

DEVELOPMENT OF BIOLOGY LEARNING TOOLS TO IMPROVE COMMUNICATION SKILLS REVIEWED FROM HUMANISTIC PHILOSOPHY

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ABSTRACT

This research is a developmental research because it develops learning tools to improve students' communication skills in terms of humanistic philosophy. The aim of this study is to create practicable learning instruments for training communication skills in the sense of a humanistic philosophy according to the criteria of validity, practicability and effectiveness. The development of learning devices was based on the four-D model. Research design using a pretest-posttest design with a group. Several insights were gained based on research data: the validity of learning tools developed in good categories; the readability of the developed student textbooks is appropriate for learning; the implementation of the RPP is well categorized; the dominant student activities are communicating information/opinions, asking questions and making presentations with a share of 18.88%; The obstacles encountered when using learning tools are that students are unfamiliar with communication skills, making some students less active participants in the learning process. Students respond positively to the learning process; Guided discovery learning can train students' communication skills; and student learning outcomes are 100% complete after participating in the teaching and learning process. The conclusion of this study is that guided discovery learning tools are feasible (valid, practical and effective) that are used to train students' communication skills.

Keywords: Communication Skills, Humanistic Philosophy

INTRODUCTION

Government efforts to improve the quality of education in Indonesia should be positively recognized and supported, including by introducing standardization of passing scores and improving the curriculum. The objectives of the 2013 curriculum itself include developing the area of attitudes, knowledge and skills. Based on these three aspects, the development of each educational unit is carried out in accordance with the Graduation Competency Standards.

Recognizing the importance of education in the nation's progress, the government seeks incremental and continuous improvements and updates, which are manifested in the implementation of the 2013 curriculum. The 2013 curriculum is a revision and advancement of the Education Unit Level Curriculum (KTSP). The theme of the 2013 curriculum is to produce people who are: productive, creative, innovative, affective; through integrated reinforcement of attitudes, skills and knowledge. In order to realize this, teachers need to professionally design effective and meaningful learning, organize learning, choose the right learning approach, define learning processes, establish competencies effectively and define success criteria (Mulyasa, 2013). The low quality of learning processes and outcomes also occurs in biology classes at Ibrahimi Junior High School. The latest data obtained by researchers is the final exam results for the first semester of class VIII, where the average class grade is 65 with classical instruction.

Photosynthesis and respiration materials are complex materials in biology learning at the junior high school level. In this material, students are required to know and understand the

concept of energy in photosynthesis and the concept of energy in respiration. Introduction and understanding can be obtained by students through investigation activities into the processes that occur in photosynthesis and respiration through observation and simple experiments. Science learning, especially biology material, is learning that emphasizes observing objects directly. In biology learning, the discovery guided learning model will be very helpful for students, because through this model the teacher guides students to discover their own concepts so as to produce products, be it in the form of reports or scientific works, scientific processes, or scientific attitudes

Based on the reality in the field, one of the alternative learning model innovations that are expected to provide interesting solutions and atmospheres, increase student interest in learning, student activities, discussions, and student communication skills in teaching is the guided discovery learning model. One of the learning methods that provide opportunities for students in learning activities at school is guided discovery learning. Thorsett (2002) Discovery Learning is a learning situation in which the principal content of what is to be learned is not given but must be independently discovered by the student. The learning method is designed to increase student activity by experiencing for themselves the process of discovering so that students can correctly understand the learning material. Carin (1993), stated that guided discovery learning is part of discovery learning

According to Citroboto (1982), the type of communication is divided into two areas, namely oral communication and written communication. Indicators of oral communication skills include answering questions, asking questions, expressing opinions on material discussed and responding to the opinions of other students in group or class discussions, and the ability to speak/to the outcomes of discussions in front of the class convey. Meanwhile, the indicator of written communication skills is to describe the problem situation and formulate the solution to the problem using images, concepts and mathematically. According to Widodo (Aidah, 2007), communication skills are skills that need more attention from teachers because students with these skills can dig up as much information as possible and convey information orally and in writing.

The communication skills observed in this study are oral communication skills, which include: asking questions, answering questions, contributing ideas/opinions, responding to the opinions of other students in group discussions and class discussions, being able to convey results of discussions and experiments before the Class. Research on oral communication skills is done because most students in schools tend to be passive, not daring to speak their mind and waiting for teacher's direction.

Learning communication skills that are checked with humanistic philosophy aims to create a pleasant learning atmosphere, as the humanistic philosophy here assumes that people have a life full of creativity and happiness that does not need the approval or support of any supernatural entity, where this entity does not exist at all. The ability to communicate with humanistic philosophy is essential to achieve learning success. Students' communication skills can communicate various things related to the study material both orally and in writing

The educational process from a humanistic point of view assumes that there are no subject-object positions between educators and learners, but that students are positioned on an equal footing (egalitarian) both as educated subjects and as subjects of education (learning

together). This means that the learner is not the object of the sufferer who must be forced to obey all the wishes of the educator. Humanistic education directly invites students to find solutions to problems they face under the guidance of educators (problem-solving pedagogy).

This realization will later give birth to an attitude of commitment to his fitrah; always seeking the truth, just, honest, well-mannered human beings full of love and compassion. The implementation of the humanist education concept emphasizes educators to be able to create a learning atmosphere that is far from elements of oppression, coercion, hegemony of thought, and attitudes that are far from universal human values. The need to prioritize love and compassion in interacting with students. Educators make students as partners in learning by trying to understand all the problems faced by their students, there is no superiority in the teaching and learning process, so as to create a conducive learning atmosphere and a pattern of multi-directional communication interaction.

Based on the description above, it is necessary to conduct a study entitled: "Development of Biology Learning Tools to Improve Communication Skills Reviewed From Humanistic Philosophy".

RESEARCH METHODS

This research is a kind of development research, namely the development of learning tools related to the 4D device development model (four-D model) modified if necessary. The planning for the development of learning tools in this study is as follows:

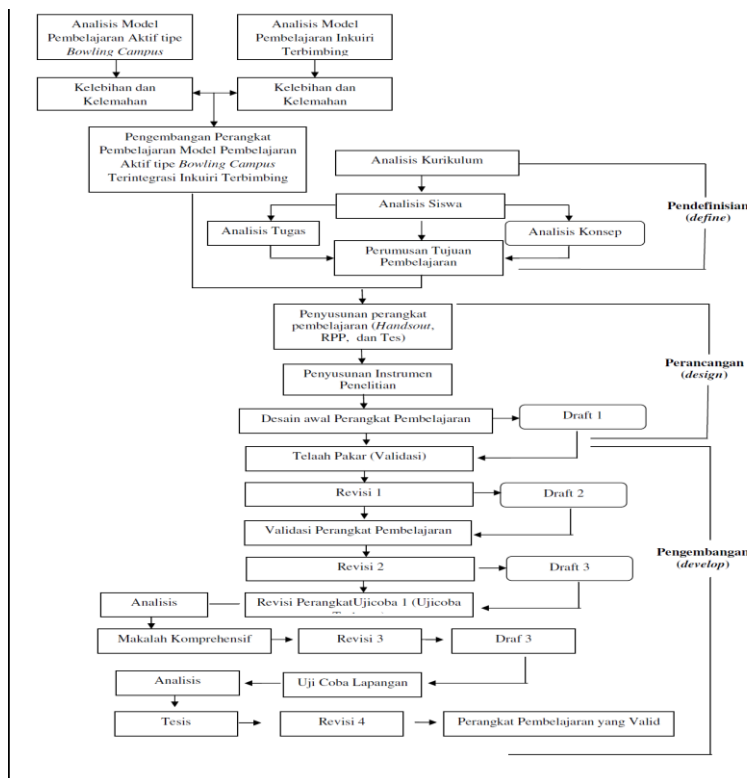


Figure 1. Device Development Stage Flowchart(Adapted from Ibrahim, 2002)

The trial of this study was conducted on 16 eighth grade students of the SMP Ibrahimy 1, Situbondo Regency using the one-group pretest-posttest design since this study used only one group with

no comparison group. This research tool is then validated by educational experts. The data collection technique in this study consists of observation, test and questionnaire. The material developed is photosynthetic and respiratory material.

RESULTS AND DISCUSSION

Based on the results of the experiment with learning devices carried out at the SMP Ibrahimy 1 in the form of device validation, device readability, learning implementation, student activities, student learning outcomes, student reactions, the following is described:

1. Validity of the logging device

The validation of the developed learning tools yielded the following results: the validity of the RPP in each assessed aspect achieved the validity of the RPP used met two categories, namely good and excellent. The validity of the teaching materials used corresponds to the valid category. The validity of the LKS, which includes aspects of instructions, substantive accuracy, procedures and questions, is deemed valid. The validity results of the learning outcomes test on the aspects of content validity as well as the language and spelling of the questions are valid and very valid.

2. Practicability of Learning

Tools The practicability of learning tools in this study will be assessed based on learning implementation, readability of teaching materials and LKS, and student responses.

3. Readability of Learning Tools

The readability of teaching materials and LKS in general is rated as good. Teaching materials are used as support or support for learning activities, the material contained in the teaching materials is declared appropriate and sufficient. Cain & Evans (1990) stated that if the material contained in the teaching material is invalid or there is a misunderstanding, the book cannot function as a learning source, learning resource and learning aid (enhancing the quality of learning).

The content of the LKS is consistent with the content of both the syllabus and the RPP, so that it really supports the achievement of basic competences. This is supported by Devi et.al (2009), the material in LKS supports the achievement of basic skills and the material can be found in books, journals, the internet and research journals. The activities contained in the LKS describe the actions or activities carried out by students. Such actions or activities are a means of training the skills of the science process. The determination of learning resources made is based on the learning objectives and the material that the student will master, or other statements on providing the student with learning experiences appropriate to achieve the learning objectives.

1. Implementation of Learning

The implementation of teaching and learning activities (KBM), the classroom atmosphere is based on the management of kbm and class management. The management of KBM includes introduction, core activities, and closing. Classroom management is related to the classroom atmosphere, namely the enthusiasm of students and teachers in participating in kbm. Managing kbm and atmosphere in accordance with the opinions of Djamarah and Zain (2006) in carrying out their duties as teachers is able to manage students and teaching facilities and control a pleasant atmosphere to achieve teaching goals. Guided discovery is a method that combines teacher-centered learning and student-centered learning (Carrin 1993). This merger by Piaget and

some constructivist advocates call it "mental readiness" to unify concepts i.e. connecting between the knowledge that students have previously the concept of knowledge they will build up and their ability to engage in discovery learning.

Carrin (1993) also said that the most important thing about a guided discovery approach is that it can help learners to have better retention and application in new situations, since learners' discovery makes learning easier to remember while understanding the concepts themselves. Find When concepts are communicated directly, learners quickly forget.

Eggen and Kauchak (2012) say that guided discovery is a learning approach in which teachers give students examples of specific topics and students shuffle to understand the topic. Student Activities

The results of observing the students' activities during the learning process at meetings 1 and 2 showed that the highest activity performed by the students was an activity, namely communicating information, including offering ideas/opinions, asking questions and making presentations, which was 18.88%. The average reliability coefficient using the NHT (Numbered Heads Together) type cooperative learning model on the instrument of observing student activity in learning exceeds 75%. According to Borich (1994), instruments are classified as good and can be used for observation activities if they exceed 75% reliability. This puts the instrument for observing student activity in the good category.

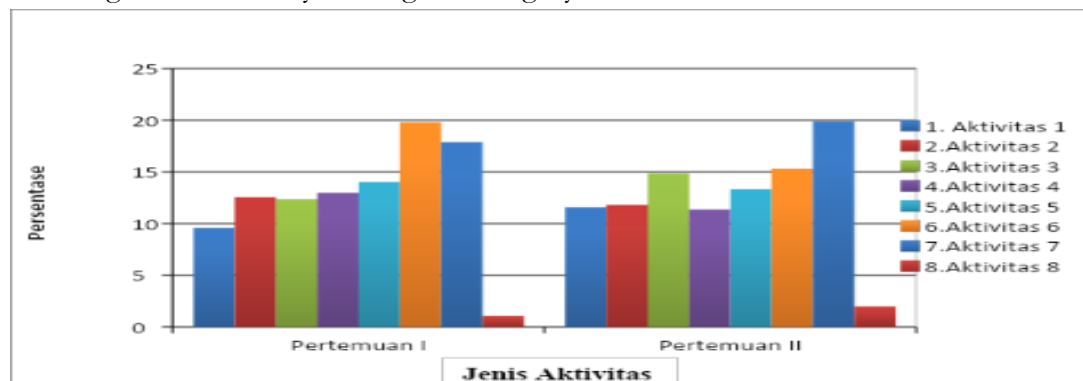


Figure 2 Student Activity Percentage Diagram

Aspects of student activity observed include: reading student books (searching for information about the material), listening to explanations/teacher guidance, working on LKS and discussing assignments, conducting experiments, observing such as instructions on LKS, taking notes, asking friends and teachers, communicating information, including offering ideas/opinions, asking questions and making presentations, and irrelevant behavior. Based on the bar chart on the percentage of student activity in KBM, it can be argued that the dominant percentage of activities performed by students in Experiment II is the communication of information, including contributing ideas/opinions, asking questions and presentations, which is 18.88%. Thus, the activities performed by the above-mentioned students show activities corresponding to cooperative learning.

This gives students the opportunity to practice communication by presenting the results of their discussions or experiments. In line with the 2013 Curriculum goals of making students independent people and not stopping learning, the learning process in rpp is designed to be

student-centred to develop motivation, curiosity, creativity, independence, learning skills and active participation to encourage the students (Permendikbud No. 81A). The average reliability value is 94.27%. According to Borich (1994), the instrument is declared good and can be used if its reliability is greater than 0.75 or 75%. Therefore, the student activity observation sheet can be expressed as a good category tool and used for observation activities.

2. Constraints in Learning

The obstacles encountered in using guided discovery learning model learning tools to train communication skills are relatively new and unfamiliar to students. In particular, the learning steps of the guided discovery learning model. So, to overcome this problem, researchers must have their own time to explain how the learning process uses the guided discovery learning model. Another obstacle is that not all students are active in the KBM process at the first meeting, especially when conducting experiments and doing LKS, some of them often annoy other friends. The solution is for the researcher to remind the students that there will be a formative test at the end of the learning and to ask questions or indicate the number of students who are less active to present the results of the practicum.

a) Effectiveness of Learning Tools

Learning Outcomes

This test is administered to determine mastery of concepts taught during study. The learning outcomes test used is a multiple-choice test with 20 questions including a knowledge test. The test is conducted before (pretest) and after (posttest) learning. The average first test score of 1.34 rose to 3.50. This is consistent with the statement of Slavin (1986) who concluded that cooperative techniques are superior to individual or competitive experiences in improving learning outcomes. Furthermore, Dewey describes learning as an individual active process, not something done for someone but something one does oneself, and believes that experience and inquiry are essential to meaningful learning.

Individually, for the final test of the learning outcomes test, all students have knowledge that exceeds the minimum school leaving criterion of 70. Consistent with Vygotsky's theory, students learn concepts well when they are in the zone of proximal development (proximal zone), that is, students can solve problems after getting help from others. The completeness of student learning outcomes is inseparable from the teacher's role in motivating students to create an effective learning environment. Piaget further explained that curiosity is their motivation to actively build their understanding of the environment in which they live (Ibrahim, 2005).

Students' Communication Skills

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Kennedy (2007), suggests that "Dabate as an active instructional strategy enhances learning particularly in the areas of mastering the content as well as developing critical thinking skills, oral communication skills, and empathy", which means that class discussion or presentation as an active learning strategy can improve learning, especially mastery of content and can improve critical thinking skills, oral communication skills, and a sense of empathy.

b) Student Response

Based on a descriptive analysis of student responses to KBM, it can be concluded that student responses to learning with the guided discovery learning model are very positive. This can be seen from the percentage obtained that the students feel satisfied with 93.3% and consider only 94.0% of the components of the learning activities, which include learned study materials, LKS, student textbooks, classroom atmosphere, teacher's demeanor and the way The Teacher introduces the material. The table also shows that students are 100% interested in participating in learning with the same model. Students' opinion of the Student Textbook is that the language is 88% easy to understand, the look of the book is 92% interesting, and the content of the book is 92% interesting. Most students enjoyed 94.2% and 88.9% of the learned collaborative and communication skills.

CONCLUSIONS AND SUGGESTIONS

1. Conclusion

Based on the analysis, discussion and the findings of the research results, it can be concluded that humanism pedagogy is an educational philosophy that puts humanity or the process of humanization of people in the foreground in the educational process. The theory of philosophical education of humanism is an elective philosophical theory, that is, a theory that any theory can use as long as the learning goals are met. In practice, the theory of humanism philosophy tends to make students think, give meaning to experience, and require active student participation in the learning process. One form of humanistic education is open education, an educational process that provides opportunities for students to move freely and choose their own learning activities. The teacher acts only as a moderator and guide. This is consistent with the process of learning tools with an actionable guided discovery learning model (valid, practical and effective) used to train communication skills and improve learning outcomes in photosynthetic and respiratory materials.

2. Suggestion

Based on the results of the study, it is recommended to pay attention to careful preparation and time management when teaching learning with the guided discovery learning model, since the application of teaching and learning activities (CBM) requires a relatively long time. This research needs to be developed for other subjects to train students' communication skills.

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