

Media Development Smart Dice for Early Children in TK Syafina Family Kids Tanjung Morawa District

Amanda Cinta Dwi Putri ^{1*)}, Novita Frizka ²⁾

^{1,2} Muslim Nusantara Al Washliyah University, Medan, Indonesia

¹⁾ amandacintadwiputri@umnaw.ac.id ²⁾ novita.frizka@umnaw.ac.id

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Abstract. This study aims to develop smart dice media and to find out which smart dice media are feasible and ready to be used as learning media for early childhood at Syafina Family Kids Kindergarten, Tanjung Morawa District. The problems in this study include students being fixated, the learning activities carried out are still conventional, the limited use of learning media in carrying out the learning process so that good communication has not been established. The development research model used in this study is the 4-D development model (Definition, Design, Development, Deployment). The results showed that the development of smart dice media for early childhood was carried out by adopting a 4-D development procedure which consisted of the define stage, the design stage, the development stage, the disseminate stage. This development procedure is adapted to the guidelines for the development of smart dice media so that each stage consists of several processes. The Define stage includes: 1) Analysis of learning needs; 2) See the completeness of the media. The process at the Design stage includes: 1) Arranging learning media needs; 2) Create a predefined product design. The Development stage includes: 1) Guidance by expert lecturers; 2) Validating learning media by material experts, media experts and teachers. The quality of the smart dice media developed based on validation shows a good category.

Keywords: Dice Media, Early, Childhood

I. INTRODUCTION

Learning in children of early age is activity-adapted child-oriented learning with a level-aged child's development curriculum in the form of a set plan that contains a number of experiences. Study through play prepared by educators with prepared material (content) and learning processes.

Learning in children's early years is a learning process that is carried out through play. There are five characteristics of essential play in connection with Early Childhood Education (PAUD), namely increasing motivation, being choice-free (alone without coercion), being non-linear, having fun, and having behavior in a manner that is active (Mutiah, 2010:8). Through play, a son's age early grows and develops all aspects of his development: physical, intellectual, language, and behavior. Play functions as therapy in life. Because with play, children express related matters in the realms of affect, feeling, emotion, thought, and cognition. Based on the method Think Child (still in pre-operational stage), in the learning process there is a need for a tool possible introduction used as a single medium as a source for Study Child

Dice media clever is A game that contains a number of games on every side, with use of illustration, color, and styling letters or appropriate writing with a favorite child This can make the dice medium a smart alternative media that can be interesting to children.

Advantages of dice media: clever This is not only a form-shaped dice course, but also one that contains various types of interesting and easy-to-play games on each side that will build draft knowledge and help children become more easily understood.

Based on problems that have been exposed, researchers are interested in researching "Development of Smart Dice Media for Early Childhood in Syafina Family Kids Kindergarten, Tanjung Morawa District."

II. METHODS

Approaching Research and Development

The type of research used by researchers is Research and Development (R&D), or what is known as method research used for producing product specific with test effectiveness product. Developed media products aim to overcome problems learning in class and outside of class. The research model used in the

study of the development of nuanced teaching material media game dice clever This is using development models for 4D devices (*four D models*). The 4D development model is selected because it is simple and easy to learn. Following This is a picture of the stages of development for 4D model research (*four D models*).

Procedure Development

Procedure development used in the study This is a 4D development model consists of 4 steps general consisting from stage definition (*define*), stage planning (*design*), stage development (*development*), stage dissemination (*disseminate*).

Techniques and Instruments for Data Collection

Data collection techniques used in the study This is an interview with kindergarten-B grade teachers using a questionnaire. Following This grid instrument questionnaire pre-research and grid instrument interview with an educator,

Table 1. Grid Instrument Questionnaire Pre-Research

Variable	Sub Variable	Indicator	Question Number
Learning Media	1. The curriculum used	Know curriculum used in learning media	1
	2. Concept or material used	hook development of the media used in learning	2, 3
		Explain the advantages and disadvantages of learning media	4
		Explain the learning media needed for child	5, 6,7 and 8

Table 2. Grid Instrument Interview With Educator

Variable	Sub Variable	Indicator	Question Number
Learning Media	3. The curriculum used	Know curriculum used in learning media	5
	4. Use of learning media	hook material with learning media	2
		Frequent media used	1, 4, 6, 9
		Explain the learning media needed for child	3, 7, 8 and 10

Data Analysis Techniques

The analytical technique used in study This there are two, namely qualitative and quantitative data. Data already collected by researchers Then processed in a manner qualitative and quantitative so that can obtained something answer. Qualitative data This can obtained from feedback and suggestions from lecturer media expert, lecturer expert material while quantitative data obtained from charging questionnaire conducted by the lecturer media expert, expert material and teacher.

Media test assessment and material test done use charging sheet appraisal. Quantitative data can processed in a manner presentation percentage with use scale likert as scale measurement. Measuring scale study development that has modified from Ridwan. For necessity analysis quantitative data can given score as in the table following.

Table 3. Rating Score To Answer

No	Analysis Quantitative	Score
1	Very good	4
2	Good	3
3	Enough	2
4	Not enough	1

III. RESULTS AND DISCUSSION

Development Results Product

Research and development carried out with title development of dice media clever for child age early. The resulting product i.e. medium dice clever For child age early. Research and development product Already done validation by experts materials, media experts, and teachers. The research and development model used in study This that is using 4D models. 4D models consist over 4 stages that is stage *define* (definition), stage *design* (design), stage *develop* (development), and stages *disseminate* (dissemination). However Because study This only scale small course, then researcher do study until to stage *disseminate* (spread) only in TK Syafina Family Kids, Tanjung Morawa District just. Steps research and development carried out researcher as following :

1. Stage *Define* (Defining)
2. Stage *Design* (Design)
3. Stage *Develop* (Development)
4. Stage *Disseminate* (Dissemination)

Manufacturing method

1. Arrange bottle as much as 4x4 to be form cube then glued.
2. Paste every side bottle with cardboard box except part up and down bottle.
3. Then create side First that is part closed First bottle berries numbers 1 through 12 in the section on it in a manner order. Then berries different colors on the lid second bottles and parts on surface bottle.
4. On the side second bottle that is part lower given bottle point 1 to 12 accordingly order.
5. In part side third paste it scissored foam become form circle and above given given leaves numbers 1 to 12 for know time, then paste stick ice cream yes already in the scissors with needle.
6. On the side fourth paste it burlap that has been sheared in accordance with the shape of the cardboard base Then picture game snake stairs.
7. On the side fifth Paste the plastic that has been cut for container on the side fifth. Then scissors milk box be form woven.
8. On the side sixth paste it varnished banana leaves according to the sideboard sixth. Then make it syllables on dried leaves

Design results material from each his side

First Side



Second Side



Third Side



Fourth Side



Fifth Side



Sixth Side



Product Trials

At the trial stage product, tested product with spread questionnaire response educator. Trial product done with a class B teacher at Syafina Family Kids Kindergarten, Tanjung Morawa District. But this for know feasibility and attractiveness product. Researcher do stage This with share questionnaire to One educator for know the response test educator.

Evaluation product by educators done with request investigator For fill in questionnaire that has been provided by researchers. Evaluation questionnaire consists from two aspects that is material learning and aspects media eligibility . Result of evaluation show quality product developed. From trial obtained conclusion that developed product according to Education response included in criteria interesting and very worthy. Following acquisition evaluation response educator :

Table 4. Assessment Response Educator

Aspect Evaluation	Criteria Evaluation	Evaluation			
		1	2	3	4
Aspect material learning	1. Media loading material in accordance desired indicator achieved			✓	
	2. Developed media concrete used in learning				✓
	3. Learning media make it easy educator in teach				✓
	4. Dice media clever has fulfil criteria as a learning medium				✓
Aspect media eligibility	5. Media precision with aspect development child age early			✓	
	6. Media is strong and durable			✓	
	7. easy medium used				✓
	8. Medium can used in a manner over and over again				✓
	9. Media loading capable material increase understanding participant educate			✓	
	10. Dice medium clarity clever make it easy participant educate in media use			✓	
	11. Dice media smart plays a big role in learning				✓
	12. Use of media helps understanding participant educate				✓

	13. The media facilitates student For communicate			✓	
	14. Use of learning media make student motivated in learning				✓
Amount				18	32
Total		50			
		$\frac{50}{56} \times 100\% = 89\%$			

Discussion

Based on results research conducted, in the discussion research and development This explain about suitability product ending refers to the goal research and development conducted by researchers, results the validation consists from expert material, media expert and response educator to product the end of the resulting learning media. In the development of dice media clever This designed and designed by researchers with use strong and sturdy material for the resulting product can durable and long lasting. Researcher designing special media development optimally so that the resulting learning media in accordance with objective the desired research and development achieved with produce product for innovation proper learning for participant child age early. Study This use Procedure Research and development that is use Research and Development or (R&D) methods . On research and development This can generated product to be developed with with procedure research and development of 4 D models (*four D Models*). According to Thiagajarani, 4D model research and development includes 4 stages that is definition (*define*), design (*design*), development (*development*) and deployment (*disseminate*). Dice media research and development clever This do validation product that consists from expert validators in field that is expert material and media experts.

IV. CONCLUSIONS

Based on description and calculation in chap before, then can taken conclusion that: Development of dice media clever developed with 4D models ie *Define* (*Defining*), *Design* (*Planning*), *Development* (*Development*), *Disseminate* (*Dissemination*). Due to the condition of the media that is not Lots Because researcher experience limitations cost production so that researcher This No do production bulk, then researcher do deployment only in Syafina Family Kids Kindergarten. Based on results assessment made by the validator against product development of dice media clever for child age early own quality with the criteria of "very good " is proven with results validation from a number of expert covers expert material obtain rating of 83%, media experts obtain rating 86%. Besides that, response educator to product development of dice media clever with very good and positive category, seen with gift mark response educator with obtain answer 89%. With so media dice smart very decent used in learning .

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