Environmental Competence Analysis of Junior High School in the Subjects of Social Knowledge Science in Makassar City, Sulawesi Selatan, Indonesia

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Abstract: *Learning social science (IPS) has not fully integrated the concept of sustainability or supports it in its learning material. Learning Model Development of Social Studies Learning must be held to foster an attitude of caring for the environment in students and also supervise the integration of synergies between the mastery of environmental-based social studies material. So the purpose of this study was to identify students' environmental competencies in social studies subjects in junior high school as a first step in developing an environmental learning model. The type of research used is Research & Development (R&D) which aims to design environmental learning models in junior high schools. The development of this learning model refers to five model development namely, (1) ASSURE Model, (2) IDI Model, (3) Dick & Carey Model, (4) Borg and Gall Model, (5) Plomp Model. The results of the modification of the model produce the following stages: (1) Define Learning (Requirement Analysis), (2) Select instructional methods, media and materials (Design), (3) Developt Instructional Materials Learning (Development), (4) Main Product Testing (Product Testing), (5) Application Product Learning (Implementation / Dissimination). However, based on the research objectives, this research only refers to the first stage, which is to identify the competence of the integration environment of social studies subjects. As for the location of the research in SMP Negeri 3 Makassar, SMP Makassar Raya, and SMP Negeri 40 Makassar. The conclusion obtained is that the environmental competence of students in SMP Negeri 3 Makassar, SMP Makassar Raya, and SMP Negeri 40 Makassar is still relatively low. Although there are some competencies that have increased, namely in the material of human interaction and the environment and the use of natural resources. While three other environmental materials have a low value below 0.5, namely environmentally friendly technology, blue economic efforts and agricultural efforts.*
Keywords: environment, learning models, Learning social science (IPS)

I. Introduction

Environmental issues are systemic, complex, and have a wide scope, material or issues raised in the implementation of environmental education activities are also very diverse (Fortuin and Van Koppen 2016). In accordance with the national agreement on Sustainable Development established in the Indonesian Summit on Sustainable Development (ISSD) in Yogyakarta in 2004, 3 (three) pillars of sustainable development, namely economic, social and environmental, have been established (Antolín-López, Delgado-Ceballos, and Montiel 2016; Thoday et al. 2018). Seeing the environmental problems that occur and the capacity of human resources that utilize and manage the environment, the Environmental Education program at the level of primary and secondary education needs to be continually developed to provide students with understanding, awareness and guidance in behaving and behaving in a caring and cultured environment.

The main function of a teacher is not only as a center for learning resources for students, but also more towards the facilitator who facilitates various things that students need to learn. Another important thing is how the teacher can create an atmosphere of learning that builds and enhances the spirit of creativity of students so that students can achieve their learning goals with great satisfaction (Papastavrou et al. 2016). One problem in education is the lack of use of learning models that attract students' learning interest to support teaching and learning activities including Social Sciences subjects. Because of this, special learning models are needed that can improve the effectiveness of social learning, especially regarding social matters (Akers 2017). Among the existing learning models, learning models that are considered effective for learning Social Sciences in accordance with the 2013 curriculum are the Problem Based instruction, Inquiry, Discovery Learning and Project Based Learning learning models(Bachtiar et al. 2018).

The learning model is considered effective because it prioritizes active students and high-level thinking, is factual, brave to express opinions so that it is expected to be able to increase environmental knowledge and foster awareness and behavior of students in maintaining environmental hygiene especially the

school environment. The use of learning models that are suitable with environmental-based social science subjects that have not been widely applied in schools so that students lack understanding of the environment. In addition, school management also lacks support especially in the provision of funds in the implementation of this program such as teacher books, learning media which causes a lack of understanding of students towards environmental education (Simonson, Zvacek, and Smaldino 2019). Therefore it is important to develop a learning model that is expected to be able to increase knowledge about the environment, shape the attitudes and behaviors of students that are rational and responsible and motivated in preserving the school environment in particular and the social and natural environment in general(Ernst, Blood, and Beery 2017).

The purpose of this research was to identify students' environmental competencies in social studies subjects in junior high school. The urgency of the research so that students can understand the importance of environmental management especially the school environment and are motivated to always maintain the cleanliness and beauty of the school environment..

II. Method

The type of research used is Research & Development (R&D) which aims to design environmental learning models in junior high schools. The development of this learning model refers to the five development of the old learning model, namely, (1) ASSURE Model (Indonesia 2019), (2) IDI Model(Utami 2017), (3) Dick & Carey Model(Friedman and Schneider 2018), (4) Borg and Gall Model(Friedman and Schneider 2018), (5) Plomp Model(Kollmeier et al. 2016). Of the five models mentioned above were modified to form a new learning model with the following stages: (1) Define Learning (Needs Analysis), (2) Select instructional methods, media and materials (Design), (3) Develept Instructional Materials Learning (Development), (4) Main Product Testing (Product Trial), (5) Application Product Learning (Implementation / Dissimination). However, based on the purpose of this study only refers to the first stage, namely to identify the environmental competency integration of social studies subjects. The research sites are in SMP 03 Makassar, SMP Makassar Raya and SMP 40 Makassar. One of the reasons is because the three schools are Adiwiyata schools, which are environment based schools. However, according to Sugiyono (2016) in terms of R&D philosophy there is no specificity in choosing research locations. Types of data in the development of learning models are qualitative data and quantitative data. Data collection for identification of social studies learning using descriptive statistical analysis, data collection is done through observations, interviews and documentation of learning outcomes in the Junior High School. Respondents needed are students and subject teachers. The aspects that will be examined are (1) Learning Implementation, (2) Interviewing students to find out current environmental knowledge and attitudes, and (3) reviewing learning material that has been carried out. Furthermore, the data collected will be analyzed to develop a design model for the integration of environmental learning subjects in social science subjects.

III. Result and Discussion

The adiwiyata program in Makassar, especially in junior high schools, has been widely applied in the daily activities of school residents. However, based on the results of interviews with the students of SMP 03 Makassar, SMP Makassar Raya and SMP 40 Makassar about social science subjects, the analysis of the problems obtained is that: (1) Some students have less awareness of the function of the trash can while still littering, especially in in class. (2) Every morning the movement to clean the class starts before class time, but some students do not care. Students prefer to hang out or just see their friends work. (3) When mass mutual cooperation activities are carried out, some students participate less in mutual cooperation activities and even tend to be happy because they can play outside the classroom and (4) School parks which must be properly preserved and maintained their beauty. However, a small portion of students have low awareness in maintaining and caring for these plants.

The results of observations of learning in the classroom as described above, it can be concluded that: (1) the learning method is still centered on the teacher, (2) the learning process is less attractive and innovative so that students quickly feel bored, (3) in the implementation of the learning process the value of caring for the environment is less instilled in students.

Relation to the students' initial competency regarding environment-based learning can be seen in table 1 the average value of the results of the student's initial competency questionnaire at three junior high schools in Makassar.

Table 1. Average Scores of Students' Initial Competency Questionnaire Results

Initial competency of students	Average competency score		
	SMPN 03	SMPN 40	SMP Makassar Raya
Demand and supply using environmentally friendly technology for economic actors.	0.57	0.53	0.40
Demand and supply by using natural resources economically for economic actors.	0.80	0.81	0.73
Interaction between humans and their environment on economic, social, cultural activities in Indonesia and ASEAN.	0.92	0.95	0.80
Efforts to develop maritime economy (blue economy)	0.30	0.22	0.05
Efforts to develop agriculture (increase the system of environmentally friendly crop cultivation and use of eco-friendly /organic fertilizers).	0.46	0.45	0.35

Source: 2018 research observations data

Based on observations and questionnaires on 120 junior high school students in Makassar City, SMPN 03 Makassar has 2 (two) environmental-based social studies competencies with an average value of <0.5, is material for maritime economic development (blue economy) around 0.30 , and materials Agricultural development efforts (improvement of environmentally friendly crop cultivation systems and use of co-friendly / organic fertilizers) around 0.46. At SMPN 40 Makassar has 2 (two) competencies of environmental-based social studies subjects with an average value of <0.5 namely the material for maritime economic development efforts (blue economy) around 0.22 and material for agricultural development efforts (improvement of environmentally friendly crop cultivation systems and use of eco-friendly / organic fertilizers)) around 0.45. While SMP Makassar Raya has 3 (three) environmental-based social studies competencies with an average value of <0.5 namely the demand and supply material using environmentally friendly technology for economic actors around 0.40, the material for maritime economic development efforts (blue economy) around 0.05 and materials Efforts to develop agriculture (increase the system of environmentally friendly crop cultivation and the use of co-friendly / organic fertilizers) around 0.35.

The material that has a high average value is the material (1) The interaction between humans and their environment on economic, social, cultural activities in Indonesia and ASEAN 0.92 for students of SMPN 03 Makassar, 0.95 in SMPN 40 Makassar students and 0.80 in SMP Makassar Raya students. While material (2) Demand and supply with the use of natural resources economically for economic actors have an average value of 0.80 for SMPN 03 Makassar students, 0.81 for SMPN 40 Makassar students and 0.73 for SMP Makassar Raya students.
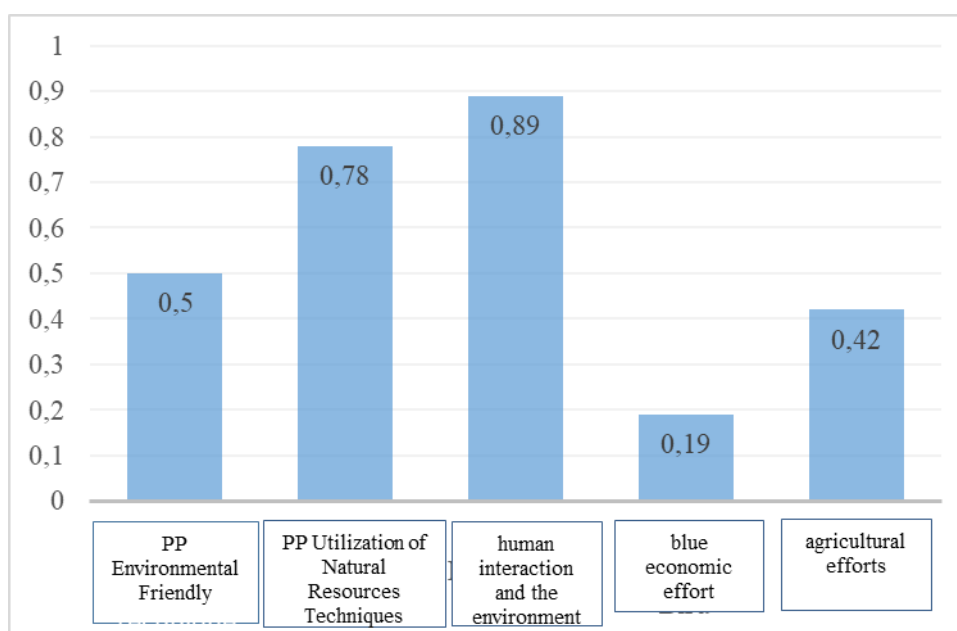
Source: 2018 research observations data

Figure 4.1 Graphic Initial competence of junior high school students in Makassar City

The results of the graph analysis of all students from the three junior high schools can be concluded that; initial competence of junior high school students is still relatively low, especially in the ability of

environmentally friendly technology, blue economy and agriculture (eco-friendly fertilizer). So the need for a development of learning that integrates environmental education with social science subjects.

IV. Conclusion

The conclusions obtained are that the environmental competence of students in SMP 03 Makassar, SMP Makassar Raya and SMP 40 Makassar is still relatively low. Although there are some competencies that have increased, namely in the material of human interaction and the environment and the use of natural resources. While three other environmental materials have a low value below 0.5, namely environmentally friendly technology, blue economic efforts and agricultural efforts..

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