

UNIVERSITI TEKNOLOGI MARA

**DEVELOPMENT AND VALIDATION OF AN ACTIVITY BOOK
DESIGNED FOR KIDS EARLY EDUCATION TO NUTRITION
MODULE: AN INTRODUCTION TO A MULTIMEDIA-RICH
LEARNING EXPERIENCE FOR PRESCHOOLER**

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ABSTRACT

This study aimed to develop and validate an interactive activity book based on the Kids Early Education to Nutrition (KEEN) module to enhance preschoolers' understanding of basic nutrition concepts. The activity book was designed to improve unhealthy eating behaviours among children because early childhood is a critical period for establishing healthy dietary habits that may persist into adulthood. The study was conducted in three phases: Phase 1: development of the activity book based on Malaysian national nutrition guidelines, literature review and Kids Early Education to Nutrition. Phase II focused on content validation by expert panels, and Phase III involved face validation. This study adapts the validation form from Castro with seven criteria. A content validity index was used to analyse content validity, which includes I-CVI and S-CVI. While level of agreement was used to assess face validity. Content validity was assessed with a threshold of 0.83 or higher. Face validity was determined by a minimum of 80% agreement among experts. The book achieved a high S-CVI of 0.98 and exceeded 80% in face validity. In conclusion, the validated activity book shows strong content and face validity, making it a promising tool for early childhood nutrition education in Malaysia.

Keywords: activity book, early childhood, nutrition education, play-based learning, preschool children

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CHAPTER 1: INTRODUCTION

1.1 Research background

Adequate nutrition is vital during early childhood since it influences not only physical development but also cognitive functions and long-term health outcomes. (Prado & Dewey, 2015). For instance, children with higher height-for-age scores, which reflect adequate linear growth often resulting from adequate and sustained nutrition, have been positively associated with better intellectual performance (DiGirolamo et al., 2020). Nutrition during early childhood is also important, as it is linked to the development of obesity and non-communicable diseases (NCDs) later in adulthood. (Heidari-Beni, 2019). Globally, rising rates of childhood obesity and malnutrition highlight the need for early, preventive nutrition education to instil healthier eating habits from a young age.

Studies have shown that globally, there is a double burden of malnutrition, where undernutrition coexists with increasing rates of overweight and obesity. According to the World Health Organisation (WHO) and UNICEF, 22.3% of children under 5 years are stunted, 6.8% are wasting, and 5.6% are overweight. Asia accounts for 70% of the world's wasted children and 52% of stunting, highlighting the severity of undernutrition in this region. Asia also contributes to 48% of the global prevalence of childhood overweight due to rapid economic development and urbanisation, accompanied by trends towards consuming convenient, over-processed junk food. (Tak et al., 2024). In Malaysia, the national health and morbidity survey (2022) reported that 21.2% children under five years were stunted, 11.0% were wasting, 15.3% were underweight, and 6% were overweight. These figures suggest the need for early intervention strategies towards Malaysian children, focusing on healthy eating and an active lifestyle.