

The Relationship between Local Wisdom-Based Learning Experience and Gender-Based Student Problem Solving Skills

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Abstract-The learning experience of students at the tertiary level still tends to prioritize learning outcomes rather than the learning process. Likewise, the integration of culture in learning is still very limited so that the impact on the quality of the learning process is not maximized. This study aims to analyze the relationship between learning experiences based on local wisdom and students' problem-solving skills based on gender. The number of samples was 70 students (45 female and 25 male) who were determined by cluster random sampling technique. The type of research used is a type of survey research. Research data analysis techniques using linear regression test with a significance level of .05. Based on the results of the research, it can be concluded that; 1) students' problem solving skills based on gender are higher than learning experiences based on local wisdom, and 2) there is a significant relationship between learning experiences based on local wisdom and students' problem solving skills based on gender. Thus, the implementation of local wisdom-based learning has strong relevance to student problem-solving skills so it really needs to be developed both in planning and implementing activities in the learning process.

Index Terms- Learning experiences based on local wisdom, problem solving skills, gender differences.

INTRODUCTION

Learning objectives in tertiary institutions currently refer to the development of student soft skills which are a reference for achieving learning objectives including problem solving skills. Problem solving skills as one of the characteristics of the achievement of learning in tertiary institutions are reflected in being able to be developed through learning processes and learning experiences that are oriented towards solving problems during learning activities. The learning process that is oriented towards solving problems determines the achievement of learning objectives that do not only focus on mastery of the material, but also the development of students' soft skills and hard skills as a benchmark for achieving learning objectives (Dewi et al., 2017; Erozkan, 2013; Fadli & Irwanto, 2020). However, referring to the results of previous research proving that learning processes and activities in tertiary institutions still tend to prioritize understanding of the material compared to developing student problem-solving skills or overriding other soft skills abilities (Aka Ince et al., 2010; Kladchuen & Srisomphan, 2021; Wahyudiati, 2021).

The learning process that is carried out greatly determines whether or not the student learning experience develops optimally so that it is able to produce quality graduates to be able to compete in the world of work (Dewi et al., 2017; Fadli, 2019; Wahyudiati, 2021). Through the application of learning approaches or models that refer to problem-solving processes or activities, students will be able to develop problem-solving skills as one of the learning objectives to be achieved in tertiary institutions (Fadli, 2019; Wahyudiati, 2021). In addition, efforts that can be made to make it easier for students to understand concepts and develop students' problem solving abilities can be done through integrating learning activities with local wisdom owned by students so that they can make learning more meaningful (Armağan et al., 2009; Osman, 2012; Simanjuntak et al., 2021). Integrating learning based on local wisdom owned by students is an implementation of a constructivist and contextual learning approach that refers to students' daily experiences. The application of a learning approach based on local wisdom in learning is able to train students to develop problem-solving skills and will train students' soft skills abilities to be more optimal so that learning objectives can be achieved optimally (Sutrisno et al., 2020; Wahyudiati & Ningrat, 2019; Yuliana et al., 2021).

Problem solving ability is defined as an individual's ability to solve problems logically and systematically through the scientific method. Students' problem-solving skills can be developed through learning activities referring to the application of the scientific method starting from problem analysis, hypothesis formulation, and being able to solve problems by carrying out the stages that characterize the scientific method (Armağan et al., 2009; Valdez & Bungihan, 2019; Wahyudiati, 2021). In addition, the ability of problem solving skills can be stimulated through learning activities that are oriented towards scientific investigation activities and presenting the results of solving problems, as well as being able to prove hypotheses by utilizing local wisdom owned by students which is integrated with learning materials (Iyamuremye et al., 2022; Rahmawati, 2018; Sutrisno et al., 2020; Wahyudiati et al., 2020; Wahyudiati & Qurniati, 2022; Yuliana et al., 2021).

The application of local wisdom-based learning is an alternative that can be applied to improve students' problem-solving skills in tertiary institutions. However, the results of previous research reveal the fact that the learning process in tertiary institutions is more focused on achieving maximum cognitive learning outcomes and tends to override students' problem solving skills as a learning

goal (Child & Shaw, 2016; Smith, 2012; Sutrisno et al., 2020). In addition, the implementation of local wisdom-based learning approaches in tertiary institutions is still very limited which has an impact on low student learning motivation because the learning experienced is felt to be less interesting and less meaningful (Fadli & Irwanto, 2020; Sumardi & Wahyudiati, 2021; Sutrisno et al., 2020; Wahyudiati, 2022). Therefore, it is very urgent and urgent to conduct research at the tertiary level which aims to analyze the relationship between local wisdom-based learning experiences and students' problem-solving skills from a gender perspective.

I. METHOD

The type of research used in this study is a type of survey research with a quantitative approach (Creswell, 2000). The selection of this type of survey research aims to determine whether or not there is a significant relationship between learning experiences based on local wisdom and students' problem-solving skills based on gender. The research population was all students of the Mataram

II. FINDINGS & DISCUSSIONS

Referring to the research objective, which is to analyze the relationship between learning experiences based on local wisdom and students' problem solving skills based on gender, before carrying out the regression test, the average score and standard deviation obtained by students are determined first. Based on the average score obtained, it aims to determine the level of problem-solving skills and local wisdom-based learning experiences of students based on gender. Based on the results of the data analysis that has been carried out, it shows that students' problem solving skills are higher than the local wisdom-based learning experience with a mean value of 86.30, while the average value of student problem solving skills is 81.85 as shown in Table 1.

Table 1. The mean value of learning experiences based on local wisdom and student problem solving skills based on gender

Aspects measured	N	Mean	SD
culture-based learning experiences based on local wisdom	70	86.30	4.90
Problem solving skills	70	81.85	4.75

Further data analysis used a linear regression test. Based on the results of data analysis, it shows that there is a significant relationship between learning experience based on local wisdom and students' problem solving skills based on gender (Table 2) so that the alternative hypothesis is accepted.

Table 2. Regression Test Results of learning experiences based on local wisdom and student problem solving skills based on gender

Test	df	F	Sig
Regression	2	.853	.000

The results of the research data analysis showed that the average score of students' local wisdom-based learning experiences based on gender (86.30) tended to be higher than the average score of students' problem-solving skills abilities based on

State Islamic University with a total sample of 70 students with details of 45 female students and 25 male students who were determined by cluster random sampling technique.

The research data collection technique used a questionnaire accompanied by qualitative data collection through interviews to support the results of the questionnaire that was distributed. The instrument for measuring problem solving skills uses four indicators, namely 1) understanding the problem, 2) planning a settlement, 3) solving the problem according to plan, and 4) re-checking all steps. The local wisdom-based learning experience instruments used in the study were developed by researchers who had gone through validity and reliability tests with a Cronbach alpha coefficient value of $\alpha = .89 > .70$ which means that the local wisdom-based learning experience instruments used met the requirements. validity and reliability. As for the analysis of research data using a linear regression test to determine the relationship between learning experiences based on local wisdom and students' problem solving skills (Creswell, 2000).

gender (81.85). The ability of problem solving skills measured in this study uses four indicators, namely; 1) understand the problem, 2) plan a solution, 3) solve the problem according to plan, and 4) re-check all steps. Referring to the average value of student problem solving skills with an average value of 86.30 indicating that the ability to understand problems, plan solutions, and solve problems according to plan is due to the learning process carried out in tertiary institutions using learning models that refer to the contextual so as to make learning more meaningful (Dewi et al., 2017; Fadli & Irwanto, 2020; Irwanto et al., 2018; Wahyudiati, 2021). Improving student problem-solving skills is very relevant to the results of previous research which proves that active involvement of students in learning activities to solve problems that form the basis of learning can develop students' problem-solving skills so that they have a positive impact on their learning outcomes (Erozkan, 2013; Fadli, 2019; Irwanto et al., 2018; Wahyudiati, 2021).

The development of student problem solving skills which includes the ability to understand problems, plan solutions, and solve problems according to plan is not only influenced by the application of learning models that refer to a contextual approach, but is also influenced by student learning experiences. Learning experiences that are developed with reference to problem solving are very effective for increasing the active involvement of students to construct knowledge and experiences based on scientific methods so that students become more motivated to learn and make it easier to understand concepts (Fadli & Acim, 2007; Tarbiyatuna & Wahyudiati, 2022; Wahyudiati et al., 2019; Wahyudiati & Qurniati, 2022; Yustina et al., 2022). In addition, the results of previous research also showed that the problem-solving skills of female students tended to be higher than that of male students because female students had higher interest, determination, curiosity than male students (Wahyudiati, 2021). The research findings are supported by the following interview results:

According to Ad (lecturer) "female students have higher motivation in carrying out problem-solving-based activities and in carrying out lecture assignments so that female students' problem-solving skills are better than male students".

Bq (female) believes "I am very motivated in carrying out activities based on problem solving, moreover it can be developed

with activities based on scientific methods so that learning becomes more meaningful".

Qa (male) further stated "The process of solving problems in learning activities carried out in class makes me able to think logically, but I am more interested in carrying out learning activities based on group activities".

The results of other studies also prove that there is a significant relationship between learning experiences based on local wisdom and students' problem solving skills based on gender. Implementation of local wisdom-based learning in learning activities can be done through integrating lecture material with local wisdom that students have because they have often experienced it themselves in everyday life (Sumardi & Wahyudiati, 2021, 2022b, 2022a; Wahyudiati et al., 2020; Wahyudiati & Fitriani, 2021). There is a significant relationship between learning experiences based on local wisdom and students' problem-solving skills because lecturers apply learning models based on contextual approaches and involve students to be actively involved independently in constructing knowledge and developing problem-solving skills, analytical skills, and prove the hypothesis so that it has an impact on increasing student problem solving skills. Various other relevant research results also show that a learning environment based on local wisdom can develop more factual and meaningful learning experiences because it is very relevant to students' daily experiences which makes students more motivated to be actively involved in learning activities (Armağan et al., 2009; Irwanto et al., 2018; Zhu, 2007).

Learning experiences that refer to local wisdom can be an alternative in developing student problem solving skills to achieve the expected learning objectives. This condition is also proven by the results of research proving that problem-solving skills and local wisdom-based learning experiences can improve analytical skills, formulate hypotheses, be skilled in planning solutions so that they have a positive impact on increasing student academic achievement (Armağan et al., 2009; Fadli, 2019; Fadli & Irwanto, 2020; Mergendoller et al., 2006; Simanjuntak et al., 2021; Wahyudiati, 2021). Thus, it is very important to apply a learning approach that prioritizes scientific method-based activities combined with local wisdom so as to create a more enjoyable and meaningful learning experience so that lecturers are expected to apply more approaches or learning models combined with everyday life experiences. students' day which also reflects their local wisdom.

III. CONCLUSION

Based on the results of the study it can be concluded: 1) gender-based student problem-solving skills are higher than local wisdom-based learning experiences, and 2) there is a significant relationship between local wisdom-based learning experiences and student problem-solving skills based on gender. Based on the results of the interviews also support research findings which prove that female students are more interested in carrying out problem-solving-based learning activities compared to male students. Thus, the implementation of local wisdom-based learning has strong relevance to student problem-solving skills so it really needs to be developed both in planning and implementing activities in the learning process.

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