

Appendix A

No	Paper Title	Primary author (year of publication)	Paper type	Database	System design	Learning language	Educational level & participant characteristics	Evaluation (bond texts mean its main focus)
1	Development of A Situational Interaction Game for Improving Preschool Children's Performance in English Performance Learning	Pu & Zhong (2018)	Conf.	ACM DL	Mobile AR game	English	Preschool (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
2	Block Talks: A Tangible and Augmented Reality Toolkit for Children to Learn Sentence Construction	Fan et. al. (2018)	Conf. (WIP)	ACM DL	Mobile AR game	English	Primary school (At-risk L1&L2)	X
3	From Tangible to Augmented: Designing a PhonoBlocks Reading System Using Everyday Technologies	Fan et. al. (2018)	Conf. (WIP)	ACM DL	Mobile AR game	English	Primary school (At-risk L1 & L2)	X
4	Automatic Object Recognition in a Light-Weight Augmented Reality-based Vocabulary Learning Application for Children with Autism	Tang et al.(2019)	Conf.	ACM DL	Mobile AR app	English /Chinese	Preschool children with autism (L2)	<ul style="list-style-type: none"> • Usability testing • Affective outcomes
5	Exploring the effect of materials designed with augmented reality on language learners' vocabulary learning	Solak& Cakir (2015)	Journal	Eric	AR app	English	Higher education (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
6	The Influence of the Augmented Reality Application on Students' Performances in Ottoman Turkish Readings	Özcan et al. (2017)	Journal	Eric	Mobile AR app	Ottoman Turkish	Higher education (L1)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
7	The Effectiveness of Using Augmented Reality Apps in Teaching the English Alphabet to Kindergarten Children: A Case Study in the State of Kuwait	Safar et al. (2017)	Journal	Eric	Mobile AR apps (two commercial apps)	English	Preschool (L2)	<ul style="list-style-type: none"> • Learning effectiveness
8	Learning English with Augmented Reality: Do learning styles matter?	Hsu (2017)	Journal	PsycInfo	Mobile AR games	English	Primary school (L2)	<ul style="list-style-type: none"> • Usability testing • Learning effectiveness • Others (learning style)
9	To Activate English Learning: Listen and Speak in Real Life Context with an AR Featured U-Learning System	Ho et al. (2017)	Journal	PsycInfo	Mobile AR game	English /Chinese	Higher education (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Others (cognitive styles, learning strategies)
10	Augmented Reality 3D Pop-up Children Book: Instructional Design for Hybrid Learning	Vate-U-Lan (2011)	Conf.	IEEE	AR book and game	English	Primary school (L2)	<ul style="list-style-type: none"> • Usability testing • Affective outcomes
11	An Augmented Reality 3D Pop-Up Book: the Development of a Multimedia Project for English Language Teaching	Vate-U-Lan (2012)	Conf.	IEEE	AR book and game	English	Primary school (L2)	<ul style="list-style-type: none"> • Usability testing • Learning effectiveness • Affective outcomes
12	The Book of Ellie: An Interactive Book for Teaching the Alphabet to Children	Papadaki et al. (2013)	Conf.	IEEE	AR book and game	Greek	Primary school (L1)	<ul style="list-style-type: none"> • Usability testing
13	The Convergence of Augmented Reality and Education	Vate-U-Lan (2013)	Conf.	IEEE	AR book and game	English	Primary school (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
14	Augmented Reality Digital Technologies (ARDT) for Foreign Language Teaching and Learning	Scrivner et al. (2016)	Conf.	IEEE	Mobile AR game	Spanish	Higher education (L2)	<ul style="list-style-type: none"> • Usability testing

15	ARbis Pictus: A Study of Vocabulary Learning with Augmented Reality	Ibrahim et al. (2018)	Journals	IEEE	AR app	Basque	Higher education (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
16	MOW: Augmented Reality Game to Learn Words in Different Languages	Barreira J. et al. (2012)	Conf.	IEEE	AR game	English /Portuguese	Primary school (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
17	TeachAR: An Interactive Augmented Reality Tool for Teaching Basic English to Non-Native Children	Dalim et al.(2016)	Conf. (WIP)	IEEE	AR app	English	Preschool (L2)	<ul style="list-style-type: none"> • Usability testing
18	The Effects of Learning Style on Mobile Augmented-Reality-Facilitated English Vocabulary Learning	Chen et al.(2015)	Conf.	IEEE	Mobile AR app	English /Chinese	Primary school (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes • Others (learning styles)
19	Speaky Notes Learn languages with augmented reality	Sorrentino et al. (2015)	Conf.	IEEE	Mobile AR app	English /Italian	Primary school (L2)	X
20	Leihoo: A window to Augmented Reality in Early childhood education	Amaia et al. (2016)	Conf.	IEEE	Mobile AR game	English /Basque	Preschool (L2)	<ul style="list-style-type: none"> • Usability testing
21	ABC3D - Using An Augmented Reality Mobile Game to Enhance Literacy in Early Childhood	Bhadra et al. (2016)	Conf. (WIP)	IEEE	Mobile AR games	English	Preschool (L1)	X
22	Words Worth Learning - Augmented Literacy Content for ADHD Students	Luna et al. (2018)	Conf.	IEEE	Mobile AR app	English	Primary school (ADHD &L2)	<ul style="list-style-type: none"> • Usability testing
23	Augmented Reality Enhanced Computer Aided Learning for Young Children	Ati et al. (2018)	Conf.	IEEE	Mobile AR game	English	Primary school (L1)	<ul style="list-style-type: none"> • Usability testing • Learning effectiveness
24	Enhanced Interactive Learning using Augmented Reality	Jawad et al. (2014)	Conf.	IEEE	Mobile AR app	English /Urdu	Preschool (L1)	X
25	The Use of Augmented Reality Enhanced Flashcards for Arabic Vocabulary Acquisition	Zainuddin et al. (2016)	Conf.	IEEE	Mobile AR app	Arabic	Primary school (L2)	<ul style="list-style-type: none"> • Affective outcomes • Learning effectiveness
26	Using Augmented Reality to Teach Kindergarten Students English Vocabulary	Lee et al. (2017)	Conf.	IEEE	Mobile AR game	English	Preschool (L2)	<ul style="list-style-type: none"> • Usability testing • Affective outcomes • Learning effectiveness
27	An experience of the application of Augmented Reality to learn English in Infant Education	Amaia et al. (2017)	Conf.	IEEE	Mobile AR game	English	Preschool (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
28	Investigating students' perceived satisfaction, behavioral intention, and effectiveness of English learning using augmented reality	Chang et al. (2011)	Conf.	IEEE	Mobile AR game	English	Higher education (L2)	<ul style="list-style-type: none"> • Usability testing • Learning effectiveness • Affective outcomes
29	Mobile-Based AR Application Helps to Promote EFL Children's Vocabulary Study	He et al. (2014)	Conf.	IEEE	Mobile AR game	English	Preschool (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
30	Development of an English Words Learning System utilizes 3D Markers with Augmented Reality Technology	Zhenming et al. (2017)	Conf. (WIP)	IEEE	Mobile AR game	English	Preschool (L2)	X
31	Learning words using Augmented Reality	Juan et al. (2010)	Conf.	IEEE	Mobile AR game	Spanish	Preschool (L1)	<ul style="list-style-type: none"> • Usability testing • Learning effectiveness • Affective outcomes

32	Application of Augmented Reality for Early Childhood English Teaching	Chen et al. (2017)	Conf.	IEEE	Mobile AR game	English	Preschool (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
33	The Effects of Multi-Sensory Augmented Reality on Students' Motivation in English Language Learning	Vedadi et al. (2019)	Conf.	IEEE	Mobile AR app	English	Primary school (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
34	In-Situ Labeling for Augmented Reality Language Learning	Huynh et al. (2019)	Conf.	IEEE	Mobile AR app	English	Higher education (L2)	<ul style="list-style-type: none"> • Usability
35	Design and Implementation of Children's Games Based on Mixed Reality	Wang et al.(2019)	Conf.	IEEE	Mobile AR game	English /Chinese	Primary school (L2)	X
36	Investigating the Role of Augmented Reality Technology in the Language Classroom	Solak& Cakir (2016)	Journall	Web of Science	AR app	English	Primary school (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Others (gender)
37	Study on Mobile Augmented Reality Adoption for Mayo Language Learning	Bojórquez et al. (2016)	Journall	Web of Science	Mobile AR app	Mayo	Higher education (L2)	<ul style="list-style-type: none"> • Usability testing • Affective outcomes
38	A Development of Augmented Reality - supported Mobile Game based on Jolly Phonics Approach to Enhancing English Phonics Learning Performance of ESL Learners	Wongta et al. (2016)	Conf.	Web of Science	Mobile AR game	English	Primary school (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
39	Augmented Reality for Learning English: Achievement, Cognitive Load Levels of Students	Kucuk et al. (2014)	Journall	Web of Science	AR app	English	Secondary school (L2)	<ul style="list-style-type: none"> • Learning effectiveness (cognitive load and achievement level) • Affective outcomes • Others (relationship between affective outcomes and learning outcomes)
40	Exploring the Potential for Augmented Reality to Motivate English Vocabulary Learning in Chinese College Students	Li et al. (2015)	Journall	Web of Science	AR app (commercial app)	English	Higher education (L2)	<ul style="list-style-type: none"> • Affective outcomes
41	Using Augmented Reality Flashcards to Learn Vocabulary in Early Childhood Education	Chen and Chan (2019)	Journall	Web of Science	AR game (commercial app)	English	Preschool (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
42	Augmented Reality Supporting Reading Skills of Students with Autism Spectrum Disorder	Howorth et al. (2019)	Journall	Web of Science	AR app (commercial app)	English	Primary school (ASD&L2)	X
43	Integration of Augmented Reality in the Teaching of English as a Foreign Language in Early Childhood Education	Redondo et al. (2019)	Journall	Web of Science	Mobile AR app	English	Preschool (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
44	Post-it notes: supporting teachers in authoring vocabulary game contents	Sorrentino et al. (2019)	Journall	Web of Science	Mobile AR game	English	Primary school/Secondary/Higher education (L2)	<ul style="list-style-type: none"> • Usability testing
45	The applications and effects of learning English through augmented reality: a case study of Pokemon Go	Wu et al.(2019)	Journall	Web of Science	Mobile AR game(commercial app)	English	Higher education (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
46	Fun Learning with AR Alphabet Book for Preschool Children	Rambli et al.(2013)	Conf.	Science Direct	Mobile AR game	English	Preschool (L1)	<ul style="list-style-type: none"> • Learning effectiveness

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47	Educational Mobile Application of Augmented Reality Based Markers to Improve the Learning of Vowel Usage and Numbers for Children of a Kindergarten in Trujillo	Cieza & Lujan (2018)	Conf. (WIP)	Science Direct	Mobile AR game	English	Preschool (L1)	<ul style="list-style-type: none"> • Usability testing
48	An Investigation of the Effects of Individual Differences on Mobile-Based Augmented Reality English Vocabulary Learning	Sytwu & Wang (2016)	Journal	Springer	Mobile AR app	English /Chinese	Primary school (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
49	Effects of gender and different augmented reality learning systems on English vocabulary learning of elementary school students	Hsu (2017)	Journal	Springer	Mobile AR games	English	Primary school (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
50	Augmented reality as multimedia: the case for situated vocabulary learning	Santos et al. (2016)	Journal	Springer	Mobile AR app	German and Filipino	Higher education (L2)	<ul style="list-style-type: none"> • Usability testing • Learning effectiveness • Affective outcomes
51	Using Augmented Reality Technology in Assisting English Learning for Primary School Students	Boonbrahm et al. (2015)	Journal	Others	Mobile AR app	English	Primary school (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
52	The effect of Employing AR Interactive Approach on Students' English Preposition Learning Performance	Hsieh et al. (2014)	Journal	Others	Mobile AR app	English	Secondary school (L2)	<ul style="list-style-type: none"> • Learning effectiveness • Affective outcomes
53	The Use of Augmented Reality Pop-Up Book to Increase Motivation in English Language Learning For National Primary School	Mahadzir & Phung (2013)	Journal	Others	AR app	English	Primary school (L2)	<ul style="list-style-type: none"> • Affective outcomes