ISBN: 978-602-1180-91-4

WORKSHEET DEVELOPMENT IN ANALYSIS OF LIFE SKILL ORGANIZED SCIENCE LEARNING NEEDS IN VOCATIONAL SCHOOL

Khamdun [1]✉, Suparmi [2], Maridi [3], Ani Rusilowati [4]

Affiliations
[1)]Universitas Muria Kudus
[2,3)] Universitas Sebelas Maret Surakarta
[4)] Universitas Negeri Semarang

Abstract. Learning in schools tends to be very theoretical and not related to the child's environment. As a result students are unable to apply what is learned in school to solve life problems faced in everyday life. This problem can be overcome by providing education that is integrated in life skills that can provide students with the skills to be able to independently navigate the world of work when they are forced to not continue their education to the next level. The research design that will be used is the type of research needs assessment. While the approach used in this needs assessment study is a quantitative approach. Data collection is done by questionnaire technique. The data analysis technique uses descriptive statistics, with percentage Vocational techniques. The results of the study show that the average understanding of science teachers about the concept and position of life skill-oriented learning through the development of worksheets for science learning is quite understandable but the distribution is not evenly distributed. This is not only influenced by the field of expertise, which is also the task of addressing life skills in the learning context. Whereas in the needs assessment, there is a tendency that the application of life skill-oriented learning through the development of worksheets for science learning in vocational schools is quite necessary but not significant. This is related to the competence of using life skill oriented learning through the development of worksheets for science learning, relevance to the field of study and motivation in using life skill oriented learning through the development of worksheets for science learning in vocational schools in improving the quality and meaningfull of learning.

Keywords: life skills, worksheet, science

INTRODUCTION

Today graduates of Vocational Schools (SMK) who are unable to continue their education to a higher level are many unemployed, both in rural and urban areas, this is due to the difficulty of getting a job because of their lack of skills because school learning tends to very theoretical and not related to the child's environment. As a result students are unable to apply what is learned in school to solve life problems faced in everyday life. Education seems to deprive students of the environment, so that it becomes foreign in its own community.

This problem can be overcome by providing education that is integrated in life skills that can provide students with

the skills to be able to independently navigate the work world when the person concerned is forced to not continue their education to the next level (Ministry of National Education, 2003). This life skill oriented learning can be applied to all subjects including science subjects. is a subject related to how to find out about natural phenomena systematically, so that science is not only mastery of a collection of knowledge in the form of facts or principles but also a process of discovery. Ari Widodo (in Rustaman, 2003) says that most teachers and prospective teacher students state that science is the science of nature and science is a collection of facts, knowledge,andin formation.

The education level of the Vocational High School (SMK) is deemed appropriate to implement this life skill-oriented learning. This is because vocational students receive a lot of theoretical learning so that vocational school graduates are more likely to lack more life skills, by accepting practical learning, which is very useful in real life. In addition, the level of vocational education is the right time to provide life skill provision because it is the final level of education for students who are unable to continue to higher levels of education either because of the economic conditions of their parents or because of the students' willingness.

Life skills in learning include personal skills, social skills, academic skills and vocational skills. Thus the implications of the application of life skill-oriented learning in science education in vocational schools, namely aiming at the development of teaching and learning activities that make students able to demonstrate knowledge and skills according to competency standards appliedbyintegratinglifeskills.

Based on the learning problems above, it is necessary to have a tool designed to equip students with life skills that integratively integrate generic skills (skills possessed by students to learn more and enable them to learn the next skills) and specific skills (skills that are owned by someone in a more specialized field) in order to overcome life's problems. Teaching and learning activities supported by worksheet can support the teaching and learning process to become more directed and facilitate understanding of the subject matter obtained (Azhar, 1993), so that the expected competencies are achieved. Learning tools that are suitable for supporting science practice activities (practicum) are learning devices equipped with Student Activity Sheets (Worksheet). Worksheet is sheets containing assignments that must be done by students in the form of instructions, steps to complete at ask (Majid,2007).

METHOD

The research design that will be used is needs assessment research. While the approach used in this needs assessment study is a quantitative approach.

Data collection is done by questionnaire technique, where the data collection tools (instruments) use questionnaires arranged in a structured manner. Data collection was emphasized in two groups of information, namely about: (a) understanding of science teachers about concepts and position of life skill-oriented learning through developing student activity sheets for science learning in vocational schools, (b) needs, urgency and feasibility through developing activity sheets students for science learning in vocational schools.

Data analysis techniques used descriptive statistics, with percentage techniques. Whereas to see the tendency of variable measurement results, the ideal average is used as a comparison norm which is divided into five categories as follows:

$X \geq M + 1.5$ SD Very Understand /It is necessary
$M + 0.5$ SD$\leq X < M + 1.5$ SD Understand /Need
$M - 0.5$ SD $\leq X < M + 0.5$ SD Just Understand /Need enough
$M - 1.5$ SD $\leq X < M - 0.5$ SD Less Understanding /Need less
$X < M - 1.5$ SD Don't Understand /No need

Determination of the distance of 1.5 SD for this category is based on a normal distribution curve that is theoretically spaced 6 standard deviations (6SD) (Sutrisno, 1986). To, calculate the ideal mean (M) and ideal standard deviation (SD), use the formula:
M = 1/2 (highest ideal value + lowest ideal value)
SD = 1/6 (highest ideal value - lowest ideal value).

RESULT AND DISSCUSSION

The research findings generated in the needs assessment were used as the basis for planning, implementation and evaluation of life skill-oriented learning programs through the development of student activity sheets for science learning in vocational schools.

Especially as a form of support for improving the quality of learning and the quality of students. In addition, comprehensively that this research is also part of a strategic step in achieving the quality and quality of education by optimizing the use of worksheets in the context of learning in the classroom and outside of school. The questionnaire distributed in this study was in accordance with the data obtained as many as 22 respondents from the sample of science teachers at Kudus 2 Vocational School in Central Java. The following are presented research data with regard to understanding concepts and the position of life skill-oriented learning through the development of student activity sheets for science learning in vocational schools.

1) **Understanding the Concepts and Position of Life Skills-Oriented Learning Through the Development of Worksheet for Science Learning in Vocational Schools**

Based on the data collected, data were obtained about understanding concepts and the position of life skill-oriented learning through the development of student activity sheets for science learning in SMK as follows: lowest score 6 and highest 14 with an average of 9.35, and standard deviation of 1.43. To find out the trends used the calculation of the percentage of tendencies and the comparison criteria by using the ideal mean score and the ideal standard deviation. The calculation results show that the respondent's understanding of the concept and position of life skill oriented learning through the development of student activity sheets for science learning in vocational schools, namely in the very well-understood category 20.45%, understanding categories 27.27%, understandable categories 31.82%, under-understood category 18.18%, and non-understanding category 2.28%. When viewed from the mean or mean, that the respondent's understanding of the concept and position of life skill-oriented learning through the development of student activity sheets for science learning in vocational schools is in the fairly understand category. More clearly the description of the percentage of understanding tendencies can be seen in the following bar tables and graphs.

Table 2. Trends in Understanding Variables of Concepts and Position of Life Skills Oriented Learning through Development of Worksheet for Science Learning in Vocational Schools

F%	Category	Score
10.99 above	Very Understand	4. 20.45
9.67 - 10.98	Understand	6 27.27
8,34 - 9,66	Sufficient Understanding	7 31,82
7.01 - 8.33	Understanding	4 18.18
8.32 down	Not Understanding	1 2.28
Amount of 22		100Figure 1. Variable Trend Percentage Grap 2. Life Skills Oriented Learning Needs Through Worksheet Development for Science Study in Vocational Schools

Based on the data collected, data were obtained about the need for Life Skills Oriented Learning Through Worksheet Development for Science Learning in Vocational Schools as follows: lowest score 6 and highest 19 with an average of 11.29, and standard deviation of 1.83. To find out the trends used the calculation of the percentage of tendencies and the comparison criteria as described earlier by using the ideal mean score and the ideal standard deviation. The calculation results show that the need for life skill oriented learning through the development of worksheets for science learning in vocational schools, namely in the very necessary category through the development of worksheets for learning science in vocational schools, from respondents included in the category is quite necessary. More clearly the description of the percentage of trends in this need can be seen in the following bar tables and graphs.

Tabe 3. Tendency of Variables in the Application of Life Skills Learning through the Development of Worksheet for Science Learning in Vocational Schools

F%	Category	Score
10,99 and above	Very Need	6 25
9.67 - 10.98	Need	3, 13.65
8,34 - 9,66	Sufficient Require	4 20.45
7.01 - 8.33	Less Required	4 20.45
8.32 downward	No Need	4. 20.45

Amount of 22 100Figure 1. Percentage of Variable Needs Graph

Emphasis on this needs assessment, which begins with a general presentation on the understanding of the Concept and Position of Life Skills Oriented Learning through the Development of Worksheet for Science Learning in High School, linking to the level of individual needs in: (1) improving competence in skill performance using instructional materials , (2) the usefulness of personal skills that indicate its relevance, and (3) the desire (motivation) of individuals to improve learning output. Based on the data analysis that has been described, both with regard to understanding the concept and position of life skill oriented learning through the development of worksheets for science learning in vocational schools as well as the level of life skill oriented learning application needs through the development of worksheets for science learning in vocational schools among science teachers in SMK 2 Kudus Central Java, in general, illustrates the existence of harmony in which the level of understanding of moderately / moderately variable variables has implications for the level of need which is also only included in the category of sufficiency. Implicitly, it can be interpreted that life skill oriented learning through the development of worksheets for learning science as a form of learning development has not yet been addressed positively to be utilized as much as possible as resources in improving the quality of education and teaching. Application of Learning Life skill oriented through the development of worksheets for science learning in vocational schools, in principle, is a unique support and opportunity for learners and instructors especially in interactions with others who might be located elsewhere. With the cooperative learning approach has a high effectiveness in directing to a complex system. The application of life skill oriented learning through the development of worksheets for science learning in vocational schools can facilitate the activity-centered learning process through the assessment of learners' understanding of interactive and workable models. However, if we use it well can improve learning outcomes, then we seriously explore the kinds of specific activities of the learner, it will improve understanding of complex systems. This will not happen without careful planning and management and continues to seriously investigate when, why and how this learning strategy works and is used in the context of learning, both in the classroom and outside the classroom.

In this context, the use and management of life skill oriented learning through the development of worksheets for science learning in vocational schools is a separate competence, where science teachers need to understand and respond positively that this competence is a necessity especially in an era where job competition is getting heavier . For this reason, a real action is needed in the development of the professionalism of empowering Life Skills Learning through the Development of Worksheet for Science Learning in Vocational Schools. Many strategies can be developed, where the aim is to plan strategies that are directly related to the management of life skill-oriented learning through the development of worksheets for science learning in Vocational School as resources, in the classroom or outside the classroom, so that it will directly improve the quality of meaningful learning for students and become a feed back for science teachers in the framework of evaluating the learning that is carried out.

CONCLUTION

1. Understanding of science teachers who spread evenly from the level of the very understanding to the level of lack of understanding, shows the diversity of knowledge possessed about the concept and position of Life Skills Oriented Learning (Development of Worksheet for Science Learning in High School).
2. This of course can be influenced by various factors, one of which is related to the field of study or field of expertise which becomes his daily tasks. Other factors such as positive / negative attitudes towards the application of life skill oriented learning through the development of worksheets for learning science in vocational schools are also determinants of the understanding of science teachers regarding these learning strategies
3. Judging from the cumulative needs assessment trend, the average science

teachers in the Kudus 2 Vocational High School in Central Java see the application of Life Skills-Oriented Learning through the Development of Worksheet for Science Learning in Vocational Schools quite necessary but not too important and significant in learning, seen from review of competencies in using, relevance and field of study, as well as motivation to use them as resources in improving the quality and meaningfulness of learning.

REFERENCES

Meltler, Craig A. 2011. Action Research Develops Schools and Empowers Teachers. Yogyakarta: Student Library

Merrilyn Goos. 2004. Learning mathematics in a classroom community of inquiry. Journal for Research in Mathematics Education, 35 (4), 258-291.

Anwar (2006). Life Skills Education Education. Bandung: Alfabeta

Ministry of National Education. 2004. Guidelines for Preparing Student Activity Sheets and High School Learning Scenarios.

Ibrahim. (2003). Development of Learning Devices. Jakarta: Dirjen Dikdasmen, Depdiknas.

Masturi. 2015. Development of HOTS Oriented Problem Posing Learning Learning Devices in Class IX Conformity Materials. Journal of Pancaran Volume 4 Number 1 pp. 11-32 February Journal Information Bulletin No. 9.

Mulyasa. (2006). Education Unit Level Curriculum. Bandung: PT Remaja Rosdakarya.

Rustaman, Nuryani. (2003). Biology Teaching and Learning Strategies. Jakarta: Jica

Surono. (2005). The Integration of Life Skills in Learning Physics Highlights Pressure at SMPN 34 Surabaya, Surabaya, Indonesia, Surabaya State University