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THE ANALYSIS OF STAKEHOLDER SATISFACTION LEVEL TOWARDS THE INTEGRATED SCIENCE EDUCATION GRADUATES

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Abstract

There has been limited information about the integrated science education alumni and the graduate user (stakeholder) satisfaction level. Therefore, a concrete step needs to be taken by the department managers in the form of alumni data collection — this research intended to reveal the stakeholders' responses to the Integrated Science Education graduates of Universitas Negeri Semarang. The methods adopted were descriptive-qualitative and quantitative employing questionnaire instruments available on the tracer study web system. The questionnaires had several indicators including (1) ethics and moral, (2) professionalism, (3) insight, (4) leadership, (5) teamwork, (6) foreign language mastery, (7) communication, (8) IT skills, and (9) self-development. Based on the accomplishment score average of the 9 indicators, the graduates categorized as very good having the final score of 3.72. The knowledge background suitability with the jobs scored 3.60 or categorized as very good. The analysis results revealed that of the 9 indicators, 7 of them categorized as 'very high' (ethics and moral, insight, leadership, teamwork, communication, IT skills, and self-development) and 2 of them categorized as 'high' (professionalism and foreign language mastery). The integrated science education alumni's suitability of competencies towards the jobs also categorized as 'very high.'

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INTRODUCTION

One of the things that need to be prepared for the accreditation process of the S1 Degree of Integrated Science Education Program of Universitas Negeri Semarang is the graduates' response data. These data are useful later to support Standard 3 concerning the students and graduates, particularly on the indicator 3.3.1 about the opinions of the graduate user (stakeholder) on the quality of alumni. This standard requires data about stakeholders' opinions on the integrated science education alumni quality collected through the tracer study.

The Integrated Science Education Program has provided an information system in which the tracer study system stands. The tracer study allows the stakeholders to directly fill in the available questionnaires regarding the alumni's quality. There are various indicators displayed on the system; (1) ethics and moral, (2) professionalism, (3) insight, (4) leadership, (5) teamwork, (6) foreign language mastery, (7) communication, (8) IT skills, and (9) self-development. The data obtained from this system are in the form of a percentage of each indicator which will be beneficial for supporting physical evidence attached to the integrated science education accreditation forms. With this in mind, research entitled 'The Analysis of Stakeholder Satisfaction Level towards the Integrated Science Education Graduates' was carried out for the sake of the accreditation target achievement. Other than that, the data could be further used as an evaluation tool of the performance of the Integrated Science Education Program, which is also expected to be a starting point for quality and professionalism enhancement in performing Tri Dharma University primarily in the field of teaching and education.

The word satisfaction derives from the Latin "satis" (meaning quite good, adequate) and "facio" (doing or making). Satisfaction defines as "efforts to fulfill something" or "to make something adequate" (Mulder et al., 2009; Perdanawati et al., 2014). Satisfaction, according to Kotler (2002), is the level of one's feelings after comparing performance or results with expectations (Priyatno, 2008; Setyaningsih & Abrori, 2013; Wulansari et al., 2017). Kotler (2002) and Van (2010) defines service as an act in which someone or a group offers to another group or person something that is intangible and its production is either related or not to the physical product. The purpose of educational institutions is to create and maintain the satisfaction of stakeholders. Hitt et al. (2001) said that stakeholders are individuals and groups that can influence and be influenced by the strategic results obtained and that have claims imposed on the performance of a company. Institutions engaged in education require continuous innovation, diversity of structures and creativity of service to stakeholders effectively and efficiently (Jain et al., 2011; Zimmerman, 2011; Robinson 2008). It can be done by better understanding stakeholder satisfaction and perceptions on the quality of service (Sharabi, 2013, Dirwan 2014; Singh & Weligamage, 2010).

The quality assurance system states that one of the indicators beneficial for measuring a product/service's quality is its ability to achieve the criteria appointed by the stakeholders. According to Musmini (2013), the developed quality must be oriented to the graduates who are expected to be adaptive with the latest development of knowledge, technology, and socio-culture. The assessment of the quality assurance system is possibly measured using two variables; the perceived service and the expected service. Satisfaction is seen from the conformity between the perceived and expected service (Priyatno, 2008; Rahmawati, 2013).

Satisfaction is a person's perception of an expected thing. The measurement of student satisfaction was projected onto 5 variables as developed by Haywood-Farmer (1988) as cited by Ratnawati (2001); Safadi et al. (2010) which includes: (1) Reliability, that is lectures', staffs', and department managers' ability in providing appropriate services; (2) Responsiveness, that is lectures', staffs', and department managers' ability in assisting students and providing quick as well as high-quality response; (3) Assurance, lectures', staffs', and department managers' ability to ensure students that the services provided have corresponded to the rules; (4) Empathy, that is lectures', staffs', and department managers' willingness to pay more attention to students; and (5) Tangibility, that is students' perception towards facilities, tools, and various communication materials.

Stakeholders' satisfaction level and service quality are related to each other. The better the

quality, the higher the satisfaction level. Stakeholders' satisfaction level is the core of TQM (Total Quality Management). Therefore, a university has to accurately identify the needs of stakeholders and realize that students are the priority customer requiring high-quality services (Margono, 2005; Beard, 2009; Irwan, 2016). Referring to those discussed definitions, satisfaction defines as a sense of pleasure or relief of stakeholders/affiliations in hiring the Integrated Science Education graduates.

METHODS

This research was carried out in the Integrated Science Education Department, Universitas Negeri Semarang to measure the stakeholder satisfaction level towards the alumni through a questionnaire attached to the tracer study system. The research subject was stakeholders. The graduate performance was the latent variable (indicators) of this research which comprised: (1) ethics and moral, (2) professionalism, (3) insight, (4) leadership, (5) teamwork, (6) foreign language mastery, (7) communication, (8) IT skills, and (9) self-development. These indicators were included in the questionnaire which was informed and spread by the department's managers on social media such as Facebook, Whatsapp, etc., to be filled.. After collecting the questionnaires, the data were analyzed descriptively and calculated quantitatively referring to the 9 indicators. Other than that, graduates' conformity of education background with the work was examined descriptively and computed quantitatively.

RESULTS AND DISCUSSION

Alumni tracing has been done continually at least once a year through questionnaires hand out to stakeholders. Early data were obtained from graduation data filled by all students. The data cover name, address, phone number, e-mail address, GPA, dan study period. By these data, questionnaires are sent to the alumni either in the form of standard letter or e-mail. Another way is a direct interview done via cellular phone to fill in the questionnaires. Also, the alumni are also able to complete the questionnaires on the official website of the Integrated Science Education Department, Universitas Negeri Semarang (http://ipa.unnes.ac.id; http://ipa.unnes.ac.id/tracerstudy). This system has several advantages; facilitating either the alumni to fill out the questionnaires or the department's managers to collect data, securing the data, and saving paper. The developed tracer study (http://ipa.unnes.ac.id/?page_id=1300) by the Department of Integrated Science is a passive system which can only be completed by the alumni. It comprises 60 data which among other consists of waiting time, job suitability with the educational background, and first job position. The data were then managed to be the basic data for curriculum and lecturing method refinement. Further, the Department of Integrated Science also invites stakeholders to complete the questionnaires available on http://ipa.unnes.ac.id/?page_id=1300.

The quality of alumni's performance towards work provider companies are the latent variables covering several indicators such as (1) ethics and morals; (2) professionalism; (3) insight; (4) leadership; (5) teamwork; (6) foreign language mastery; (7) communication; (8) IT skills; and (9) self-development. These indicators are included in the form of a questionnaire that filled by stakeholders hiring the graduates of the Integrated Science Education Program, Universitas Negeri Semarang. The tracing results indicated that the aspects of ethics and morals, professionalism, insight, leadership, teamwork, IT skills, and self-development had scored high while the foreign language mastery (English) and communication required improvements. These data were the input materials for the study program in designing curriculum improvement. In this way, the weak aspects of graduates can be immediately corrected, and the good aspects must be encouraged for betterment to result in more qualified graduates.

The tracer study system has facilitated the ease of questionnaire fulfillment both for the alumni and stakeholders. The utilization of such a system has been an extra value for service improvement. The below table 1 informs the stakeholders' opinion towards the graduates' quality in 2018.

Based on Table 1, we can say that the overall indicators had great achievement. There were 7 indicators categorized as 'very good,' and the other 2 indicators scored 'good.' The lowest indicator among the 9 indicators is the foreign language mastery which scored 73% (good), yet

it was the least. The obtained final score of the 9 indicators elucidated a satisfaction average accomplishment score. It happened due to the frequency of using language. Most of the graduates commonly used English only on a certain occasion so that their English skills were not well honed. Even so, the foreign language mastery, according to the stakeholders, was said to be 'good'. It is in line with previous studies which explained that the English language skills of UNNES alumni were still low (Istiningtyas, 2015; Kardoyo & Nurkhin, 2016). It might happen as the results of the low commonness of English lectures and the least willingness of the students in taking English course.

Table 1. The stakeholders' response to the quality of graduates in 2018

No.	Competencies	Response				Follow-up Plan by the Study Program
		Very Good	Good	Acceptable	Poor	
		(%)	(%)	(%)	(%)	
1	Integrity (ethic and moral)	87	11	2	0	Maintaining and improving
2	Knowledge mastery (professionalism)	77	20	3	0	Maintaining and improving
3	Insight	90	6	4	0	Maintaining and improving
4	Leadership	89	3	8	0	Maintaining and improving
5	Teamwork	90	6	4	0	Maintaining and improving
6	Foreign language mastery (English)	42	31	17	0	Providing more English source books used in lectures, encouraging Science English Club (SEC)
7	IT skills	90	6	4	0	Maintaining and improving
8	Communication	89	7	4	0	Maintaining and improving
9	Self-development	87	8	0	0	Maintaining and improving
	Total	(a)=741	(b)=98	(c)=46	(d)=0	

The 9 indicators were calculated using the following formula:

$$Final\ Score = \frac{[4x(741) + 3x(98) + 2x(46) + 1x0}{9x100} = 3.72$$

This success was supported by the management of the Integrated Science Education Study Program which continues to improve the quality of its graduates. It is contained in the Study Program curriculum by issuing science-based subjects with the use of English as a foreign language. Some subjects that support the mastery of foreign languages are Science Instruction in English, English for Science, and Science Entrepreneurship. Moreover, an increase in mastery of foreign languages for prospective IPA graduates is also equipped with the ability to examine scientific articles of English-language journals, aiming at improving passive English skills. Furthermore, the leadership indicator included in the excellent category, meaning that Study Programs as the academic service managers have been able to create maximum performance services through good communication with students and providing opportunities for organizational development. It corresponds to what was stated by Trivellas & Dargenidou, 2009 which links leadership with maximum service quality.

The quality improvement of the Integrated Science Education program 2018 was very significant seen from the final score of 3.72 which means that the sincerity of the study program's managers to always committed to the betterment of students services. In addition to revealing the satisfaction of stakeholders, it is important to know the conformity of education background with the work the graduates engaged in, which is presented in Table 2.

Table 2 informs that the graduates' conformity of education background with the work categorized as 'very good'. This elucidated that the lecturing processes at the college have provided marvelous provisions for the graduates since they can apply and interpret their competencies into their respective workplaces. It means that the S1 Integrated Science Education Study Program can encourage students to improve their competence. However, two things need to be taken into account by the Integrated Science Department, namely the alumni's ability to analyze and solve problems encountered. It might be overcome by enhancing the students' critical and creative thinking skills. Nevertheless, these two aspects are still in the good category.

Table 2. The conformity of competencies with the jobs had by the integrated science education graduates

Conformity Items	Score	Category
The ability to apply the field of expertise gained on the current job	3.70	Very good
The knowledge obtained from lectures (both theory and practice) can help you adapt to the scope of work	3.78	Very good
The relevance of the materials obtained during lectures to the standards of the current workplace	3.77	Very good
The material got from lectures can help to make decisions in the workplace	3.32	Good
The material obtained in lectures can help you provide solutions to problems faced by the organization or yourself	3.44	Good
Average	3.60	Very good

CONCLUSION

Broadly outline of this study concludes that of the 9 indicators, there were 7 indicators categorized as very good (ethics and moral, teamwork, communication, IT skills, and self-development) and there were 2 indicators categorized as high (professionalism and mastery of foreign languages). The suitability of the Integrated Science Education Study Program alumni's competencies for the engaged jobs also categorized as very good.

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