BUKTI KORESPONDENSI ARTIKEL
THE PROFILE OF STUDENTS' ANALYTICAL SKILLS IN ENVIRONMENTAL ISSUES OF COASTAL AREA

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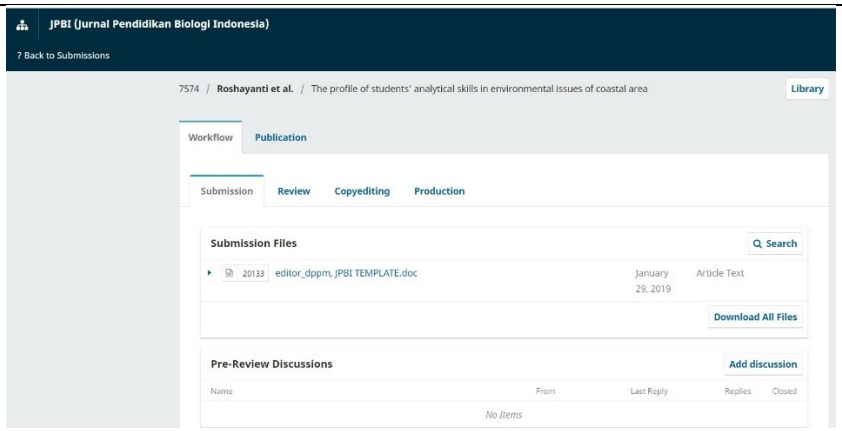
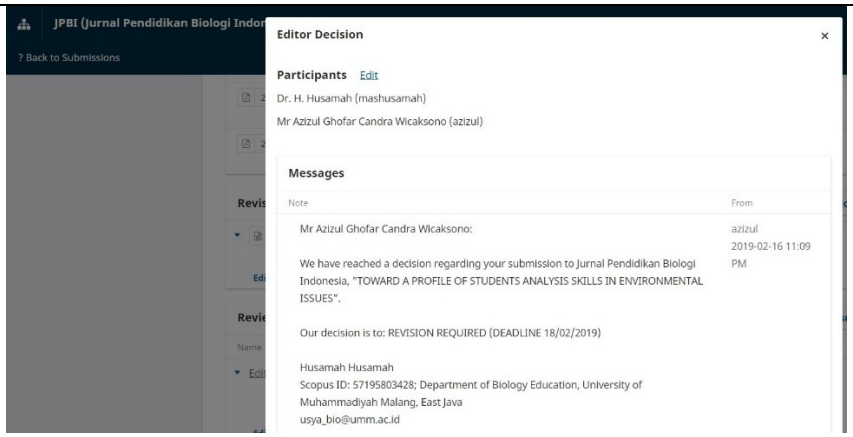
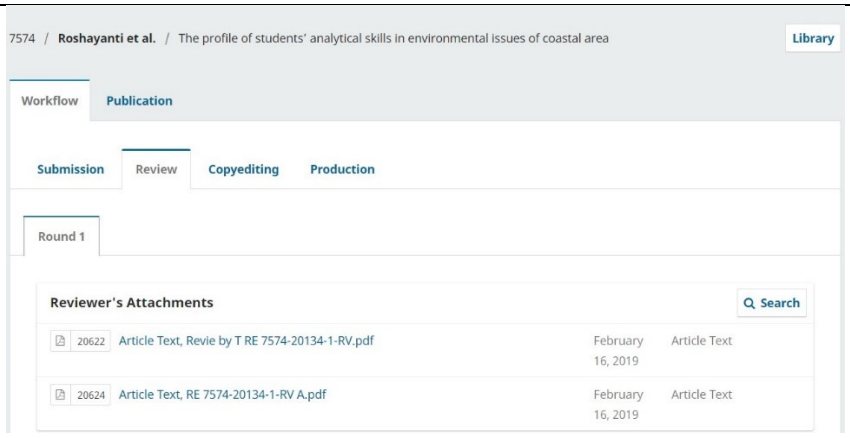
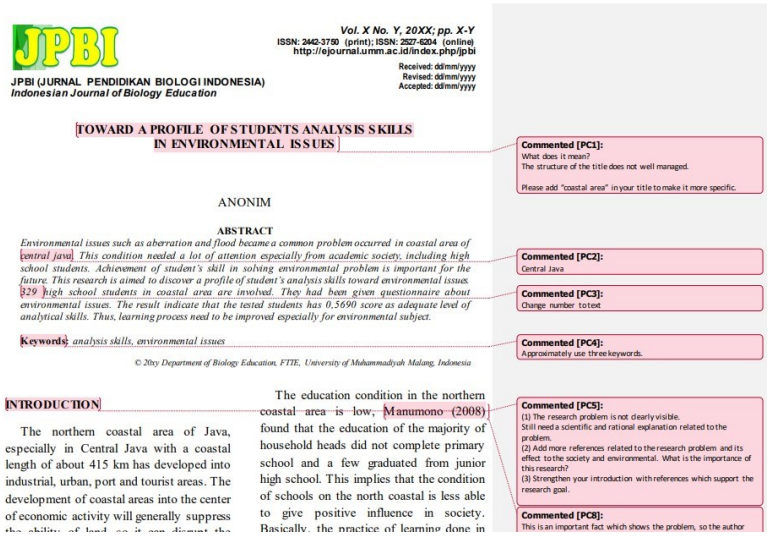
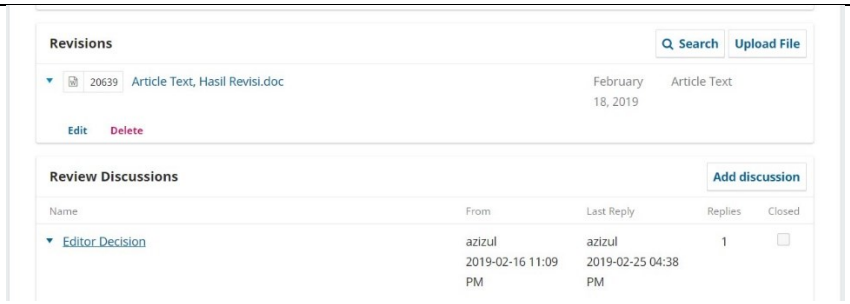
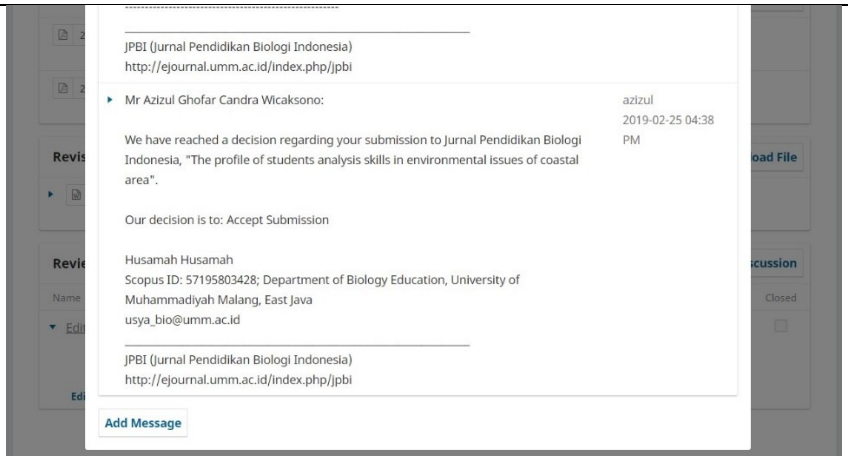
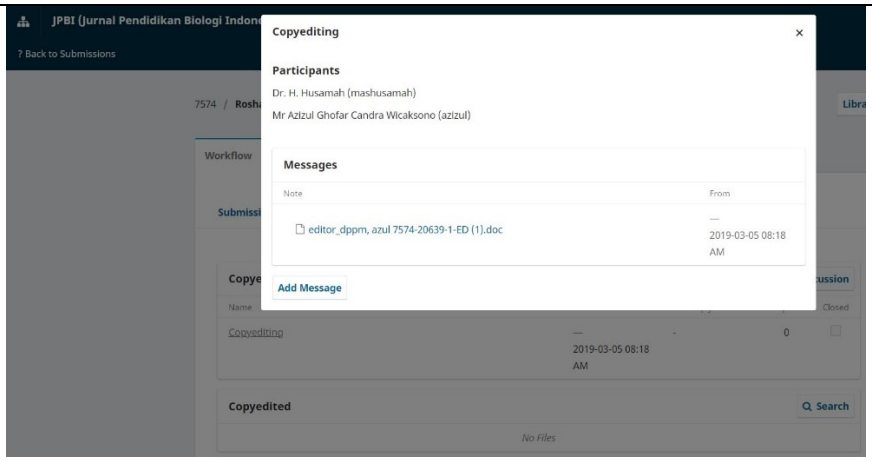
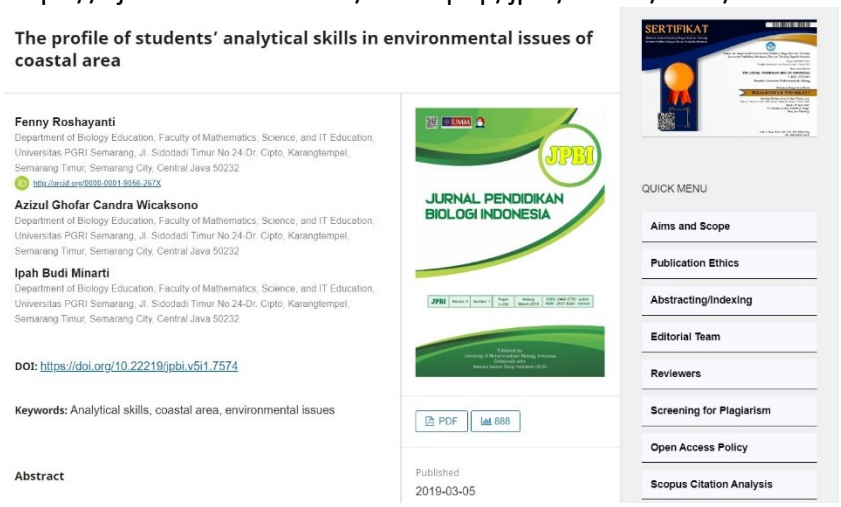
1.	29 Januari 2019	Submit artikel di Jurnal Pendidikan Biologi Indonesia (JPBI)	
2.	16 Februari 2019	First editor decision Jurnal Pendidikan Biologi Indonesia (JPBI)	
3.	16 Februari 2019	Hasil review oleh reviewer	 Attached review file (example)

			
4.	18 Februari 2019	Revisi artikel	
5.	25 Februari 2019	Penerimaan artikel (editor decision)	

6.	5 Maret 2019	Copyediting	
7.	5 Maret 2019	Publikasi artikel	https://ejournal.umm.ac.id/index.php/jpbi/article/view/7574 

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TOWARD A PROFILE OF STUDENTS ANALYSIS SKILLS IN ENVIRONMENTAL ISSUES

ANONIM

ABSTRACT

Environmental issues such as aberration and flood became a common problem occurred in coastal area of central java. This condition needed a lot of attention especially from academic society, including high school students. Achievement of student's skill in solving environmental problem is important for the future. This research is aimed to discover a profile of student's analysis skills toward environmental issues. 329 high school students in coastal area are involved. They had been given questionnaire about environmental issues. The result indicate that the tested students has 0,5690 score as adequate level of analytical skills. Thus, learning process need to be improved especially for environmental subject.

Keywords: *analysis skills, environmental issues*

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INTRODUCTION

The northern coastal area of Java, especially in Central Java with a coastal length of about 415 km has developed into industrial, urban, port and tourist areas. The development of coastal areas into the center of economic activity will generally suppress the ability of land, so it can disrupt the carrying capacity of the environment. This results in aberration and erosion resulting in coastline retreat with an average of 131.83 meters per year (Anna, 2010). The area between the shoreline and the breaking wave occurs the dynamic interaction between the water current and the sediment material. Moving water carrying material from one place to another will erode the sediment and then settle it somewhere that will cause the shoreline (Wahyudi, 2009). This condition can affect the disruption of community activities in terms of transportation, industry, trade, environment and health.

The education condition in the northern coastal area is low, Manumono (2008) found that the education of the majority of household heads did not complete primary school and a few graduated from junior high school. This implies that the condition of schools on the north coastal is less able to give positive influence in society. Basically, the practice of learning done in north coastal schools is similar to other schools, but there are some things that need to be improved both in terms of facilities and infrastructure, curriculum implementation, skill level and professionalism of educators, as well as the capacity of the community. Schools in the northern coastal areas do have many obstacles to develop like schools in other big cities. In addition to environmental conditions such as aberration and rising sea water, people also have a low awareness of the importance of education and environmental sustainability. Many people who work as fishermen and children tend to follow the sea from the school, in addition

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to the lack of motivation or encouragement of parents to their children back to school (Wasak, 2012; Winata, 2010). This is a very difficult task for schools because it must be able to change the mindset of the community associated with the level of education and environmental conservation in coastal areas.

Because of that, the environmental education is needed in coastal area in order to solve many environmental issues that occur around them. High school need to improve and implement a best strategy to accommodate student's skill in solving environmental problem. Education is one aspect that can affect the world of the future and is the most effective way in shaping a society that has the ability to face challenges in the future (Desfandi, 2015). The students as a apart of school community also has a great contribution in the changing of society perspective in environmental issue. So, the student's skill in analyzing environmental issue is important as a good initial to make change in coastal issues. This study is aimed to map the students analysis skill related to environmental issues in coastal area of Central Java.

METHOD

This research using descriptive approach and qualitative analysis. This study is focused on student analysis skills toward environmental issue especially in northern coastal area of Central java. 329 students of 10th grade involved in this study. The students came from seven districts in the northern coastal area of Central Java, including Brebes, Pekalongan, Pemalang, Batang, Semarang, Pati and Jepara. This study use MSELS (middle school environmental literacy survey) with some modification according to the condition in northern coastal area of central java. Some adjustments made related to the context of environmental issues. The change of issue topic was made from "Controversy in the Wild West" become animal hunting that occur in coastal area. the modification also occur in the character and the storyline. But the overall changes are not affected the core of issues analysis in MSELS. Not all of domain in MSELS are involved. This study use issues analysis domain as the main object of research. During the research process, the researchers collected data by coming to school, giving MSELS questionnaires to students, monitoring and analyzing the results of students' questionnaires.

RESULTS AND DISCUSSION

Issues analysis as the one's ability to identify values associated with stances on issues such as environmental, legal, economic, ethnocentrism, and social issues (Marcinkowski, 2008). Mcbeth (2008) stated that environmental value related to human activities with natural resources such as animal and plants and other organism. Legal value related to environmental issue with law suit, national, and state. Social value related to human empathy, feeling and status. Ethnocentric value is all about pertaining to a focus on the fulfillment of ethnic/cultural goals. While economic value related environment to money, material, and service. The score of students issues analysis is describe in Table 1.

This finding showed that the student in coastal area of java has middle level as total score in analysis issues as 0,569 in average. This result is not really different with American issue analysis skill of for both sixth- and eighth-grade levels students as 46% and 48% in score (McBeth, 2009) as well as in Israelian students (Negev, 2008).

Table 1. Issue analysis score in coastal high school students

	N	Minimum	Maximum	Mean	Std. Deviation

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Issues analysis	329	.00	1.00	.5690	.26205
male students	115	.00	1.00	.5704	.26694
female students	214	.00	1.00	.5682	. 25579

Furthermore, Nasution (2016) also reported that high school student in Samboja, Kalimantan district has adequate score in cognitive skill of environmental literacy as 51%. This result indicated that student's skill in environmental issue analysis need to be improved. In high school in Indonesia, environmental education is not learned independently as lesson subject. It usually merged with Biology subject and appeared in 10th grade in second semester. Environmental issue showed as sub theme of ecology and pollution topic. Because of that, not all of the teacher in coastal area can provide the whole and comprehensive lesson materials related to the environmental issues that occur in coastal area. Another problem came to the time allocation for learning environmental issues. Limited time allocation in lesson influence the teachers plan to bring the students to face real environment problem. Thus, the environmental education is needed to reconstruct whether in curriculum, learning process or school management. It is important to prepare future student in facing global issues especially in environmental case.

Moreover, when comparing to male and female students, there is no differences between their skills in issues analysis. The male student of coastal area has 0.5704 in analysis issues score in average. While female students has 0.5682 score in average. The different between male and female students is only 0.0022 in score or 0.22% that's mean there's no differences

between both male and female students in analysis issue skills. When talks about gender, many believe that gender will affect the analysis skill in any issues including environment (Ernst, 2004). Yilmaz (2004) found that t-test analyses revealed that the older female students exhibited more support for environmental issues than did male students. In many aspect related to learning (thinking ability, motivation, literacy) people mostly found that female will give best result than male students (Lyod, 2003; Below, 2010; Fatimah, 2017). But in this case, we found that both male and female students give same result when analyze environmental issue. This finding is supported by Scott (1994) who found that no gender differences in critical thinking skills including analysis skill. Miri (2007) also reported that many similarities in gender of student's characteristics. Siswati (2017) founded that gender did not have an effect on students' metacognitive skill who related to student's skill in analysis task. Chaplin (1989) state that the female students more focus on concrete, practical and emotional things while male students have benefit in intellectual, abstract and objective matters. But that not clearly affect their learning result (Weaver-Hightower, 2003). However, coastal students give the same effort and thought in facing environmental issues. They also had same educational process related to environmental topic. Thus both male and female students had the same potential and will give the similar response to environmental issues in the future.

The adequate level of student's analysis skill indicated that they have some difficulty. The difficulty to identify that issues and relate it to certain value occur in most of students. The result of students' issue analysis about environment is described in table 2.

The result showed that students mostly had correct answer in legal value as 80%. Followed by environmental value as 58%,

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social and ethnocentric value as 51% both, and the last is economic value as 45% in score (figure 1). The higher score of students was in legal value, that means students has great understanding about local government, public participation and law suit relating to environmental issues. The design of environmental policy is needed to understand environmental issues (Keohane, 2016). The students also aware of government power to solve many environmental problems. The fact that government had huge impact to environment. Government regulation is important in providing a level playing field in any environmental issues (Rands, 2010). The trend toward proactive environmental management in many issues is being accelerated by public pressures on governments (Berry, 1998). The environmental issues is one of public affair. It need public participation to raise control over descision making (O'Faircheallaigh, 2010). Yet, as democratic country, mass public in Indonesia has strong power nowadays. The right policy, good government and also support from public will make environmental issues more easily handled.

Table 2 Descriptive analysis about students' issue analysis

	N	Minimum	Maximum	Mean	Std. Deviation
Social value	329	.00	1.00	.5076	.50070
Environmental value	329	.00	1.00	.5836	.49371
Ethnocentrism value	329	.00	1.00	.5076	.50070
Economic value	329	.00	1.00	.4498	.49824
Juridical value	329	.00	1.00	.7964	.40332
Valid N (listwise)	329				

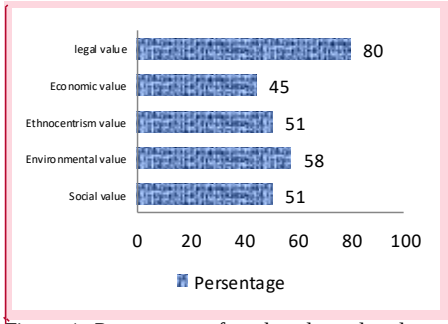

Figure 1. Percentage of each value related to environmental issues

The lowest score of student's issues analysis was in economic value. Student has difficulty to relate environmental issues with economic component such as market, money or service. Thus, there are strong relationship between economy and environment (Clapp, 2011; Gowdy, 2013; Tienhaara,2014). They form mutual-influenced circulatory system (Shengjuan, 2011). The global economy has relationship with environmental issues directly or indirectly especially when related to natural resources, agronomic, pollution (Kolstad, 2011; Halkos, 2013; Pierce, 2013). So, the economic interference in environmental issues is great but it needed high ability to rethink about that complex relationship.

That condition can't afford by high school students yet. The students need to position themselves in any point of view, especially as economic agent. Yet, it needed a lot of experiences, but it can be achieve if school provide better learning process.

The value of environmental, ethnocentrism, and social has medium score around fifty percent. That means student has adequate understanding in relating

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environmental issues with organism life, human life and culture. That topic is learned frequently in educational process. Some topic such as the interaction between living things and their environment is well provided in curriculum. Unfortunately, it has no good score in student's analysis. Although there are many cultural integration in education as an effect of decentralization in curriculum. This condition implied that learning process is needed to be improved because certain classroom practice related to students achievement (Wenglinsky, 2002). Yeom (2002) found that in Indonesia there are implementation gap between district and lack of appropriate teaching training also contribute to student's skill achievement. So, it important to review how the environmental education goes through and made some improvement to it.

CONCLUSION

The student from coastal area of central java has medium score in analysis issues about environment as 0.5690 or 56.9%. Between male and female students, there was no differences in analysis issues score. Mostly, student has best answer when related environmental issue with legal value with the highest score as 80%. The lowest score was 45% when students analyze environmental issues related to economic value. Thus, this result implied that environmental education need to develop further to prepare students for future environmental issues.

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