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## **Validity of Learning Media Based on Diamond Touch Cardboard with Think Pair Share Model and Student Respons On Excretory System Material**

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### **Abstract**

This study aims to reseach and develop the use of Diamond Touch media with think Pair share models. The research held at Pondok Modern Assalam Putri, Sukabumi with 31 student. The feasibility of the media used and evaluated by media expert and small-scale trials, Diamond touch is a medium that can be used as a medium to achieve goals material in learning Biology, formal and non-formal education. The elements contained in Diamond Touch media are (1) learning messages or core material (2) cardboard tools for learning aids. The results of this study that Diamond touch media can be integrated with learning models namely Think Pair Share so that the learning process is not boring and Diamond touch media is very valid for use in learning. Analysis of validity test data obtained through questionnaires was performed using quantitative data processing formulas

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## INTRODUCTION

People's thinking ability is different. This is what makes everyone have a difference in the reason they go to an object. Discussing the process of thinking will of course mention media experts (Dale, 2012). Basically, learning is the result of synergy of the three main components of learning, namely students, teacher competencies, and learning facilities. Learning is a series of events / events that affect students in such a way that the learning process can take place easily (Arsyad, 2006). Biology as one of the fields of natural sciences provides a variety of learning experiences for understanding scientific concepts and processes. These process skills include observation skills, hypothesis propositions, the use of appropriate instruments and materials by always considering work safety and security, questioning propositions, categorizing and interpreting data, and communicating findings orally or by writing, mining, and selecting relevant factual information for verify ideas or solve everyday problems (Hamzah, 2010). Learning activities require appropriate media to help the learning process become more interesting and facilitate understanding of the material, especially abstract material that requires visualization (Nuzulia, 2016).

Teachers need extraordinary skills in analyzing, designing media and strategies for the learning process so that the learning process does not become monotonous and becomes a goal and hope that the target is achieved. The Think Pair Share learning model can be used as an alternative learning model to improve science learning achievement (Surayya,2014). The deductive-deductive approach collaborated with the think pair share model is more effective than expository teaching and learning activities of students (Widiyaningsih, 2012). One of the teacher's skills is creating learning media. Suarjana explained that media can improve student learning outcomes and activities (Suarjana,2017). Media is a component to achieve the learning and education targets, where theoretical messages are designed in such a way as to provide learners with hypnolearning effects. Visual media are media that involve the sense of sight, or media objects and events that can be visualized realistically to resemble actual conditions (Smaldino,2011). The role of visual media in the learning process is manipulative, which help learners to understand hard-to-observe objects because they are too small, such as molecules, cells, atoms, etc., by utilizing pictures, films, and various other things. Based on the description above, the writer designed a visual aid media to achieve the target of learning and education, after analyzing the condition of the environment and learners at school, making a simple media which is still able to give the learners a hypnolearning effect.

## RESEARCH METHOD

The study was conducted in April 2019 Sukaharja, Warungkiara Class 11 Madrasah Aliyah (Islamic Middle School) Pondok Modern Assalam Putri Sukabumi with a total of 31 students. This research is a process of research and development with the following stages: (1) defining, (2) design, (3) developing, (4) disseminate. The materials and tools in making Diamond Touch are as follows Scissors, Ruler, Solder, Pen, Paper Glue, Glue Gun, Paralon and Paint.



**Figure.1 Diamond Touch media**

The research subjects for learning media development are 11th grade students of Madrasah Aliyah (Islamic Middle School) Pondok Modern Assalam Sukabumi. The instruments used in this study were student questionnaire response questionnaires with 18 items, 9 positive statement items and 9 negative statement items and the media was validated by 3 expert lecturers namely biologists, linguists and media experts. All of these statements are used to assess the feasibility of the media in the learning process in the classroom.

Analysis of validity test data obtained through questionnaires was performed using quantitative data processing formulas according to Akbar and Sriwijaya (2010).

$$V\text{-ah} = \frac{TSe}{TSh} \times 100\%$$

Information:

V-ah = Expert validation score

TSe = Total Score achieved

TSh = Total expectation score

**Table 1. Product Validity Qualifications**

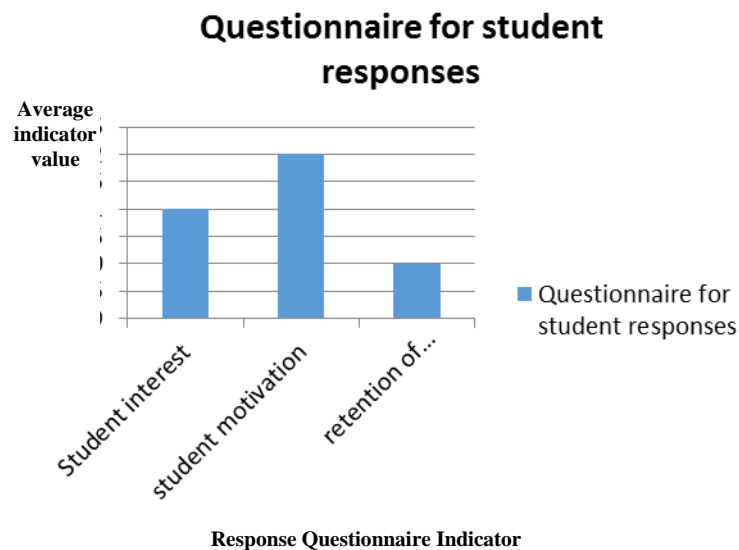
Presentation%	Validity criteria	Level of validity
85,01-100,00	Sangat valid	Very valid or can be used need revision
70,01-85,00	Valid	Valid or usable but needs to be revised
50,01-70,00	less valid	Less valid is recommended not to be used because it needs major revisions
01,00-50,00	Invalid	Invalid or may not be used

## RESULTS AND DISCUSSION

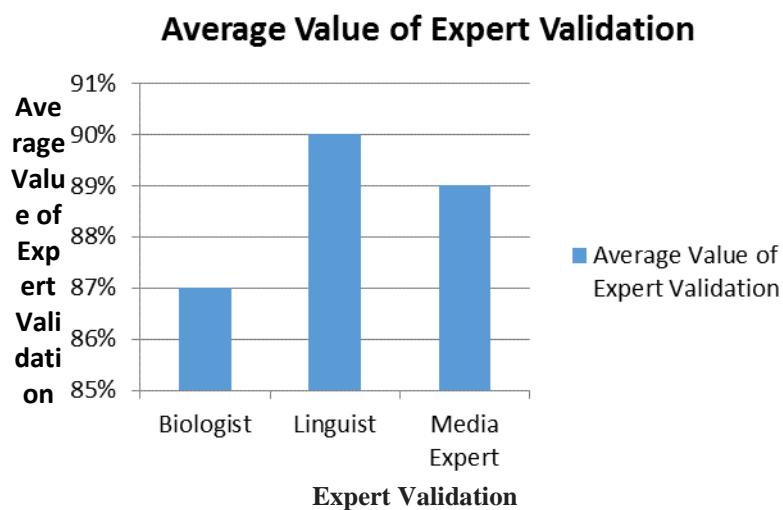
Diamond Touch is a media that can be used as a media to achieve goals, material in learning Biology, formal and non-formal education. Diamond touch media can be

integrated with learning models namely Think Pair Share so that the learning process is not boring. The elements contained in Diamond Touch media are (1) learning messages or core material (2) cardboard tools for learning aids. Media Diamond Touch is integrated with learning models, namely Think Pair Share (Thinking, Pairing and Discussing). In the Diamond Touch media there are cognitive questions that will be observed individually in the Think phase, discussed with their partners in the Pair phase and discussed with their classmates in the Share phase. Diamond Touch helps facilitators to convey information, because it attracts interest and interest of students in formal and informal learning activities.

Diamond Touch is a modification and simplification of goods that can be used as a Biology learning media, easy to use by students, and can improve the effectiveness and efficiency of learning goals. In Diamond Touch validation, 34 samples were used in the study, divided into several validators. With details of 3 Biology lecturers namely Biologists, Linguists and Media Experts, and 31 students in the class. This item is used as 18 items with 9 positive statement items and 9 negative statement items. The research data is as follows:



**Figure 2.** Questionnaire for student responses



**Figure 3.** Average Value of Expert Validation

From the results of the analysis of existing data, according to Biologists reached 87%, 90% Language Experts and 89% Media Experts appear to indicate that the Diamond Touch media is very valid and can be used. From the results of the analysis of existing data, it appears that positive statements, most of which are represented by the second indicator with the statement "Motivation in following the learning process", reached 81%. This shows that this media is really very easy and useful, by educators in informal schools, so students are interested in learning to use Diamond Touch media.

A negative statement with the statement "Diamond Touch media does not have to be used in the learning process", because it is difficult to operate, with a value of 81.45%. This negative statement states the opposite, so this shows that Diamond Touch media must be used in the learning process. This is consistent with Nurwahyuningsih's research which states that media can provide real visual messages so students are more interested in learning. The results of this study are in accordance with Sanjaya's research which states that media can increase student interest and achievement. TPS is a learning model that helps teachers with cooperative learning in pairs, where each pair of learners are given the opportunity to discuss and mengintraksi with partner learning. TPS can also provide opportunities for learners to learn and ask from their friends freely and can optimize student participation. So that the learners are not ashamed to ask their teachers. TPS type learning, this learning model requires students to work with each other in small groups and more characterized by cooperative awards rather than individual rewards (Asfaroh and Hidayati, 2014).

## CONCLUSION

Diamond touch is a medium that can be used as a medium to achieve goals material in learning Biology, formal and non-formal education. The implications of learning about peralingarah with Diamond Touch media are Able to improve students'

cognitive, motivation, enthusiasm and media can be used in formal and non-formal schools

Based on the results of the above research, for educators / facilitators / resource persons: Convey information, awareness and self-confidence of students (at school and outside of school) Information about using Diamond Touch media in participating can be used for learning media in schools, in boarding schools especially not allowed to carry electronic devices and not use the internet.

The results of this study that Diamond touch media can be integrated with learning models namely Think Pair Share so that the learning process is not boring and Diamond touch media is very valid for use in learning. Analysis of validity test data obtained through questionnaires was performed using quantitative data processing formulas.

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