ATLANTIS PRESS
Advances in Social Science, Education and Humanities Research, volume 487
Proceedings of the 2nd Early Childhood and Primary Childhood Education (ECPE 2020)

Development of *Busy Bag* Educational Game Tools for Fine Motor Skills for Children Aged 3-4 Years

Elis Safitri[1,*] Usep Kustiawan[1] Suryadi[1]

[1]*Department of Primary School and Preschool Education, Faculty of Education, Universitas Negeri Malang*E-*Corresponding author. Email: elissafitri0398@gmail.com*

ABSTRACT
The background of this research and development is the underutilization of learning facilities and infrastructure such as game media. The purpose of this research and development is to produce *busy bag* educational toys to stimulate fine motor skills of children aged 3-4 years. The research methods used through the Sugiyono' procedures are selected and adjusted to the conditions in the field into 6 steps. Based on formative testing for early childhood material experts obtained a percentage of 92.5%, early childhood game experts obtained a percentage of 85%. From small group trials the percentage of user data was obtained 95. 3%, 96% convenience, 92% attractiveness, 98% security. The result showed that this *busy bag* educational game is very easy, attractive, and safe so it is suitable to be used to stimulate fine motor skills of children aged 3-4 years.

Keywords: *Fine Motor Skills, Busy Bag Educational Toys, Children Aged 3-4 Years*

1. INTRODUCTION

Playing is an activity that is favored by children, through playing activities the child will be happy and not feel overwhelmed by the learning material provided by the teacher. The main key in the learning process of early childhood is to make children comfortable with all activities intended for children. This statement is in line with Rasyid (Ningsih, 2018) which states that when learning and interacting with children, a pleasant atmosphere is needed and according to children's needs. One way to create a comfortable and pleasant atmosphere in learning is by playing.

In carrying out these activities, media is needed that can attract children while learning. Iffah (2018) states that educational game tools are game tools used for the learning process in the form of games, so that students are interested and stimulated by their thoughts and feelings in learning activities to achieve learning goals. Motor development is a very important factor in the development of other aspects. Fine motor skills of preschoolers need to be stimulated and trained from an early age so that the resulting movements can develop optimally. Decaprio (2013) stated that stimulation given to children requires patience and uses different methods for each child. The stimulus is more or less influenced by the environment, the environment is the family and school environment. In learning activities about fine motor skills, certain media are needed to increase motivation and attract children's interest in learning. To assist teachers in teaching and training the child's motor skills necessary learning resources, will but teachers rarely make use of the media to the fullest.

Based on the results of observations and interviews with school principals and teachers at three family planning institutions in Malang City, it can be found that the learning process in the classroom is generally in the form of activities carried out on the fine motor skills of children aged 3-4 years who still often use Children's Worksheets (LKA). The lessons carried out in class still prioritize writing and drawing skills so that there is a lack of stimulation of smooth muscle movements in coordinating the muscles of the eyes, hands and fingers.

The factors causing the problems of the three family planning institutions in Malang are 1) teachers' difficulties in preparing media, 2) the existing media is less attractive, 3) incomplete facilities and infrastructure, 4) teachers tend to give assignments using

worksheets so that suboptimal fine motor stimulation. The existence of this problem, the researcher provided a solution by creating a product in the form of a *busy bag* educational game that can be used as an innovative learning media for children's fine motor skills, especially in coordinating the eye, hand and finger muscles.

2. METHOD

This research is a type of research and development oriented towards product development. According to Sukmadinata (2009) explaining that research and development are steps or processes to develop new products or improve existing products that can be accounted for. The implementation of this research and development resulted in a product in the form of a validated fine motoric learning activity using a game, the resulting product was a *busy bag* educational game tool to stimulate the fine motor skills of a validated 3-4 years old child. This research and development is designed to obtain data about safety, attractiveness, ease of using *busy bag* educational games. The resulting product is validated and declared fit for use by experts in their fields.

The researcher refers to the research and development guidelines (Sugiyono, 2016) states that there are ten general steps that are applied in research and development, but these ten steps are not a standard step in research. Taking this step is supported by the opinion of (Hasyim, 2016) that R&D steps can be tailored to the needs of research. Time and cost limitations are the reason researchers use 6 steps out of 10 steps to test the feasibility and validity of the products that have been developed.

The steps of the research and development procedure carried out by the researcher are: 1) The potential and problems are carried out by analyzing the needs of the researchers at three institutions in Malang City. From the results of the needs analysis, the problem found is the lack of interest in children in the learning process due to lack of teacher innovation in the learning process. 2) Conduct research and data collection with the aim of gathering information about the needs and problems being faced in the classroom which is carried out by interviewing the teacher and observing learning activities. 3) Planning in the form of product design preparation by developing *busy bag* educational game products that are in accordance with the fine motor indicators of children aged 3-4 years. 4) Validating the experts to determine the feasibility of the product and providing input in terms of the weaknesses of the product being developed, the experts are two material experts and two game experts. 5) Revision of the product after validating from several experts, after the product is revised it is said to be valid, the next step is to test the product. 6) Conducting initial trials (small group trials) with a sample size of 10 children aged 3-4 years. The purpose of this trial is to determine the effectiveness of the product that will be developed when children play.

The subjects involved in collecting research data on the development of *busy bag* educational game tools were information collection carried out by observing learning related to learning media in KB Madani 2, Pos PAUD Tunas Cendekia, and KB Negeri Pembina 5 Kota Malang. The expert trial subjects consisted of two early childhood game experts and two early childhood material experts. The subjects of the small group trial consisted of ten children aged 3-4 years in Wotan Village, Panceng District, Gresik Regency. Environmental conditions made it impossible to conduct research in schools that were previously the object of observation due to the corona pandemic, so the researchers conducted a small group limited study of children aged 3-4 years with a sample of 10 children living around the researchers' house.

The type of data in this research and development is qualitative and quantitative. The qualitative data obtained from the results of interviews with the teacher as the initial data analysis needs and is obtained from the advice and input of experts about the game tools that will be developed. Quantitative data were obtained from the results of the calculation of questionnaire sheets filled out by experts and the results of filling out the observation sheets during small group trials using *busy bag* educational games related to aspects of ease, safety and attractiveness.

Table 1. Product Eligibility Criteria Table

No.	Criteria	Level of Validity
1	81% - 100%	Very valid, very effective, very thorough, can be used without improvement.
2	61% - 80%	Valid enough, effective enough, thorough enough, can be used but needs minor improvements.
3	41% - 60%	Less valid, less effective, or incomplete, needs major improvement, it is recommended not to use it.
4	21% - 40%	Invalid, ineffective, incomplete, unusable.
5	00% - 20%	Very invalid, very ineffective, very incomplete, unusable.

Source: (Akbar, 2013)

The instruments used in this development research were interviews, questionnaires, observation sheets, and documentation. Interviews are used to obtain initial data on fine motor skills. Meanwhile, questionnaires, observation sheets and documentation were used to

collect data from *reviews* from experts and research subjects during field trials. The eligibility criteria for products rated from instrument validation material expert child age early, are presented in the Table 1.

3. RESULTS

The data obtained from the results of the validation of four experts and the results of small group trials conducted on children aged 3-4 years are presented as follows

3.1 Results of Data Analysis of Material Expert Reviews

Validation matter experts obtained from 2 Lecturer PGPAUD given a questionnaire with number of questions as much as 10 questions. The data obtained from the results of the validation of early childhood material experts obtained the following results

Table 2. Overall Data on the Results of Early Childhood Expertise Validation

No.	Material Expert	Percentage
1.	Material expert 1	90%
2.	Material expert 2	95%
Average		92.5%

Based on validation related to the material in the *busy bag* game tool, the first material expert assessed 90% and the second material expert assessed 95%. The results of this percentage, if taken an average of 92.5%, it can be concluded that the material experts strongly agree with *busy bag* educational game products related to aspects of ease, attractiveness and safety. If the percentage is related to the product eligibility criteria level according to (Akbar, 2013), the feasibility of the product being developed reaches a percentage level of 81% - 100%, then the *busy bag* educational game tool is classified as a very valid category.

The revision result from the material expert is that the color of the bag for storage of tools is replaced with a brighter color, magnets for fishing are used with stronger adhesive power, the cover of the APE bag is decorated or the selection of the color of the letters is made more attractive, add a challenging activity for children to do age 4 years so the child does not get bored easily.

3.2 Results of Game Expert Review Data Analysis

Game expert validation was obtained from 2 PGPAUD lecturers who were given a questionnaire with 10 questions. Data from the validation of early childhood game experts obtained the following results.

Table 3. Overall Data on Early Childhood Game Expert Validation Results

No.	Game Expert	Percentage
1.	Game expert 1	77.5%
2.	Game expert 2	92.5%
Average		85%

Table 4. Early Childhood Experts Revision

Product Before Revision	Product After Revision
 The front cover of the bag	 The front cover of the bag
 Fishing activities and zippers	 Fishing activities and zippers
 Bead beading activity	 Beading beading activity
 Patterned *meronce* activity	 Patterned *meronce* activity

Based on the validation related to the *busy bag* game tool, the first game expert validation results were 77.5% and the second game expert was 92.5%. The percentage results, if taken on average, will get a result of 85%, so it can be concluded that game experts strongly agree with *busy bag* educational game products related to

aspects of convenience, attractiveness and safety. If it is related to the product eligibility criteria level according to (Akbar, 2013) the feasibility of the product being developed reaches a percentage level of 81% - 100%, then the *busy bag* educational game tool is classified as a very valid category.

The revision results from game experts, namely, choose a zipper that is easy to operate, put a little black accent on the whale's body to make it more attractive, the water spray from the whale should be made white to make it visible, the buttons on the *ronce* bag cover are made precisely so that they can be buttoned perfectly, the choice of ribbon material must be durable, vary several activities that can improve children's fine motor skills and attract children's interest (see Table 4).

3.3 Results of Small Group Trial Data Analysis

The results of the small group trial on the development of a busy bag educational game tool that were tested on 10 children in Wotan village aged 3-4 years. Overall, the results of the small group trial data related to the aspects of convenience, attractiveness, and safety are obtained in Table 5.

Table 5. Overall Small Group Trial Data

No.	Validation Expert	Percentage
1.	Convenience Aspects	96%
2.	Attractiveness Aspects	92%
3.	Security Aspects	98%
Average		95.3%

The results of small group trial data analysis in the development of *busy bag* educational game tools to stimulate the fine motor skills of children aged 3-4 years using ten subjects related to the convenience aspect obtained a percentage of 96%. *Busy bag* educational game tools are easy for children to do. Related to the attractiveness aspects obtained the percentage of 92%, *busy bag* educational game tools is interesting for children and related to the security aspect, it is obtained a percentage of 98%, *busy bag* educational game tools are safe for children to use.

From this description, the results of the trials were obtained with an overall average of 95.3% so that *busy bag* educational games can be used to stimulate fine motor skills of children aged 3-4 years. If it is related to the product eligibility criteria level according to (Akbar, 2013) the feasibility of the product being developed reaches a percentage level of 81% - 100%, then the *busy bag* educational game tool is classified as a very valid category.

4. DISCUSSION

The results of research and development indicate that the *busy bag* educational game tool is very feasible and very valid to be played by children to stimulate their fine motor skills, especially in coordinating the muscles of the hands, eyes and fingers. This is evidenced by the results of the validation of two material experts with a percentage of 92.5%, the results of the validation of two game experts at 85%, and the results of small group trials with 10 children aged 3-4 years in Wotan Village, which received a percentage of 95.3%. This is in line with the statement (Iffah, 2018) that the development of educational game tools is very appropriate as a medium for developing children's motor skills, because the concept of learning in kindergarten is playing while learning or learning while playing. Decaprio (2013) explain that development of motor skills plays an important role in supporting the other. In addition, it can train children's independence in completing their own tasks without asking for adult help.

This *busy bag* educational game tool can develop other aspects such as social, emotional, cognitive, and language. This is in line with the statement of the Ministry of Education and Culture of the Directorate General of Early Childhood Education (2016) which states that "educational game tools are anything that can be used as a means of playing for early childhood, which contains educational value and can optimize children's development".

The *busy bag* educational game tool is a three-dimensional game tool that has a size of 60 x 25 cm with heart foam covered with colored cloth used individually which is useful to stimulate fine motor skills for children aged 3-4 years in coordinating fingers, hands and eye muscles, as well as help teachers during the teaching and learning process. This *busy bag* game tool is adapted to the achievements of fine motoric development of children aged 3-4 years.

The selection of activities on the *busy bag* game tool is almost the same as previous research conducted by Siahaan (2019) regarding *quite frame* media for the fine motor skills of children in the playing group which is safe, easy, and interesting and is declared valid. The difference in media developed in Siahaan's research (2019) uses wood covered with cloth, the activities in *quite frame* media are opening and closing button holes, opening and closing zippers, opening and closing press buttons, opening and closing adhesives and carrying out activities *ronce* the beads. In the *busy bag* educational game tool that the researcher developed into a bag made of heart foam covered with colored cloth, the activities involved in the *busy bag* were fishing, opening and closing zippers, rapping beads on ropes, and rapping

patterns. The media developed by Siahaan (2019) uses the theme of sea animals, while the *busy bag* game uses three themes, namely animals, the universe, and vehicles.

The advantage of this *busy bag* educational game tool is that the material used is light foam in the form of heart foam so that it is practical and easy to carry anywhere by the child. The activities on the *busy bag* have a different theme in each activity. The drawback of *busy bag* educational games is the lack of interesting activities so that most children are more interested in one activity, namely fishing.

5. CONCLUSION

The results of this research and development are *busy bag* educational game products to stimulate the fine motor skills of children aged 3-4 years with aspects of convenience, attractiveness, and safety. This *busy bag* educational game product was developed by researchers through various processes, starting with analyzing the needs to the process of refining a product that is suitable for use in the fine motoric learning process. The refinement process was obtained from suggestions given by material experts and game experts, as well as using it through small group trials. Advice given by early childhood experts is used by the author as a basis for revision.

Based on the overall results of the analysis of the material expert and game expert's review presented, it can be concluded that the *busy bag* educational game tool development design for fine motor skills of children aged 3-4 years is very valid, but there are several suggestions to maximize game tool products. This shows that the results of the validation analysis from material experts and early childhood play experts on *busy bag* educational games are appropriate for children to use for their fine motor skills. This *busy bag* game tool can also develop children's self-confidence and train children's independence when playing without asking for help from adults. This *busy bag* game tool can also develop other aspects such as cognitive, language, and social emotional aspects.

Suggestions for further researchers if the game tool is developed again, it would be better if the product in the form of a *busy bag* has more varied activities so that children do not get bored easily and are interested in using all the activities that exist in APE repeatedly, also pay attention to the selection of safe materials and colors and durable when used repeatedly.

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