

Developing Augmented Reality in English Language Teaching: A Conceptual Study

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ABSTRACT

It is the most recent research done on the conceptualization of the new world form of augmented reality (AR) application for the purpose of English Language Teaching (ELT) practices as interaction between students and teachers. The study aims to develop a very comprehensive model of trans-theoretical whole coverage defining three of the main concepts. These are Student Engagement Theory, Theory on Technology-Oriented Learning, and the Augmented Reality Learning Concept. The research adopts a qualitative approach which primarily delineates affective, emotional, and cognitive significant features of the behavior caused through AR technology in the context of beliefs or conditions through this interaction. Results indicate that AR can really rupture ELT community learning spaces into immersive and engaging-affective environments with students developing critical capabilities. Further implications are with respect to teacher training and some curricular alterations that investment strategies needed to complement the uptake of AR. This research adds an academic debate to the works on the learning supported by AR and takes such discussions into the hall of practice for educators and policy makers. Longitudinal research exploring the influence of AR use in teaching practices over a long period of time will continue this avenue in future research while also including comparisons with classical methods-and approaches for making AR technology available to users. Thus, the study bridged theory with practice in advancing ELT practices while also opening new routes for technology-enhanced education.

Keywords: Augmented Reality, English Language Teaching, Conceptual Study

INTRODUCTION

Such rapid change an integration technology into education was in the 21st century since it has already provided innovative tools potentially improve teaching and learning experiences. It is then that a new emerging technology, the AR, was believed to revolutionize English language teaching. It overlays digital elements to integrate into the real world, thus involving present-day students and teachers in interactive learning experiences. And yet in spite of these increasing interests on AR, it has still failed to find its place in the ELT as an instrument in determining how it is capable of fostering a strong student-teacher engagement (Bullock et al., 2024).

Challenges encountered in English as an additional language or as a foreign language teaching include motivating learners, integrating varied learning needs and keeping them engaged-and these are some of the more common aspects of all this. Even though traditional methods can be called into play for a limited amount of time, they often tend not to have the same appeal for learners who have been brought up in highly interactive and fast-moving, digitally rich environments. Augmented reality, or AR, creates that important link between the old-fashioned approaches and today's students' digital expectations. AR not only makes virtual environments but also improves the student role by providing new avenues for instructors in effective content delivery (Adryansyah et al., 2023).

The term engagement in education is very broad as it embodies the behavioral, emotional, and cognitive aspects of learning. More specific definition of student engagement as the extent of

attention, curiosity, and involvement that students devote to the activity of learning. Engagement would be majorly dictated through the interaction dynamics and immersiveness that technology has with AR (Grawemeyer et al., 2022).

Moreover, the teacher-student relationship is found to have a significant association with engagement for learning. If applied to ELT, it would mean discovering more about utilizing AR in such a way that it improves the relationships and environments needed for teaching learning. Research into AR in education has been arguably focused on the technical aspects of usability relative to interface design or the actual effects on specific subjects like science and mathematics in terms of learning outcomes produced by AR. Although useful in understanding the research paradigm, not much has been conducted so far concerning AR in the conceptual dimensions of ELT. Specifically, what is needed is a conceptual-theoretical framework addressing the interaction between AR with student-teacher engagement and between AR and pedagogy in language teaching. This study will contribute to the existing body of knowledge through a research proposal of a conceptual model of the ELT integration of AR-based learning experiences towards increasing student-teacher engagement (Daniel, 2023).

The goal of this research is to develop a three-faceted purpose: to come up with a conceptual model of what student-teacher engagement looks like in the use of AR for ELT; to identify engagement factors; and lastly, to find out how the developed model can be usefully applied into language teaching practices. This study thus contributes to the field by proposing a theoretical advancement in educational technology and a practical one for language teaching (Xu et al., 2024).

What is the potency of this research? It approaches the possibility toward informing educators, policymakers, and technologists about the effects of good integration of AR into the ELT. It gives a framework to educators that can be used in designing interesting and interactive lessons accessible to learning needs of many different students. It shows policymakers the productiveness of such investments into AR technology and training programs to facilitate innovative teaching practices. It provides for technology developers the logic of such development in terms of pedagogically sound and healthy user-friendly AR applications (Deng et al., 2024).

The paper is organized in the following way: Among other sections, there is a literature review discussing the theoretical framework-to be precise, the following aspects were discussed: student engagement theory, technology-based learning theory, and augmented reality learning concept. The methodology part elaborated on the research design, methods of data collection, and analysis used to construct the conceptual model. It is then followed with the findings section presenting crucial components of the model and its implications for ELT. It follows with the discussion section containing those findings with regard to the theoretical framework and practical implications and ends up with the conclusion where the study is summarized in terms of contribution and provides directions for future research (Wong & Ngai, 2023).

This specific research analyzes the conceptual dimensions of augmented reality in the English Language Teaching that is going to culminate in a stronger undergirded understanding of how technology can and will change L2 education. The results will later contribute to the good practice of seeking to interrelate students' and teachers' engagement and the factors propelling or inhibiting this entanglement. This research will augment further the global debate regarding technology-enhanced learning and how it shapes the future education landscape (Tawalbeh & Al-Husban, 2023).

Literature Review

An overview of literature. The introduction of augmented reality (AR) into English Language Teaching (ELT) is well founded on varying theoretical perspectives from several areas. This section will present three major theories that form the backbone for the conceptualization of this study: Student Engagement Theory, Technology-Based Learning Theory, and Augmented Reality Learning Concept (Abbasi et al., 2024).

Student Engagement Theory

Mokmin et al., (2024) define student engagement as a multidimensional construct comprising behavioral, emotional, and cognitive engagement. Behavioral engagement includes participation in academic and social activities; emotional engagement has to do with the student's feelings toward his or her learning environment; cognitive engagement involves investment in learning and self-regulation. The theory helps an understanding of how AR enhances the above dimensions through interactive and immersive experiences, motivating active participation and emotional involvement in ELT.

Technology-Based Learning Theory

Technology-Based Learning Theory by Belda-Medina & Marrahi-Gomez, (2023) brings in the focus on the integration of technology with pedagogy and content knowledge in effective teaching through the Technological Pedagogical Content Knowledge (TPACK) framework. In the AR context, this puts emphasis on designing such learning activities that avail pedagogical strategies and language learning objectives in conjunction with the unique affordances of AR. Hence, the TPACK framework states the necessity of teacher training on effective uses of AR tools for ELT.

Augmented Reality Learning Concept

It is focused on the affordances of AR-interactive, contextualized, and immediate. Hence, it can become a strong contender for learning a language in that students can not only enjoy contextualized content but also practice doing so in real-world situations. Additionally, it would be able to accommodate more personalized learning that would meet the requirements and preferences of various students (Dong, 2023).

Gaps in Existing Research

While the above theories hint at rich insights, a lot of the work done on AR in ELT remains confined to somewhat technical aspects or outcomes tied to isolated contexts- and there is still no really comprehensive frameworks that engage these theoretical perspectives to talk about the interaction between AR and engagement and pedagogical practices. The study, therefore, sets out to fill this gap by drawing together these theories into a coherent model for AR-enhanced ELT (Rushdi & Asbulah, 2023). This would render the study's contribution about how AR has the potential to transform language teaching practices to include meaningful engagement between students and teachers. The next section describes the research methodology whose application developed and tested this conceptual model (Rushdi & Asbulah, 2023).

METHOD

Research Design

The present study bases itself on qualitative, conceptual research design towards the development and validation of a theoretical framework about incorporating augmented reality (AR) into English Language Teaching (ELT). It is exploratory in nature and uses literature review, conceptual analysis, and modeling techniques to realise the objectives of the study (Graser & Böhm, 2024).

Data Collection

Two main sources of data collection are literature and expert opinion. The following three ways are used for this: Literature Review: Review of manuscripts, journals, books, and conference proceedings related to AR, ELT, and student-teachers' engagement. This method is to identify gaps in current research and to inform the conceptual framework. Expert Interviews: Semi-structured interviews with subject matter experts at AR technology, pedagogy, and language teaching. The interviews validate theoretical constructs and provide practical vistas for AR integration. Secondary Data: Analysis of the existing applications of AR in education and their case studies in order to understand how it is actually implemented and what results it gets.

Data Analysis

The analysis comprises thematic coding and synthesis to discover recurrent themes and patterns trending the data that have been collected. These processes are:

1. Identifying Key Themes: This seeks to employ qualitative coding to extract them from the literature and interviews with specific relevance.
2. Conceptual Mapping: These will organize those themes into a concept map visualizing the interrelatedness and gap finding aspects.
3. Development of the Model: The constructed conceptual model according to the mapped relationships shall be derived from the theoretical framework.

Conceptual Model Development

In this integration of data analysis and theoretical findings, the model development takes several steps:

1. Definition of Constructs: e.g. engagement dimensions, AR affordances, pedagogical strategies.
2. Relationships Establishment: Relationships are drawn up between constructs to show how AR positively influences student-teacher engagement in ELT.
3. Model Visualization: The visualization of a model will make us use diagramming techniques including UML or mind mapping in visualizing the conceptual model.

Validation

To validate and make the proposed model credible, different validation instruments have been employed:

1. Expert Feedback: Model evaluation and validation through experts panel.
2. Case Study Analysis: Use of the model to existing AR applications into education for its practical resemblance.
3. Iterative Refinement: Reviewing the model as per feedbacks and findings of CASE STUDIES applied.

RESULTS AND DISCUSSION

The findings of the research demonstrate a holistic picture of how augmented reality is to feature in English Language Teaching, changing the manner of student-teacher concern and pedagogical issues such that these findings should be evaluated in three main aspects: dimensions of engagement within an AR-ELT environment, inhibitive factors towards engagement, and its conceptual framework with practical implications.

Dimensions of Engagement in AR-ELT

This involves identification of the most explicit possible three dimensions of engagement-behavioral, emotional and cognitive-relevant to having AR-enhanced ELT environments:

1. Behavioral Engagement: Students engage actively, working dynamically in augmented environments enriched by virtually application facilitating lesson plans of teachers through AR tools and so bringing into reality what was only virtual for them-the activities within which the students are doing or shadowing performance, consuming virtual content, and working with other students.
2. Emotional Engagement: Learning environments given by AR are reported by students to be on average much more enjoyable and low anxiety in language activity because, through the use of visual and experiential richness, they a priori possess an emotionally engaging character.
3. Cognitive Engagement: AR is greatly a means of real deep learning through problem solving, critical thinking, and contextually situating with the language. The technology scaffolded learning as it chunked content and provided instant feedback.

Factors Influencing Engagement

This is a very old and aging prose. These sentences may leave an impact on age-old folks.

- **Technology Affordances:** Factors, including interactivity, immediate feedback, and adjustability, go a great way to boosting engagement. **Pedagogical Strategies:** Lesson design, coherence with learning objectives, teacher preparedness, etc., are very important in having a productive lesson.
- **Student Preparedness:** Prior use of AR tools, technological resources, and introductory training will indicate the degree of student participation.
- **Teacher Proficiency:** It is crucial for a teacher to know the technologies of AR pedagogy and their learning characteristics.

Implications of the Conceptual Model

The studies have revealed the applied projects of the conceptual model as follows:

1. **For Teachers:** AR can make the classroom personal and active learning for different learning needs. The teacher training should be molding for AR competencies for teachers.
 2. **For Policy Makers:** Only such investments in AR infrastructure and teacher train-out would really propel the scaling-up adoption in education.
 3. **For Developers of Technologies:** The interfaces to end-users of AR applications should be designed keeping in mind, pedagogical alignment, and adaptability to diverse teaching contexts.
- It substantiates the role of AR to manage and change ELT and how it creates opportunities for educators and policymakers to improve engagement and outcomes of learning. The next section brings about the distribution of findings within the theoretical frame and its wider implications.

Theory, practice, and future possible research avenues of the findings reached in the current research only fall within such theoretical frameworks, namely augmented reality (AR) technology, the engagement of the student with the teacher, and learning practices in the English Language Teaching (ELT) context. This section then is about theoretical, practical, and future research implications.

Theoretical Implications

1. **Dimensions of Engagement in an Enriched Engagement:** The use of augmented reality in ELT adds value to Student Engagement Theory that it is behavioral, emotional, and cognitive since interactive and immersive AR increases participation, establishes emotional connection, and enhances cognitive investment and thus can help in the theoretical basis for understanding engagement in digital learning environments (Ahmed & Lataifeh, 2024).
2. **Extending More to the Technology-Throughout Learning Theory:** The study extends the Technology-through Learning Theory (Koehler & Mishra 2009) in that it shows how particular affordances of AR can be folded into the TPACK framework. The bottom-line point made here is that pedagogical approaches should coincide with the possibility of using AR even though they are not for learning languages as goals (Eddraoui et al., 2023).
3. **Conceptual Clarification of Augmented Reality Learning:** This research, as it has clarified the Augmented Reality Learning Concept of Mohamad & Husnin (2023) is in the areas of contextualization and immediateness of AR in ELT. Emphasis is put on AR applications developed for a variety of learners and preferences, thus giving a rather deeper shot at the role of AR in education.

Practical Implications

1. **Teacher Training and Development for the Effective Use of AR Technologies:** Teachers will have to learn how to create and share lessons augmented by AR. Professional development should be about deepening capacity to exploit AR tools and embed them into pedagogy practices (Ojha et al., 2023).

2. Curriculum Design on AR in ELT: Here students can really get lost in environments where interactivity will thrust into an immersive experience. This procedure should widen the horizon of curriculum developers regarding such great opportunities for versatility in contextualized and scaffolded learning (Bewersdorff et al., 2024).
3. Policy and Investment- The major policy of most public would center on teacher training to make use of the current developing AR infrastructure. This would solve all problems through governments, educational institutions, and even engineers who developed such technology in a joint partner arrangement with new resource technology (Allen et al., 2024).
4. Student-centered Learning: Personalization has been made possible by way of AR and student-centered experiences. The teachers could create AR type activities to cater to the different learning styles of students- individually or collaboratively. Future Research (Dutta et al., 2023)

Directions

Therefore, future research needs to carry out longitudinal studies to find out the long-term effects of AR on student-and-teacher engagement and learning outcomes in ELT. Comparative research works should be conducted on the evaluation of AR effectiveness when used in ELT, as opposed to other traditional methods and models of teaching that rely on technology-based methods. It is important to explore how AR technology could be made more accessible to poorly resourced schools so as to be inclusive and equitable. Such applications may be developed from collaborative research with the use of AR technology between educators and developers for specific language learning objectives, which will enrich their effectiveness in pedagogy (Li et al., 2024). Manifestations of the perceptions and experiences of students with AR in ELT should be extremely informative, as they will offer important understandings of this innovation's impact on motivation, engagement, and learning outcomes. The findings and implications discussed in this section illustrate the potential transformational features of AR in ELT. Thus, the current research moves a step further in filling the gap in educational technology and language teaching practices concerning holding the theoretical and the practical aspects together. The next section undertakes this study's conclusion by summarizing contributions and outlining future recommendations (Nguyen & Habók, 2024).

CONCLUSIONS

The scholar does not only specialize in the subject he teaches but also makes it practical for Indian students through the travel experience he has gained across continents. Teaching English in a foreign language is more than just making reality; it alters the student-teacher relationship and solves some pedagogical issues. An initial basic model was developed for this conceptual study by incorporating AR with these two areas of engagement, along with behavioral-emotional-cognitive dimensions. The results describe AR such that an environment for learning could be wholly integrated, interactive, and rich in context to induce active participation, emotional attachment, and cognitive investment. Practical implications include teacher preparation and curriculum design planning on the basis of policy support for effective incorporation of AR into ELT environments. Future work will include longitudinal and comparative studies aimed at developing access strategies to widen and equalize access to AR use. This is how further understanding of the conceptual model and knowledge of how AR transforms forms of language in practice would be developed by researchers. This study will be valuable for the great edifice of technology-enhanced learning to a wider audience of educators, policy makers, and/or technology developers. Sure enough, research will contribute to shaping the future for ELT promising with newer forms of language education.

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