. In parallel, educational research on 360° video reports mixed but promising effects on learning and stresses that outcomes depend on clipping length, visual clarity, and explicit guidance (Rosendahl & Wagner, 2024). A recent meta-analysis on learning from 360° video similarly indicates that benefits tend to appear when attention is directed and activities are tightly structured (Schroeder et al., 2023). In response, the design in this study limits 360° segments to approximately 40–90 seconds, inserts one-minute resets between viewings, allows projector-only viewing for any student who prefers it, and uses brief prompt sheets to guide what to notice in each scene.

The language dimension of the design is grounded in well-established scholarship on genre pedagogy and disciplinary literacy. Hyland (2007) argues that genre-based instruction supports second-language writers by turning opaque academic tasks into visible patterns with explicit moves and model language. Sentence starters for claims, reasons, contrasts, and sequences enable learners to participate in academic discourse earlier and with greater confidence. On the content side, Wineburg (1998) demonstrates that historians construct meaning through sourcing and corroboration, not through the accumulation of surface facts. When VR scenes are treated as shared historical evidence and are followed immediately by tasks that require claim–evidence connections, the two literatures converge: students are invited both to engage in historians' ways of working and to express those practices in English. A widely cited chapter on disciplinary literacy reinforces that subject learning is not supported by generic strategies alone, but by attention to the specialised reading, reasoning, and writing practices within each discipline (Shanahan & Shanahan, 2017). In this design, a compact noticing checklist (materials/condition, spatial relations, chronology) aligns with those disciplinary practices, while the sentence stems align with the rhetorical moves required in History writing.

The Indonesian higher-education context makes such a low-load, scaffolded design both necessary and realistic. Many classes in public universities include multilingual students with low-to-intermediate English proficiency and uneven access to devices and bandwidth. National reforms encourage authentic tasks, flexible pathways, and outcome-based assessment, yet large class sizes, limited connectivity, and few headsets remain common constraints. A short, low-bandwidth, classroom-ready VR sequence offers a pragmatic response. Because the 360° segments are very brief and can be played on ordinary phones or a projector, lessons can proceed with shared viewers and modest internet access. Because speaking and writing tasks are concise and supported by visible stems, learners at lower proficiency levels can participate meaningfully. Role rotation (viewer, note-taker, discussant) further distributes responsibility

and supports more equitable participation. In this way, VR serves equity by providing all students with a common "field trip" and a shared evidence base for academic English, without the cost and time of travel.

Against this backdrop, the present study examines how Indonesian EFL undergraduates in a History-oriented EAP course experience a short, carefully scaffolded VR sequence that uses very brief 360° "field trips," guided noticing prompts, and simple sentence starters for speaking and writing. Thirty undergraduates in East Java completed two sessions built around two or three short 360° sequences. After each viewing, students used a one-page prompt sheet to note key features, then engaged in one- to two-minute spoken responses using stems, and finally wrote a short paragraph that linked claims to visible evidence and employed basic time and space language. No formal tests or numerical measures were collected. Instead, classroom observations, interviews with a diverse subsample of students, and short end-of-sequence reflections were analysed using reflexive thematic analysis to identify perceived benefits and constraints.

This design sits at the intersection of several strands of research and builds explicitly on prior work while extending it into a specific disciplinary and regional context. The review on VR in language learning maps the overall landscape and underlines the need for alignment between technology and task (Parmaxi, 2023). CAMIL provides a theoretical account of how presence and agency affect learning through cognitive and affective pathways (Makransky & Petersen, 2021), and the experimental work on presence versus learning cautions against uncritical increases in immersion pathways (Makransky & Petersen, 2021). Reviews and meta-analytic evidence on 360° video support short, structured activities with clear guidance (Rosendahl & Wagner, 2024; Schroeder et al., 2023). The foundations in genre pedagogy and historical reasoning (Hyland, 2007; Wineburg, 1998), together with disciplinary-literacy perspectives (Shanahan & Shanahan, 2017), justify the focus on a small set of language stems and a succinct noticing checklist grounded in materials/condition, spatial relations, and chronology. Building on these contributions, the introduction argues for a simple, load-aware VR sequence that is friendly to non-native speakers and feasible in Indonesian public universities. The study formulates two research questions that follow from this gap: (1) How do students evaluate VR as a mediational tool for participation and clarity of ideas in EAP-History tasks? and (2) What affordances and limitations do they perceive for discipline-relevant vocabulary and evidence-anchored communication? The sections that follow present empirical answers to these questions in a real Indonesian classroom setting.

METHOD

Research Design, Setting, and Participants

This study adopted a qualitative case study design to generate a rich, context-bound account of how a short, scaffolded virtual reality (VR) sequence mediated English for Academic Purposes (EAP) tasks in one History course in Indonesian higher education. A case study approach was appropriate because the phenomenon was bounded, a two-session classroom intervention situated in its natural setting and the aim was depth of understanding through multiple forms of evidence rather than statistical generalization (Baxter & Jack, 2008; Yin, 2018). The site was a public university in East Java. Participants were thirty

undergraduates in a History program (twenty female and ten males, aged 18–22) who self-reported low-to-medium English proficiency and came from multilingual and multicultural backgrounds typical of the region (e.g., Javanese, Madurese, Osing, and other Indonesian ethnolinguistic communities). Recruitment followed a whole-class invitation by the first author; all enrolled students consented to take part. In line with qualitative sampling logics, the cohort offered adequate "information power" for developing robust, situated themes when combined with triangulated data sources (Guest et al., 2006; Patton, 2015). Within this qualitative design, the focus was interpretive: the goal was to understand participants' situated experiences and meaning-making rather than to test hypotheses or estimate effect sizes.

Instructional Context

The instructional context constituted the core pedagogical intervention under examination. It comprised two 100-minute sessions organized around very short 360° "field trips" (approximately 40–90 seconds each) followed immediately by off-headset articulation activities. Students worked in pairs or triads to deliver brief, evidence-anchored speaking using simple sentence starters (e.g., "The evidence suggests … because …," "Chronologically, first … then … finally …") and then wrote short paragraphs of approximately 120–150 words that emphasized discipline-relevant lexis such as materials/condition, spatial relations, and chronology. To manage cognitive load and student comfort, the sequence used seated viewing, one-minute "resets" after each clip, and role rotation during device sharing (viewer, note-taker, discussant). These safeguards are consistent with immersive learning guidance that channels presence and agency into generative processing and reduces the likelihood of cybersickness or extraneous load (Makransky & Petersen, 2021; Rebenitsch & Owen, 2016). Because the method aimed to examine how this particular design was experienced in practice, the structural features of the instructional sequence (very brief clips, guided noticing, sentence stems, and role rotation) became central analytic anchors when interpreting observational, interview, and reflective data.

Data Collection

Data generation followed a triangulated design that integrated non-participant classroom observations, semi-structured interviews, and brief reflective journals as the primary qualitative instruments. Observations served as a contextual instrument for documenting in-situ behaviour; semi-structured interviews functioned as an instrument for eliciting participants' articulated perspectives; and reflective journals provided an instrument for capturing immediate, written introspections.

Observations spanned both sessions (approximately 100 minutes in total) and were conducted by the first author as a non-participant observer using a structured field-note template. Notes focused on participation patterns (who spoke and how turns developed), references to visible evidence in talk (materials/condition, spatial and temporal markers), signs of comfort or discomfort (e.g., headset removal, requests for resets), and technical flow (device sharing, bandwidth events). Short photographs of the whiteboard and task prompts and time-stamped logs documented activity flow; no student faces were recorded. Observational data grounded the analysis in classroom realities and provided ecological validity for interpreting learners' accounts (Yin, 2018).

Following the final session, twelve students were interviewed for 20–30 minutes each in Indonesian or English according to preference, with a guide that probed perceived affordances (e.g., shared evidence, noticing, vocabulary support), constraints (e.g., motion discomfort, resolution or clarity, time pressure, language mismatch), and the perceived value of guided-noticing prompts, sentence stems, and role rotation. Interviews were audio-recorded, transcribed verbatim, translated when needed, and anonymized for analysis, enabling depth with comparability (Kallio et al., 2016).

At the end of Session 2, all thirty students produced a brief open-ended reflective journal addressing noticing and ideas, language support used, participation and confidence, any discomfort, and suggestions for improvement. Reflections provided introspective accounts that complemented classroom behaviour and interview narratives and helped identify convergent or divergent patterns across sources (Creswell & Poth, 2018). In this way, the qualitative approach was enacted through the systematic use of three complementary instruments, each designed to capture different facets of the same VR-mediated instructional sequence.

Researcher stance, ethics, and reflexivity were addressed systematically as part of the qualitative methodology. The first author maintained a non-participant role during instruction and conducted interviews after graded activities, thereby minimizing power dynamics. Reflexive memos documented assumptions, positionalities, and decision points across the project to support transparency in interpretation (Braun & Clarke, 2019).

Data Analysis

Data analysis employed reflexive thematic analysis (RTA), an iterative and interpretive approach suited to examining patterned meaning across heterogeneous qualitative materials (Braun & Clarke, 2006). The application of the qualitative method in this phase was explicit and staged. Analysis proceeded through recursive phases of familiarization, inductive coding, theme construction, review, and naming. Initial coding, which attended to semantic content, identified recurrent ideas such as "shared visual evidence," "from description to interpretation," "language stems as starter," "comfort and resets," "role rotation and equitable participation," and "technical or clarity constraints," with openness to incipient latent patterns such as reduced formulation pressure at the point of articulation.

Candidate themes were then assembled by collating codes from observations, interviews, and reflections, and each theme was reviewed against both its constitutive extracts and the full dataset, with active searching for negative cases (for example, students who preferred projector viewing throughout or who expressed worry about over-reliance on VR). Final themes were defined and named through analytic memoing, and extended narrative accounts were written with illustrative excerpts selected for clarity and representativeness. Although RTA does not rely on inter-coder reliability statistics, analytic rigor was supported through a dialogic "critical friend" procedure: a second qualitative researcher independently coded approximately 20% of interview transcripts, and coding differences were discussed to deepen interpretations and refine code boundaries rather than to enforce mechanical agreement (Braun & Clarke, 2019).

Credibility, dependability, confirmability, and transferability were further addressed via method triangulation across the three data sources (Carter et al., 2014), brief member reflections on thematic summaries with a small subset of students (Birt et al., 2016), a

documented audit trail comprising a versioned codebook and analytic decision log (Nowell et al., 2017), and thick description of context, cohort, and instructional sequence to enable reasoned judgments of analytic transfer to similar settings (Yin, 2018; Lincoln & Guba, 1985).

Language and translation procedures were designed to preserve meaning while enabling cross-case analysis. Interview and journal texts produced in Indonesian were translated into English by a bilingual researcher; a peer reviewer examined a sample for equivalence of key constructs and terms (for example, bukti/evidence, kronologi/chronology), and queries were resolved through memoed decisions. When reporting participant excerpts, English translations are presented in the main text with the original Indonesian in parentheses where nuance is important. This translate–review approach supports conceptual accuracy in cross-language qualitative research and creates a traceable record of interpretive choices (Temple & Young, 2004).

Ethical Protocol

Ethical protocol was integral to both the VR intervention and the qualitative data-collection process. Ethical attention to comfort and accessibility informed the design of the instructional sequence as well as the handling of participants' accounts. Given known risks of cybersickness in head-mounted displays, exposures were kept brief, viewing was seated, one-minute resets were embedded, and projector-only alternatives were always available. Role rotation reduced continuous headset time and broadened participation, aligning with inclusive practice in technology-enhanced instruction (Rebenitsch & Owen, 2016; Makransky & Petersen, 2021). These measures were not only pedagogical safeguards but also ethical safeguards aimed at protecting participants' well-being.

Finally, as a single-site, short-duration case study, the project offers context-specific insights rather than claims to generalize across institutions. No pre/post performance tests or physiological measures of discomfort were included because the focus was on participants' situated experiences of the VR-mediated EAP sequence and their judgments of its affordances and constraints. Nonetheless, the triangulated design, reflexive analytic process, and detailed contextual reporting provide a credible basis for theoretical and practical contributions to EAP-History teaching in resource-variable Indonesian settings, while the ethical protocol ensures that these contributions were generated with sustained attention to participant safety, autonomy, and dignity.

FINDINGS AND DISCUSSIONS

Drawing on triangulated evidence from non-participant classroom observations, semi-structured interviews, and reflective journals, five interrelated themes explain how the short, scaffolded VR sequence mediated EAP-History learning for low-to-medium proficiency undergraduates. Themes 1, 2, and 4 speak primarily to RQ1 (students' evaluations of VR as a mediational tool for participation and clarity of ideas), while Themes 3 and 5 address RQ2 (perceived affordances and limitations for discipline-relevant vocabulary and evidence-anchored communication). Across sources, students emphasized that 360° scenes gave them a shared base of evidence that sharpened noticing and made talk more purposeful; that guided-noticing prompts and sentence stems helped them move from description toward interpretation and brief evaluation; that discipline-relevant lexis (materials/condition, spatial relations,

chronology) was easier to retrieve when it was tied to visible details; and that short exposures, resets, and role rotation improved comfort and participation. Constraints were also clear: some learners experienced dizziness or eye strain, several noted blurry images or single-object clips that limited detail and evidence, and a minority worried that heavy VR use could reduce time spent with books and longer texts.

Theme 1: Shared visual evidence sharpened noticing and purpose in discussion

Students consistently described VR as providing a common "look" at historical places, which made subsequent speaking tasks feel more grounded and specific. In interviews and journals, learners said VR "*brought me to the scene," so details could be named, compared, and sequenced*". One participant explained, "*VR 360… maximizes teaching in a way that is easy to remember… it guides me to the past and the present*," adding that the class could run a Q&A so peers "*explore more*" what caught their attention. Another student framed it as "seeing a museum directly," noting that the single-object clip still demanded focus and careful attention to what was visible. A third wrote that VR let them "*analyze places we have not visited directly*," which made interpreting past events feel more concrete. Observation notes aligned with these accounts. After each 40–90-second clip, small groups quickly referenced on-screen materials ("*brick arch… weathered," "stone floor… broken edges*") and spatial relations ("*behind," "next to*"), using the prompt sheet. When the instructor asked for two pieces of visible evidence before making a claim, more students entered the discussion compared to pre-VR warm-ups, suggesting that a shared evidential base supported broader participation and clearer contributions.

Theme 2: From description to interpretation and brief evaluation via prompts and stems

Across sources, learners said the checklist and sentence stems "*made it easier to start*" and to connect details to claims. One participant described how VR required "*several points of view… not only from the front, we can also see other angles*," which the class then used to explain why a structure "looked old" or "kept its original shape." Another reflected that short writing felt "relevant and real" after the viewing cycle, because they had already "*noticed*" features and could "explain them in order." A different student captured the same arc: "*First I look, then I say with the sentence, then I write," noting that the stems* ("The evidence suggests… because…," "Chronologically…") reduced hesitation at the moment of articulation.

These reports matched field notes: in pairs/triads, learners routinely anchored a claim in two visible details before offering a short interpretation. The most frequent stems observed were causal ("*because of the broken stone*…") and chronological ("*first… then… finally…"*). Groups that initially listed objects *("there is a gate… a wall…"*) were heard switching to interpretive language after a quick teacher prompt (*"So what does that suggest?"*), indicating that prompts and stems supported a shift from description toward simple evaluation.

Theme 3: Discipline-relevant vocabulary and evidence-anchored communication felt more attainable when tied to what was seen

Findings for RQ2 emerged most strongly in students' comments about vocabulary and their ability to connect claims to visible evidence. Students repeatedly linked vocabulary gains to the "*see–say–write*" cycle. Several mentioned learning or re-activating terms for materials and conditions ("*stone/wood/brick," "weathered/intact*"), spatial relations ("*in front of,"*

"behind," "inside"), and time/sequence (*"earlier/later," "first/then/finally"*). One learner wrote that VR helped them "*know more… about building patterns, remains, etc., even if we do not see directly*," highlighting how the checklist focused attention on lexis embedded in the scene. Another noted that some clips contained English captions or labels and that the class task required "*pay attention to the word and then find the meaning,*" which supported incidental vocabulary noticing. Others mentioned that VR "*enriches vocabulary and understanding of English*" by providing context that makes words easier to remember.

Observationally, students were heard using discipline-relevant terms during group talk and then transferring them into short paragraphs, for example, describing "the weathered brick wall behind the gate" or "the stone floor with broken edges in front of the main entrance." These patterns suggest that tying lexical items to concrete, jointly viewed details made retrieval more efficient and supported evidence-anchored communication. At the same time, a few students reported difficulty when captions or labels contained unfamiliar vocabulary; in such cases, they relied on peers, the instructor, or dictionaries to interpret terms before incorporating them into speech or writing. This combination of facilitated retrieval and occasional struggle illustrates both the affordances and the ongoing challenges of building discipline-specific lexis through VR-mediated tasks.

Theme 4: Motivation and sense of presence increased participation

Many participants described VR as "interesting," "not boring," and "like being there," which raised curiosity and willingness to speak. One said VR felt "*HD… like already at the place," which made them "want to know more" and "felt happy*." Another called the first VR use "*very enjoyable… very relevant and real*," which encouraged them to contribute in English, even when they struggled for words. A third wrote that VR gave a "comfortable and enjoyable experience" and "deep learning" that "increased engagement." At the same time, observations showed that motivation was maintained only when clips stayed brief and when a one-minute reset followed each viewing. As soon as exposure exceeded approximately 90 seconds, two to three students per triad began to remove the viewer or rub their eyes, and participation in the immediate discussion dipped slightly until the reset. This pattern indicates that heightened presence can support engagement but is fragile if comfort and load are not actively managed.

Theme 5: Constraints, discomfort, blur/clarity limits, and fears of over-reliance—were real but manageable with design choices

A subset of students reported dizziness, eye strain, or headache if viewing lasted too long or if the viewer sat too close. One wrote that they felt "*very dizzy… because the distance was too close," with vision "blurred*," and they preferred not to watch "*too long*." Others cited "unclear images," "too short" clips for deep detail, and difficulties when "language is not easy to understand." These issues affected both comfort and communication: when images were blurry or fields of view were narrow, students found it harder to identify multiple pieces of evidence for their claims, and when language on captions or labels was dense, they sometimes abandoned those texts and relied solely on the visuals. One participant worried that "using VR all the time" could "*reduce reading books," calling for "limits*" and balance with print sources.

Design features mitigated these issues in situ. Seated viewing, short segments, and resets reduced visible discomfort. Role rotation distributed headset time and allowed hesitant students to engage as note-takers or discussants. When an image was blurry or a clip too

narrow, the instructor projected the same scene on a screen and prompted students to triangulate: "What can we confirm from the wide view?" In these moments, students were observed jointly reconstructing evidence from both the headset and the projected image, which restored their ability to ground claims in visible details. Participation recovered quickly under these contingencies, and learners' written reflections suggested that, with such adjustments, discomfort and clarity limits were experienced as manageable rather than as reasons to reject VR.

Taken together, the five themes indicate that a brief, scaffolded VR sequence can support clearer, more purposeful participation (RQ1) and can make discipline-relevant vocabulary and evidence-anchored communication more attainable (RQ2), provided that design features explicitly manage comfort, cognitive load, and the balance between immersive visuals and text-based work.

The findings show that a brief, scaffolded VR sequence can function as a practical mediational tool for EAP-History in a resource-variable Indonesian setting. In relation to RQ1, students evaluated VR positively as a way to share evidence and clarify ideas, while also pointing to concrete constraints and conditions under which it worked well. In relation to RQ2, learners identified specific affordances for discipline-relevant vocabulary and evidence-anchored communication, alongside limitations when images or language were unclear. Three main contributions emerge when these patterns are read against existing work on VR, immersive learning, and disciplinary literacy.

First, VR's main value in this class was evidential rather than spectacular: learners used 360° scenes to build a shared base of visible details, which then fed talk and writing. This evidential role aligns with disciplinary-literacy and genre-based views that emphasize making disciplinary moves explicit and giving students concrete evidence to talk about (Hyland, 2007; Shanahan & Shanahan, 2017; Wineburg, 1998). The observed shift from listing objects to offering short, warranted claims suggests that guided noticing and stems effectively channel presence-driven interest into generative processing. In this respect, the findings sit comfortably within broader reviews of VR in language learning that stress the importance of aligning technology with tasks and learning goals rather than treating VR as an end in itself (Parmaxi, 2023). Unlike studies in which VR is used primarily for general vocabulary practice or immersive "experience," the present case positions VR as a shared, discipline-specific evidence source that is tightly integrated with historical reasoning and genre-based EAP tasks.

Second, the results demonstrate that motivation and participation gains depend on load-aware design, reinforcing and extending insights from immersive learning theory. Students' reports of heightened interest and "being there," together with increased willingness to speak, are consistent with the Cognitive-Affective Model of Immersive Learning (CAMIL), which predicts that presence and agency influence learning through mediators such as motivation and cognitive load (Makransky & Petersen, 2021). At the same time, the slight dip in participation during longer exposures and the quick recovery after one-minute resets echo the cautionary experimental finding that adding high-immersion HMDs can increase presence while reducing learning when extraneous load is not controlled (Makransky et al., 2019). The present design, with 40–90-second clips, seated viewing, brief resets, and immediate off-headset articulation, illustrates how CAMIL's implications can be operationalised in a low-resource classroom.

These features also resonate with comfort and safety strategies recommended in reviews of cybersickness, which advocate short exposures, breaks, and attention to visual strain (Rebenitsch & Owen, 2016). In combination, the current findings support the view, already suggested in the VR and 360° video literature, that "more immersion" is not synonymous with "more learning" and that carefully constrained, task-focused VR episodes may be preferable to extended, highly immersive sessions (Parmaxi, 2023; Makransky & Petersen, 2021; Makransky et al., 2019; Rebenitsch & Owen, 2016).

Third, the triangulated corpus underscores the importance of explicit language support for discipline-relevant vocabulary and evidence-anchored communication, directly addressing RQ2. Learners' descriptions of easier vocabulary retrieval when lexis was tied to what had just been seen, and their accounts of moving from "*first I look, then I say with the sentence, then I write*," match evidence that structured support and signaling/annotation can improve learning from 360° environments by guiding attention and easing cognitive load (Rosendahl & Wagner, 2024; Schroeder et al., 2023). In this study, the noticing checklist and sentence stems functioned as simple, low-cost signaling devices: they directed attention to materials/condition, spatial relations, and chronology and provided ready-made linguistic frames for claims, reasons, and sequence. This design concretely realises Hyland's (2007) argument that genre pedagogy helps second-language writers by turning academic tasks into visible patterns with explicit moves and model language. It also extends disciplinary-literacy perspectives (Shanahan & Shanahan, 2017; Wineburg, 1998) by showing how VR-based evidence can be combined with stems to support not only noticing and reasoning but also the verbalisation of those processes in English.

At the same time, the findings qualify these benefits by highlighting limitations: blurry images, narrow fields of view, and difficult captions sometimes made it harder to identify multiple pieces of evidence or to incorporate textual information. The student who worried that "using VR all the time" could "reduce reading books" points to an important tension in VR-enhanced EAP: immersive visuals can support vocabulary and evidence-anchored talk, but they should not replace sustained engagement with written sources. This concern is compatible with disciplinary literacy's emphasis on specialised reading and source work (Shanahan & Shanahan, 2017; Wineburg, 1998) and suggests that VR should be positioned as a complement to, not a substitute for, text-based historical enquiry. In comparison to studies where VR experiences stand largely apart from textual work, the present design—and students' reactions to it—imply that balanced integration of VR scenes with shorter readings and document analysis may be a productive direction for further research.

Taken together, the study supports a simple design principle for EAP-History with heterogeneous cohorts: use VR sparingly but precisely, as a shared evidence source, and then immediately "off-ramp" into short, scaffolded talk and concise writing. Segments should remain brief; resets and role rotation should be planned; and projector-only alternatives should be maintained for those who experience discomfort. A pocket-size noticing checklist (materials/condition; spatial relations; chronology) and two or three robust stems ("The evidence suggests… because…," "In contrast…," "Chronologically…") can make historical moves more doable in English while managing cognitive load (Hyland, 2007; Shanahan & Shanahan, 2017; Wineburg, 1998; Makransky & Petersen, 2021; Rebenitsch & Owen, 2016;

Rosendahl & Wagner, 2024; Schroeder et al., 2023; Parmaxi, 2023). Assessment can then focus on claim–evidence–reason paragraphs that demonstrate clarity of idea, explicit anchoring in visible evidence, and selective use of discipline-relevant lexis rather than on length alone.

This is a single-site, short-duration case study; its insights are context-specific. No language tests were administered, and comfort was tracked behaviorally and by self-report. Future work could compare headset versus projector-only conditions while holding tasks constant or trace vocabulary uptake and disciplinary writing development longitudinally. Nonetheless, the convergence across observations, interviews, and journals, together with thick description and reflexive analysis, supports the credibility and usefulness of the design for similar Indonesian EAP-History classes. More broadly, the results suggest that when VR is framed as a modest evidential bridge from seeing to saying, and when load-aware scaffolding is in place, even low-to-medium proficiency learners in resource-variable settings can participate more fully in the core moves of History reasoning and academic English.

CONCLUSION

This study showed that a brief, scaffolded VR sequence can support EAP-History learning for low-to-medium proficiency undergraduates in a resource-variable Indonesian university. Short 360° clips provided a shared evidential base that sharpened noticing and made discussion and writing more purposeful, especially when students were required to link claims to visible details. VR was evaluated positively as a mediational tool when used in a tightly controlled, load-aware design: brief exposures, seated viewing, one-minute resets, role rotation, and immediate off-headset speaking and writing. Under these conditions, participation broadened and students reported greater confidence in expressing ideas. The noticing checklist and sentence stems were central for discipline-relevant vocabulary and evidence-anchored communication. Learners found it easier to retrieve terms for materials, spatial relations, and chronology and to produce short claim–evidence–reason paragraphs. At the same time, episodes of discomfort, blur, and concerns about over-reliance on VR underscored the need to balance immersive visuals with reading and other text-based tasks. Overall, the study suggests that VR is most effective when used sparingly and precisely as a shared source of evidence, followed by focused, scaffolded language work. While the findings are context-specific, they offer a practical model for integrating low-cost VR into EAP-History teaching in similar settings.

REFERENCES

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report, 13*(4), 544–559. https://doi.org/10.46743/2160-3715/2008.1573

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research, 26*(13), 1802–1811. https://doi.org/10.1177/1049732316654870

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health, 11*(4), 589–597. https://doi.org/10.1080/2159676X.2019.1628806

Carter, N., Bryant-Lukosius, D., DiCenso, A., Blythe, J., & Neville, A. J. (2014). The use of triangulation in qualitative research. *Oncology Nursing Forum, 41*(5), 545–547. https://doi.org/10.1188/14.ONF.545-547

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE.

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? *Field Methods, 18*(1), 59–82. https://doi.org/10.1177/1525822X05279903

Hyland, K. (2007). Genre pedagogy: Language, literacy and L2 writing instruction. *Journal of Second Language Writing, 16*(3), 148–164. https://doi.org/10.1016/j.jslw.2007.07.005

Kallio, H., Pietilä, A.-M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: Developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing, 72*(12), 2954–2965. https://doi.org/10.1111/jan.13031

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE.

Makransky, G., & Petersen, G. B. (2021). The Cognitive-Affective Model of Immersive Learning (CAMIL): A theoretical research-based model of learning in immersive virtual reality. *Educational Psychology Review, 33*, 937–958. https://doi.org/10.1007/s10648-020-09586-2

Makransky, G., Terkildsen, T. S., & Mayer, R. E. (2019). Adding immersive virtual reality to a science lab simulation causes more presence but less learning. *Learning and Instruction, 60*, 225–236. https://doi.org/10.1016/j.learninstruc.2017.12.007

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods, 16*, 1–13. https://doi.org/10.1177/1609406917733847

Parmaxi, A. (2023). Virtual reality in language learning: A systematic review and implications for research and practice. *Interactive Learning Environments, 31*(1), 172–184. https://doi.org/10.1080/10494820.2020.1765392

Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). SAGE.

Rebenitsch, L., & Owen, C. (2016). Review on cybersickness in applications and visual displays. *Virtual Reality, 20*(2), 101–125. https://doi.org/10.1007/s10055-016-0285-9

Rosendahl, P., & Wagner, I. (2024). 360° videos in education: A systematic literature review on application areas and future potentials. *Education and Information Technologies, 29*(2), 1319–1355. https://doi.org/10.1007/s10639-022-11549-9

Schroeder, N. L., Siegle, R. F., & Craig, S. D. (2023). A meta-analysis on learning from 360° video. *Computers & Education, 206*, Article 104901. https://doi.org/10.1016/j.compedu.2023.104901

Shanahan, T., & Shanahan, C. (2017). Disciplinary literacy. In D. Lapp & D. Fisher (Eds.), *Handbook of research on teaching the English language arts* (3rd ed., pp. 250–274). Routledge.

Temple, B., & Young, A. (2004). Qualitative research and translation dilemmas. *Qualitative Research, 4*(2), 161–178. https://doi.org/10.1177/1468794104044430

Wineburg, S. S. (1998). Reading Abraham Lincoln: An expert/expert study in the interpretation of historical texts. *Cognitive Science, 22*(3), 319–346. https://doi.org/10.1207/s15516709cog2203_3

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE.