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Interactive E-book as a Media for Parental Education in Overcome The Risks of Picky Eating in Preschool Children

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ABSTRACT

Background : Picky eating in children is an issue that is often found and has... impact on child growth and development. One of the factors that plays a significant role is parenting style. Lack of parental understanding and limited access to practical and easily accessible educational media are obstacles to implementing feeding rules . **Research Objectives:** This aim for developing interactive e-book media in optimize pattern foster parents with The risk of picky eating in children . **Research Methods:** Research This use Research and Development (R&D) method , research procedures using the ADDIE model consist of Of the five stages including analysis , design , development , implementation and evaluation . Implemented at Pertiwi Kindergarten and Diponegoro RA from February to April 2026. Criteria inclusion in study This are parents who have child age preschool , willing to be respondents, and able to access digital media. Product validation was carried out by nutritionists from the Sananwetan Community Health Center and media experts from the operational service administrators of the Malang Ministry of Health Polytechnic of Nursing D3 Blitar study program . **Research Results :** The results of the material expert validator showed a feasibility score of 90% and the results of the media expert validator showed a feasibility score of 92%. The results of the assessment of this interactive e-book educational media have met the criteria of very feasible with several suggestions and input. **Conclusion:** Interactive e-book-based educational media received a feasible and very feasible assessment based on the assessment carried out, so it can be used as an educational media to help optimize parenting patterns in dealing with the risk of picky eating in children .

Keywords: picky eating , pattern foster care , feeding rules , educational media

Introduction

Picky eating is a behavior Eat selective which is often found in children aged preschool and can impact growth as well as child development (1). The Indonesian Pediatrician Association said that picky eaters in children tend to avoid nutritious food like vegetables, fruit, and meat, which can result in grow flower child hampered (2) . Picky eating conditions can cause stunting, obesity, and disorders development of brain (3). The prevalence of picky eating in children in preschool is high enough in various countries. Research previously showed that around 14% - 50% of children aged preschool experience picky eating behavior (4). In Indonesia, the prevalence of picky eating in children under five years of age reached 33.6% (5). Condition This shows that picky eating still exists become problem health children in need attention special.

Parenting patterns own role important in formation habit Eat child . Development patterns in children different in accordance with variation in pattern parenting implemented by parents (6) . Children become picky eaters because influenced by several aspect among them can originate from aspect culture, customs Eat family , and approach pattern parental care in give food (4) . Picky eating can affect nutritional status child (7) . Nutritional status in children need optimized and improved . The Indonesian Pediatrician Association (IDAI) recommends implementation feeding rules or rule in give structured meal in a way structure as effort improving nutritional status in children with overcome eating problems (8) . Education health is one of the important strategies in effort increase knowledge and motivation change behavior sustainable health (9,10) . Election use of educational media is one of the element the main thing that is important in activity education or counseling (11) . Therefore that, fulfillment and improvement nutrition in children with education health through educational media about feeding rules is important solution. With giving proper education, parents can apply method Eat healthy child (12) .

Development digital technology opens up opportunity use of educational media more digital based interesting and easy accessible . Digital media can become means effective in increase knowledge about health (13) . Some study has show effectiveness of digital media in increase knowledge and modify behavior health (14) . E-Book or book electronic is one of the type digital materials that can utilized . E-books can accessible online through various devices , including computers , mobile phones, and other digital devices (15) . Interactive e-book consists of from features that can enrich understanding and involvement users , through feature like text and multimedia elements (video, animation , audio), all contribute in serve in -depth knowledge (16) . This media expected capable increase parental understanding

about pattern foster care Eat children and feeding rules. This research aims to develop interactive e-book-based educational media to optimize parenting patterns for children with a risk of picky eating.

Method

This study classified as research and development (Research and Development) with objective creating interactive e-books use base application Heyzine Digital flipbook for support delivery education . The purpose of this media designed For teach parents in optimize pattern foster care so that avoided from the risk of picky eating in children . This study using the ADDIE model as design its development , which includes five stages namely Analysis , Design , Development, Implementation, and Evaluation. Selection of the ADDIE model, as well as its suitability For development of educational media based on interactive E-books , to be reason selection of this model. Study held at Pertiwi Kindergarten located in Sombron Village , Loceret District Nganjuk Regency and RA Diponegoro whose address is in the hamlet Bagbogo , Subdistrict Tanjunganom , Kab . Nganjuk . Implemented in February until April 2026. Subject study consists of from One expert material, one media experts, teachers, and parents who have child age preschool. Trial group small conducted on 5 respondents and trial group large in 20 respondents. Object his research is an interactive e-book educational media that contains guide implementation pattern foster parents in form pattern eat that healthy in children preschool. Deep technique study This covers interviews, questionnaires analysis needs , questionnaires pattern foster care , questionnaire picky eater screening (CEBQ) sheet validation expert material , sheet validation media experts , and sheets parental assessment or users as well as sheet checklist For evaluation media use . Data analysis was carried out in a way descriptive use percentage eligibility on the sheet evaluation feasibility . In the study development of interactive e-book media that utilizes websites as basic educational media for people old , the main instrument used in study This covers questionnaire For evaluate eligibility media expert , expert material , parents or all users use scale Likert .

Instrument study eligibility expert used For validate the research media used in studies this . Feasibility assessment carried out by two groups , namely expert material and media experts . Instrument validity is calculated use formula presentation from Arikunto (10) . Data analysis in study This done with blend approach qualitative and quantitative . Qualitative data obtained from results interview at the stage analysis needs and input from expert material and media experts , and analyzed in a way descriptive , criticism and suggestions from expert material and media experts as base improvement product. Quantitative data obtained from results questionnaire evaluation of the feasibility of interactive e-book media by experts materials, media experts and parental response or user, then processed use technique analysis statistics descriptive in the form of percentage. The formula used For count presentation eligibility is adapted from Arikunto (10) . The data results are presented in the form of distribution frequency and percentage based on category answers of respondents.

Results

This study using the ADDIE model as design its development , which includes five stages namely Analysis , Design, Development , Implementation , and Evaluation.

Analysis : based on results interview, it is known that part big parents Still experience difficulty in face behavior picky eating in children. Therefore easy digital educational media is needed understandable, interesting, practical and can accessible via smartphone.

Design application canva used for create the media , which then changed into a digital flipbook format then combine a number of required elements using the Heyzine website. Good design beginning and designs that have been updated has an attractive layout as well as equipped feature interactive such as audio and video.

Development, on stage This done interactive e-book creation in accordance with designs that have been arranged as well as done evaluation with evaluate eligibility and revision products by experts material and media experts . Stage First namely manufacturing material in pdf form and use application Heyzine For change it become digital version. The results of conversion in the form of an e-book that can accessible as flipbook , so that give experience interactive for readers who resemble open book print. The e-book is equipped with with various element interactive such as animated videos and audio that aim For increase parental interest in understand material .

Display design in canva, the picture shows the manufacturing process merger images and audio become audiovisual with use application canva then the audiovisual is uploaded via application YouTube moreover formerly For can entered in e-book. The picture show results interactive e-book educational media products , in the section lower the pages in the e-book contain button that directs For open page next like open book print , besides material text there is button that directs parents For open educational audio and video .

Stage furthermore done evaluation For evaluate feasibility carried out by experts materials , media experts , and parents or users.

Table 1. Assessment results feasibility of interactive e-book media

Stage evaluation	Score (%)	Category
Validation expert material	90	Very worthy
Validation media expert	92	Very worthy

Implementation, after through a validation process by experts material and media experts , the media Then implemented to parents . Implementation stage implementation done to parents through trials group small as many as 5 parents and trials group big as many as 20 parents use For get evaluation eligibility .

Table 2. Assessment results feasibility of interactive e-book media

Stage evaluation	Score (%)	Category
Trials group small (material)	83.2	Very worthy
Trials group small (media)	81.6	Very worthy
Trials group big (material)	80	Worthy
Trials group large (media)	82	Very worthy

Here is the link to the interactive e-book media before revision <https://heyzine.com/flip-book/7772fbf63f.html> and e- book media link interactive that has been revised as following <https://heyzine.com/flip-book/c4365e664d.html> . Evaluation implemented to parents , results evaluation media application shows that part big parents has apply change positive in pattern Eat child after using interactive e-books . As many as 53 % of respondents who provided evaluation show visible changes clear . However , some aspect Still need improved . In overall , interactive e-book media helping parents in implementing feeding rules and forming habit eat more good for children preschool .

Discussion

Study This produce analysis need with common problems found in children preschool and requires role active parents through pattern foster care . Condition the show the need for easy educational media accessible , attractive , and appropriate with development technology moment this . This thing in line with study previously stated that implementation pattern foster care to child age early must right , because one of them factor affecting growth and development child age early is pattern foster parents to child (17) .

The design phase resulted in an interactive e-book that integrates educational materials, visual illustrations, navigation features, and practical guidance tailored to user needs. The combination of these elements is expected to increase parental involvement in implementing the program. formation pattern Eat healthy in children . This is in line with study previously stated that convenience access in the media is element important in learning digital based because can influence involvement users (18) .

The development phase demonstrated that the designed product could be refined through input from subject matter and media experts. The addition of educational materials, images, and videos made the interactive e-book more informative, engaging, and tailored to user needs. This is reinforced by previous research that found the use of animated videos to convey information was well-received by parents. because it has an attraction that increases user motivation and focus in the delivery of health information (19) .

High validation score from expert Material and media experts have shown that interactive e-book educational media is effective in increasing understanding and optimizing parenting patterns for parents at risk of picky eating. This is in line with previous research. which states that the use of application media which is an appropriate technological innovation can influence a person's cognitive and psychomotor aspects (20)

The evaluation results of the media implementation showed that the majority of respondents experienced positive changes in their children's eating patterns after using the interactive e-book. Although participation in the evaluation was not optimal, these findings provide initial evidence that the developed media has the potential to support changes in parental behavior in implementing feeding rules and healthy eating habits for children . This matter reinforced by research previously stated that example good and strengthening positive can help change children in follow rule eat well and healthily (21) .

The results of this study reinforce the importance of utilizing digital technology in health promotion, particularly in efforts to prevent and treat picky eating in children.

Conclusion and Suggestions

Educational media based on interactive e - books developed through the ADDIE model shows level high eligibility based on results validation experts and assessments users . This media assessed practical , interesting , easy used , and can helping parents understand as well as applying feeding rules to children age preschool .

Interactive e-book can used as an educational medium health For support optimization pattern foster care feeding in children at risk experiencing picky eating.

Study furthermore recommended For develop feature more interactive diverse , providing access offline , as well as test media effectiveness on change parental behavior , nutritional status children , and decline the risk of picky eating through design study experiment .

Consideration Ethics and Conflict Interest

This research was conducted in accordance with ethical research principles, including informed consent, data confidentiality, respondent anonymity, and voluntary participation. The authors declare that there is no conflict of interest in this research .

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