

## Book Review



<https://doi.org/10.52696/BMDF2936>

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### Book Review: "AReal-Vocab": An Augmented Reality Mobile Application for English Vocabulary Learning of Children with Mild Autism

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#### BOOK DETAILS

*"AReal-Vocab": An Augmented Reality Mobile Application for English Vocabulary Learning of Children with Mild Autism*

Haida Umiera hashim, Melor Md Yunus & Helmi Norman (2024)

Malaysia: Penerbit Universiti Kebangsaan Malaysia

ISBN 978-629-486-190-9

Price: RM 28.00

'AReal-Vocab: An Augmented Reality Mobile Application for English Vocabulary Learning of Children with Mild Autism' addresses the challenge Malaysian English teachers face in teaching vocabulary to learners with mild autism. Drawing on local data and UNESCO guidance, the book presents limited vocabulary progress linked to retention, repetitive behaviours and phonological sensitivity as an equity issue. It introduces an augmented reality (AR) mobile app as a solution. The application is designed using the ADDIE and Taba models, Krashen's input hypothesis, principles of cognitivism, social constructivism and behaviourism. Rather than a broad technology argument, the

book gives Malaysian English language teaching (ELT) teachers a research-driven and practical approach to using AR for vocabulary in line with special education needs and classroom practice.

Chapter 1 contextualises autism and language learning globally and locally. It describes government initiatives such as "NASOM's Early-Intervention" programmes and the "Ministry's Zero-Reject Policy." It underlines the need for adaptable lexical support in Malaysian classrooms. Moving to theory, Chapter 2 synthesises key concepts including cognitivism, behaviourism, constructivism, connectivism and Krashen's second language acquisition theory. It explains how each guides the design. For example, behaviourist reinforcement appears in gadget-based rewards, while constructivist self-paced exploration shapes content delivery. Shifting to national context, Chapter 3 reviews autism education in Malaysia. It maps inclusive education milestones and highlights the limits of "Theory of Mind" that constrain vocabulary uptake. Chapter 4 then explains the design logic. Needs analysis uses discrepancy modelling leads to iterative design under the ADDIE cycle and Taba's principles. Expert panels in autism, AR and English as second language (ESL) education validated the prototype's pedagogical, technical and aesthetic soundness. Next, Chapter 5 distils four challenges, namely short retention, restricted behaviours, difficulty with longer words and aversion to shared materials. These emerged from teacher, therapist and parent data. Chapter 6 documents content development. Five lexical domains (Greetings, Family, School Objects, Animals, Weather) were chosen from the syllabus and converted into vibrant flashcards with single line prompts to support "Theory of Mind" connections. The chapter covers 3D modelling in Mixamo and Unity, use of the FRAME model and addition of text recognition for AR vocabulary learning. Chapter 7 reports formative evaluation. All six domain experts found "AReal-Vocab" age-appropriate and motivational with some minor critiques on graphic consistency. Chapter 8 presents data from six preschoolers with mild autism. Observations and interviews show high engagement. Learners repeated scanning activities and rehearsed target words. In one case, a child replaced nursery rhyme viewing with "AReal-Vocab" sessions. In conclusion, the application's potential to narrow lexical gaps and support inclusive ELT education in Malaysia is summarised.

The book's methodological transparency stands out. By narrating each ADDIE phase and cross-referencing Taba's seven curriculum steps, the authors give ELT practitioners a replicable blueprint for AR material design. This methodological clarity also addresses the "black box" critique of many technology studies. Furthermore, the work is highly localised. Vocabulary items align with Malaysian Special Education descriptors and children's phonological readiness to ensure cultural and cognitive relevance. Additionally, multi-sensory AR artefacts meet constructivist calls for authentic stimuli. This aligns with findings that AR boosts social communication skills among autistic learners (Bridges et al., 2020). The design further allows autonomy because text recognition supports learning beyond flashcards and fits Krashen's comprehensible input requirements. These features help facilitate self-paced and home practice which suits Malaysian parents juggling therapy schedules. Finally, rigorous dual evaluation with experts and child users demonstrates usability, engagement and early vocabulary gains. Thus, they add practical credibility for administrators seeking data-driven innovation.

Although methodologically sound, the book's scale is limited. The efficacy data comes from only six preschoolers which may restrict generalisability and mask gender, socioeconomic or comorbidity effects. Furthermore, the lexical scope is limited to five thematic sets. While this makes it developmentally sensitive, it may also curtail transfer to broader contexts, such as sentence-level

production. Additionally, the evaluation window was short, so long-term retention, novelty decay and continued teacher implementation remain unexamined. Another consideration is that the application focuses on individual use. Although collaborative features are important for socio-pragmatic growth, they appear lacking despite the focus on cooperative play in ELT classrooms. Moreover, device dependency could widen the digital divide for rural Malaysian schools. Finally, cost-benefit analysis and offline options get little attention.

Overall, 'AReal-Vocab' makes a major contribution to Malaysian ELT practices in technology, apart from AI, gamified instructions and virtual reality (Zhang et al., 2025; Mihat et al., 2024), by modelling a research-based and practical approach that guides teachers in addressing diverse learner needs. The book offers a clear process from needs analysis to asset creation, supported by positive learner and expert feedback. While future studies remain necessary, early results support AR's motivational and practical value for vocabulary development among learners with mild autism. Therefore, the book is recommended for Malaysian educators and policymakers seeking effective and equitable digital language learning.

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