

VALIDITY OF HANDS ON MINDS ON STUDENT WORKSHEET OF THE DANGERS OF PSYCHOTROPIC USE SUBMATERIAL

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Abstract

The dangers of psychotropic use and its effect towards health is a close phenomenon in students' daily life. This submaterial asks the students to conduct anti-drug campaign in their school and local communities to fulfill the basic competence of Curriculum 2013. To meet this basic competence, students should have proper communication skill hence they can deliver the message effectively. Hands on minds on student worksheet allows the integration between daily life phenomenon and the topic that taught in the class. The aim of this development research was to describe the feasibility of student worksheet based on experts validation. This research used ADDIE method. The result of the validity was the developed hands on minds on worksheet got a score of 89% and categorized very valid. It can be concluded that the worksheet was feasible based on its validity.

Key words: student worksheet; hands on minds on; psychotropic; communication skill.

INTRODUCTION

Science learning, especially biology, should encourage the student to engage in learning activity, including science process skill. The process skill includes observation, measurement, classification, interpretation, and complex communication (Ibrahim, 2010). According to Windschitl (2009), process skills are also one of the goals of 21st century learning that emphasizes complex communication. The complex communications includes organizing early understandings through verbal descriptions, analogies, and other forms of interpretation, providing hypotheses by linking questions with early models and problems, providing scientific arguments based on interpretations of both verbal and non-verbal descriptions and exchanging ideas through perception and persuading others.

Process skills in biology learning, especially communication skills, are important elements for knowing and evaluating the level of learners' understanding. The oral communication, for example, is full of contextual motivation, goals, and specific strategies to each field. This suggests that communication skills are important skills that should exist in every discipline (Dunbar et al., 2006). Communication skills are an essential skill in the development of science and it shapes the future society and scientists (Jeon & Park, 2013). Communication skills should be trained with appropriate learning media. Student Worksheet is a learning medium that has many benefits and can be used as an alternative learning media.

Student worksheet contains all of the guidance that can persuade students activity in learning process (Salirawati, 2006).

Biology learning is a learning that can often be associated with everyday phenomena. Biology learning is a learning that connects the experience gained in the classroom with what is found in real life. Armed with in-class experiences linked to real problems will encourage learners to understand biology as a whole, not just a collection of concepts or chapters from textbooks that are far from real life (Chamany et al., 2008).

Learning using hands-on minds on activities allows learners to communicate, create, interpret, and provide criticism and scientific arguments using scientific principles (Baker et al., 2009). Learning using hands on minds on, not only reinforces the concept, but also enhances scientific thinking skills (Park, 2010). The hands-on minds on activity is a learning that does not require special equipment to provide a real experience for students (Hussain and Akhtar 2013). Learning with hands-on-minds on activity also integrates everyday occurring phenomena in society into the learning in class (Ates and Eryilmaz, 2011). Linking real-life experiences in the classroom to what is happening in real life will also develop creative ideas of learners and bridge biology learning with other disciplines. The hands-on-minds on activity that enables the integration of everyday phenomena with what is learned in the classroom will

result in improvements in social interaction and the development of learners' mindsets that can be developed through improved communication and argumentation (Chamany, et al., 2008, Park, 2010).

The dangers of the use of psychotropic and its effect towards health sub material is a close phenomenon to the student. The students often read, see, or directly find, the prevention efforts and illegal use through social media and mass media. Through this learning, students not only know about the dangers and effects of psychotropic use, but are also able to provide positive feedback not only for themselves, but also for others. In the sub-material dangers of the use of psychotropic and its effect towards health, students are required to conduct drug campaigns within the school and surrounding communities to fulfill the basic competencies of 4.11 and 3.11. To meet these basic competences, student must have good communication skills to convey the message they want to deliver. While in the class, it can not be found a worksheet that can help students to conduct a drug campaign in accordance with the goals of Basic Competence. Based on the problem, one of the efforts that can be done is to develop hands on minds on activity based worksheet that can help students to meet basic competence goals.

The purpose of this research was to produce hands on minds on student worksheet in dangers of psychotropic use and its effect towards health sub material to improve communication skill and to describe the feasibility of worksheet based on the validation result from technical, didactic and construction requirements.

METHOD

This research was a development research using ADDIE (analyze, design, development, implementation, evaluation) method. The instrument used in this research was validation sheet validated by three lecturers of Biology Department of Surabaya State University. The data obtained was analyzed by calculation using Likert Scale and averaged with the following categories presented in Table 1.

Table 1. Worksheet Validity Criteria

Average score (%)	Criteria
0-20	Very invalid
21-40	Invalid
41-60	Quite valid
61-80	Valid
81-100	Very valid

Student worksheet was declared valid if it has average score of $\geq 61\%$.

RESULT AND DISCUSSION

The results of the development research that has been done is the student worksheet based on the hands on

minds activity in dangers of psychotropic use and its effect towards health sub material. Worksheet validity was reviewed and validated from the terms of construction, technical, and didactic. The hands on minds on worksheet profile was also described in Table 2 and the following validator assessment results are presented in Table 3 below.

Tabel 2. The Profile of Hands on Minds on Worksheet of The Dangers of Psychotropic Use Sub Material

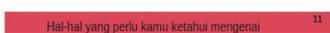
Feature	Description
Worksheet Identity	The worksheet identity is used to ease the the administration, including group member name, class, and date & day
Brief Information	The brief information included a little and important information about drugs and psychotropic
What's your opinion?	This feature allowed the students to discuss with their partner and group about the issue given and write down their argument in the given column.
Things you need to know about	This feature included a detailed information about illegal use of psychotropic in Indonesia
Cites you need to visit!	This feature included page and web address that contains a specific psychotropic issue.



What's your opinion?



Things you need to know about



Cites you need to visit!



Campaign Planning



This feature contained steps that need to be taken to make a campaign planning, including target/audience determination, platform and media planning, cost estimation, delivered content and message planning.

Table 3. Validator Review Result

No	Criteria	Validator			Average (%)	Category
		1	2	3		
Technical Requirements						
1	suitability of letters and posts in student worksheet	3	3	4	83.3	Very valid
2	Suitability of layout and content	3	2	4	75	Very valid
3	Suitability of worksheet design	3	3	4	83.3	Very valid
Average score					83	Very valid
Construction Requirements						
1	Having a clear sentence structure	4	3	4	91.6	Very valid
2	Using proper language that suits students maturity level	4	3	4	91.6	Very valid
3	Having enough space for students to write and draw the answer	4	3	4	91.6	Very valid
4	Having identity column that facilitate administration	4	4	4	100	Very valid
Average score					94	Very valid

No	Criteria	Validator			Average (%)	Category
		1	2	3		
Didactic Requirements						
1	Following effective learning principle	4	2	4	83.3	Very valid
2	Having various stimuli for students	4	3	4	91.6	Very valid
Average score					87.3	Very valid
Suitability with hands on minds on activity						
1	Involving the student in learning directly	4	3	4	91.6	Very valid
2	Enabling the learning to be more interactive	4	3	4	91.6	Very valid
3	Improving the ability to think critically	4	2	4	83.3	Very valid
Average score					88.8	Very valid
Suitability with communication skill training						
1	Providing opportunity for students to work in groups	4	2	4	83.3	Very valid
2	Training interpersonal skill	4	3	4	91.6	Very valid
3	Giving personal responsibility	4	3	4	91.6	Very valid
4	Giving social responsibility	4	3	4	91.6	Very valid
5	Triggering interactive communication	4	3	4	91.6	Very valid
Average score					91	Very valid
Total average score					89	Very valid

Based on the validation of student worksheet based on the hands on minds on activity, it obtained average score of 89% with very valid category. This indicated that the developed student worksheet meet the requirements for developing worksheet. The

requirements to consider when developing hands on minds on worksheet are technical requirements, didactic requirements, construction requirements and conformity with hands on minds on criteria and communication skills training. Technical requirements included: the suitability of letters and posts in student worksheet, suitability of layout and content and suitability of student worksheet design. The technical requirement obtained validity score of 83% with very valid category. The component of construction requirement included: having a clear sentence structure, using the language that suits students maturity level, having enough space for students to write and draw the answers, and having an identity column to facilitate administration. The construction requirements obtained average score of 94% with very valid categories. The didactic requirements included: following an effective learning principle and having a variety of stimuli for students. The didactic requirements obtained average score of 87.3% with very valid categories. In addition to these three requirements, the student worksheet specified category were the suitability of hands on minds on and communication skill training. In the category of suitability with hands-on minds on activities there criteria were: involving students directly, enabling the learning to be more interactive and improving the ability to think critically. This category obtained average score of 88.8%. In the category of suitability with the training of communication skills, there criteria were: providing opportunities for students to work in groups, training interpersonal skills, giving personal and social responsibility and triggering interactive communication. This category obtained average score of 91%.

One of the criteria in hands on minds on activities which got very valid category are involving student directly. This criteria fits well with the sub material of dangers of psychotropic use and its effect towards health. The sub material needs to be taught in order to prevent the bad effect of psychotropic use in teenager (BNN, 2016). Youngsters in their age often read, see, and know directly, not only the prevention system, but also the illegal use and its consequences, through social media and mass media (NIDA, 2013). Equipping them with hands on minds activity will prevent them doing such an action. The integration between real life problem and school material will be more effective (Ates and Eryilmaz, 2011).

Based on the validation results it was also found that the criteria in technical and didactic requirements got lower average score than the criteria on the construction requirements, suitability with hands-on minds on activity requirements, and suitability with the training of communication skills requirements. In the criteria of the

suitability of the layout and content of worksheet obtained three different scores from three validators. This is due to less uniformity of font size and type with the content of student worksheet. While in the criteria of following the principle of effective learning it was caused by there are some activities that are less detailed in giving instructions. Thus, the uniformity of the size and type of font used needs to be done as well as the steps in the student worksheet that needs to be clarified so that the basic competence goals and the trained skill can be achieved.

CLOSING

Conclusion

The development of student worksheet based on hands on minds on activity in dangers of psychotropic use and its effect towards health sub material was declared feasible based on the results of expert validation. The developed hands on minds on worksheet got average score of 83% on technical requirements, 94% on construction requirements, and 87.3% on didactic requirements.

Suggestion

There should be similar research on other materials in the future so that students can experience a more tangible learning experience. In addition, time allocation arrangements in the worksheet fulfillment also need to be considered in order to optimize the content and material that needs to be conveyed.

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