

Extended Reality Learning Modalities and Identity Development for Multilingual Learners

First Contributor¹[0000-1111-2222-3333]

¹ Princeton University, Princeton NJ 08544, USA
lncs@springer.com

Abstract. This research aims to explore how extended reality learning techniques contribute to the linguistic and academic identity development of multilingual learners in a secondary schooling setting. This study is in the conceptualization and design phase and no data has been collected. I would like to explore the use of QE techniques to analyze the complex factors that contribute to linguistic and academy identity formation of multilingual learners.

Keywords: Educational Technology, Extended Realities, Identity Development, Language Learning.

1 Area and Domain of Research

This proposed research study is in the domain of Learning Sciences and Educational Technology.

2 Background

The use of augmented reality (AR) has been increasingly used for educational purposes. Augmented reality technology integrates digital experiences with a physical environment. For example, the use of photo and video filters allows users to use the camera on their mobile device to capture the real-time images and at the same time, augment those images by placing digital objects in their environment. In the area of education, AR technologies might benefit multilingual learners. However, few studies have explored how AR might contribute to the linguistic and academic identity of multilingual learners in high school.

Learning a language involves acquiring another identity in addition to learning new vocabulary and different syntax and semantics. In high school within the United States, multilingual learners are not only developing a new linguistic identity, but they also have the task of developing an academic identity, or how they see themselves in a new academic domain in which the language used is not their primary language. There are several factors to consider when exploring linguistic and academic identity development including social and cultural experiences [1]; motivation [2]; learning modalities [3]; and linguistic funds of knowledge [4]. Research is needed to explore how these

factors, amongst others, intersect, connect, and contribute to linguistic and academic identity development in the context of extended reality learning modalities.

3 Objectives

The aim of this proposed research is to explore how using extended reality learning approaches contribute to the linguistic and academic identity development of multilingual learners in secondary education. The intervention would include implementing extended reality tools into three high school Biology classes with multilingual students. Potential research questions include: (1) How do the different types of extended reality technologies influence linguistic identity development for high school multilingual youths when used as an educational approach? and (2) How does using extended reality technologies in an academic class contribute to academic identity for learners whose primary language is not the language of the classroom? Data collection would include observations and interviews. Once data is available, analysis would involve the identification of concepts or themes that emerged from the interviews and observations. This study is in the conceptualization and design phase and no data has been collected.

4 Prior Experience and Expectations

I am not sure how this study would best benefit from using QE tools or techniques. I have had a brief introduction to QE from one workshop experience, but based on what I have learned, I feel my research could benefit from using QE. During the session, I am interested in learning more about visualizing and modeling connections between the complex factors that influence linguistic and academic identity in an extended reality learning environment. I would also like to know how to best collect and organize data such that it is appropriate for QE analyses.

5 References

1. Evans, M. & Liu, Y. The unfamiliar and the indeterminate: Language, identity and social integration in the school experience of newly-arrived migrant children in England. *Journal of Language, Identity & Education*, 17(3), 152-167 (2018).
2. Henry, A. L2 motivation and multilingual identities. *The Modern Language Journal* 101(3), Pages 548-565 (2017).
3. Rajendram, S., Burton, J., & Wong, W. Online translanguaging and multiliteracies strategies to support K-12 multilingual learners: Identity texts, linguistic landscapes, and photovoice. *TESOL* 13(4) (2022).
4. Andrews, M. What about linguistic identity? *Journal of Language and Literacy Education* 6(2), 85-102. (2010).