

Performance Evaluation of Graduates Department of Civil Engineering and Planning of Pontianak State Polytechnic

Rika Riyanti¹, Indah Anjar Reski², Robby Maulidi Arif³

^{1,2,3}Politeknik Negeri Pontianak, Indonesia

rikariyanti0808@yahoo.com

Abstract

The purpose of the study was to evaluate the performance of graduates from the Civil Engineering Department at the Pontianak State Polytechnic to know the assessment of service users from the Civil Engineering and Planning Department graduates on the ability to integrity (ethics and morals), professionalism, foreign language skills, information technology, communication, teamwork, and self-development. Our study method collects field data in interviews, surveys, and observation data. Researchers also use questionnaires distributed to alumni and alumni who use the services of contractors and consultants. The field passed the data research tracer study that determines the extent to which the assessment of alumni and graduate users on the performance of graduates of the Department of Civil Engineering and Planning at the Pontianak State Polytechnic at the same time received advice or input to improve the performance of graduates. From the evaluation results above, it is hoped that the data obtained can improve the performance of graduates so that by itself it can increase accreditation for two study programs, namely the D-III Civil Engineering Study Program and the D-IV Housing and Settlement Planning Study Program—learning program and learning program. Thus, we hope that the results of this study will be helpful for all parties; academics, policymakers, and other researchers.

Keywords

graduate performance evaluation; civil engineering; Pontianak state polytechnic planning



I. Introduction

The Department of Civil Engineering at the Pontianak State Polytechnic is one of the Departments at the Pontianak State Polytechnic, which has two study programs, namely the D3 Civil Engineering Study Program and the D4 Housing and Settlement Planning Study Program (Lazarus & Ferris, 2014, March). The Civil Engineering Study Program at the D3 level began operating in 2000 based on the Decree of the Director-General of Higher Education of the Ministry of National Education of the Republic of Indonesia number 232/DIKTI/Kep/2000. The Housing and Settlement Planning Study Program at the DIV level began operating in 2008 based on the Decree of the Director-General of Higher Education of the Ministry of National Education of the Republic of Indonesia number 2134/D/T/2008. With a long period of operation, it can be said that the Department of Civil Engineering and Planning is committed to always making efforts to improve both in terms of academic and non-academic aspects. These efforts are intended to improve the quality of graduates according to the demands of globalization. Graduates who can compete in the global era are graduates who have various types of abilities to follow the needs of stakeholders. With these abilities, it is hoped that graduates can become civil engineering experts in the future (Duderstadt, 2010).

In order to create qualified civil engineering experts, the Department of Civil Engineering and Planning at the Pontianak State Polytechnic is demanded by stakeholders to continue to improve the quality of its educational services to the public (Willar et al., 2016). The existence of an assessment of the performance of study programs by the National Accreditation Board for Higher Education (BAN-PT) is the basis for developing academic activity programs. To fill out the accreditation form are data from alumni and graduate user data, which is about evaluating the performance of graduates. The question that arises is how the user responds to graduates in terms of ability aspects: (1) integrity (ethics and morals), (2) expertise based on the field of science (professionalism), (3) English, (4) use of information technology, (5) communication, (6) teamwork, and (7) self-development. These questions indicate that the knowledge and skills obtained by graduates in lectures can be helpful for the user through the real work of the graduates concerned (Hartini et al., 2017).

To find out the responses from alumni as well as from users of Civil Engineering and Planning Department graduates, it is necessary to have a Tracer Study carried out by the Management of the Pontianak State Polytechnic Civil Engineering Department in 2019 to obtain data on the performance of graduates who play an essential role in supporting alumni of the Department of Civil Engineering, Pontianak State Polytechnic Engineering. The data for graduate users is data from existing stakeholders, especially users of construction services in the West Kalimantan Province. Based on the description above, the formulation of the problem can be drawn, namely how the assessment of alumni and users of the Civil Engineering and Planning Department graduates on the ability of integrity (ethics and morals), professionalism, English, information technology, communication, teamwork and self-development (Subur & Baihaqi, 2021).

II. Research Methods

This research is descriptive and quantitative. This research is a tracer study. This study was to determine the extent to which the assessment of alumni and graduate users on the performance of graduates of the Department of Civil Engineering and Planning at the Pontianak State Polytechnic at the same time received advice or input to improve the performance of graduates (Andari et al., 2021). The graduate users consist of contractors and consultants located in Pontianak City, Kubu Raya Regency, Mempawah Regency, and Singkawang City. The study was conducted for approximately six months. The variables of this research are the ability of graduates, with the following indicators: Integrity (ethics and morals), Expertise based on the field of science (professionalism), English, Use of information technology, Communication, Teamwork, and self-development (Khasanah, 2019).

The type of data collected from this research activity is primary data. Primary data is data obtained directly from the field (Zohrabi, 2013). The data was collected using a questionnaire method. In the introduction to the questionnaire, further information is given on the deadline for returning the questionnaire or feedback that the user has filled out. The tracer study process and mechanism are carried out by sending questionnaires to alumni's work addresses covering four locations: Pontianak City, Kubu Raya Regency, Mempawah Regency, and Singkawang City. The alumni data collection is carried out in various ways, including (1) collecting data through the Department's alumni book, (2) filling in the personal data of study program graduates at the time of graduation, and (3) tracing data through social media (social networking facebook) and cellphone. The data analysis technique in this study uses descriptive quantitative analysis, which provides a descriptive description of the study's results using a frequency table (Peersman, 2014).

III. Results and Discussion

Data from the *tracer study research* was carried out using a questionnaire distributed to 250 (two hundred and fifty) graduates and 5 (five) service companies graduates of the Civil Engineering Department of the Pontianak State Polytechnic (Ebrahim et al., 2017). Questionnaires were distributed to alumni starting from the 2016 to 2018 graduate years. Questionnaires distributed to service user companies graduated from the Civil Engineering Department include 1) CV. Tri Waste; 2) CV. Eternal Prosperity; 3) CV. Harmaja Contractor; 4) CV. Beautiful Jaya; and 5) PT. Primary Karsa Media. *Tracer study* conducted in this research is focused on knowing the characteristics of graduates and the level of user satisfaction. From the questionnaires distributed to the alumni, not all of them returned the questionnaires sent, so for the *tracer study* in this study, there were 126 questionnaires. The following is a brief content of the questionnaire results distributed to alumni and graduate users.

3.1 User Satisfaction Level

One indicator of graduates' success is from the assessment made by users. User satisfaction with the quality of alumni of the Pontianak State Polytechnic Civil Engineering Department is determined by ethics and morals, professionalism, foreign language skills, use of technology and information, communication skills, teamwork, and self-development. The following are the results of the survey of five companies:

No	Ability Type	User Response			
		Very good	Well	Enough	Not enough
		(%)	(%)	(%)	(%)
1	Integrity (Ethics and morals)	40%	60%	-	-
2	Expertise by field of science (professionalism)	20%	80%	-	-
3	English	-	20%	40%	40%
4	Use of Information Technology	20%	80%	-	-
5	Communication	40%	60%	-	-
6	Teamwork	80%	20%	-	-
7	Self-development	80%	20%	-	-

From the table above, it can be concluded that the performance of graduates is considered suitable for each component of competence. It is just that graduates still have low scores for communication skills in foreign languages. For this reason, it is necessary to develop foreign language skills both actively and passively so that they can support graduates to work more optimally.

3.2 Graduate Survey Results

a. Graduate Profile

The questionnaires successfully returned by the alumni in this study were 50.4% of the total questionnaires sent. From a total of three generations who participated in filling out the questionnaire, it can be seen that the generation that participated the most was the class in 2018 at 44%, followed by the class in 2016 at 29% and the class in 2017 at 27%. From these results, it is also known that the largest respondents are respondents who were

not Bidik Misi students during their studies with a percentage of 78%, and 22% of students who were Bidik Misi recipients during their studies (Wahyudi et al., 2019).

Although the respondents or alumni did not return all the questionnaires given, the percentage above is expected to represent the survey for graduates. The difficulty of communicating and tracking the whereabouts of alumni scattered all over West Kalimantan to outside the region is a different homework for the Department, especially for study programs. It is essential to have good communication with alumni because it is hoped that the study program can know the fundamental role of graduates in society. This can also be used as a mirror for study programs on graduate competencies that are useful and must be developed again when graduates have taken to the field. This is indicated by the questionnaire results where the graduates said that the relationship between the field of study and their current job was very close with a percentage of 71%, for those who answered that there was a less close relationship between their field of study and their current job, as many as 4.8% and the remaining 24.2% answered that their field of study or their educational background had a close to quite a close relationship with the work they were doing now (Kintsch & Vipond, 2014).

b. Long Waiting Period

The waiting time for graduates from the month before or after graduation/graduation to getting a job is divided into several categories, namely: a) when they have not graduated from college by 11.9%; b) less than one month after graduation by 25.4%; c) in 1-3 months by 36%; d) more than three months by 26%; and e) 3.2% are alumni who continue their studies to a higher level (Powell et al., 2015). The duration of the short waiting period in looking for work is one indicator of the competence of alumni following the job market. Moreover, the data obtained shows that 95% of alumni's work is not far from the main field or, in other words, their current job is following their educational background, namely civil engineering. Furthermore, only 2% of alumni who start their careers accept jobs unrelated to their educational background. At the same time, the remaining 3% choose a different job with their educational background because their current job can better guarantee the needs of their family (Akintayo, 2010). From the results above, it can be concluded that with the competence possessed by graduates and the short duration in looking for work, it can be concluded that the Civil Engineering Department alumni are ready to work.

c. Income Reason

In work, benefits and incomes are rights that every employee must have as a bonus for their work. This, of course, varies from company to company and does not fall under any legal regulations. Employee incomes are anything the company provides to employees other than salary, either in cash or non-cash. Meanwhile, compensation or incentives are company gifts as compensation for employees' time, effort, expertise, and knowledge. Therefore, the seriousness of alumni in looking for work is very high, and this is evidenced by before they finish the study period they have worked (Donaldson & Johnson, 2011). The income they receive in their work is grouped into several categories, including a) 19% of alumni earn between 2 million and 3 million rupiahs per month; b) 32.5% of alumni who have an income ranging from 3.1 million to 4 million per month; c) 27.9% of alumni who have a monthly income of 4.1 million to 5 million; and d) 20.6% of alumni with income above 5 million (Donaldson & Johnson, 2011).

d. How to Find a Job

From the questionnaire distributed to graduates, it can be seen that there are many ways to find work for graduates. This can be seen from the results of the questionnaire, among others: a) 19% of graduates got their job information through advertisements in newspapers/magazines, and brochures; b) 26.2% of graduates searched for jobs by applying to companies without knowing the vacancies; c) 27.8% looking for jobs via the internet/online advertisements/mailling lists; d) 7.1% of graduates whom the company directly contacts; e) 4% of graduates find work by contacting the student affairs office/alumni relations; f) 3.2% of graduates looking for work by building a *network* since they were in college; g) 9.5% of graduates find work through relationships such as lecturers, parents, relatives, friends, and others; h) 1.6% of graduates build their own business; and i) 1.6% of graduates work in the same place as their workplace during college (Sveinsdóttir et al., 2016).

In addition, from looking for work, most students work in private companies where the percentage is 70%, and 20% of graduates work in government agencies including BUMN and the remaining 10% work in their own companies or are self-employed.

e. Competence Mastered and Required

Competencies mastered by graduates are a benchmark for the satisfaction of graduate users. Therefore study programs must know what competencies are possessed by alumni and what alumni need when they are in the field or are already working (Wolfe et al., 2014). From the results of the questionnaire distributed where they can choose more than one competency that they master when they graduate, most of them choose knowledge in their field or discipline, and the ability to work in a team/collaborate with others is the competency they are most skilled at followed by their ability to use the internet and computers that can support their work in the field. The ability to communicate, be tolerant, and work with people from different cultures and backgrounds are also their competencies. This is because they have to work not only sitting behind a desk, but they also have to go out into the field where they meet people from different cultural and educational backgrounds. Therefore, they must have the ability to communicate and be tolerant. They have proven this when they have to look for data or when they are apprentices or street vendors when they are still in college (Puspitacandri et al., 2020). The communication requires a reciprocal relationship between the delivery of messages and recipients namely communicators and communicants (Hasbullah, et al: 2018).

In addition to the competencies that have been mastered, there are also competencies that they must master when they come to the community or in the field. Competence is their ability to speak English. Even though they work in the construction world, they also have to improve their ability to speak English because they may meet people from various countries who use English as a means of communication. Students must also be able to think critically and analyze skills because when they go to the field and face problems, they must make the right decisions that follow the problems that arise in the field and do not burden all parties. In addition, their ability to negotiate and present ideas/products/or reports is very much needed when they are already working (Dede, 2010). Education and skills are the main keys in gaining social status in community life (Lubis et al, 2019).

3.3 Discussion

We can say again that this study aims to understand the performance evaluation of graduates of civil engineering and planning at the Pontianak Polytechnic to bring the desired results (Willar et al., 2010). This alumni performance evaluation resulted in alumni

having the opportunity to use the skills and skills they received when they were students at the Pontianak polytechnic (Irawati, 2016). The performances they have applied include alumni skills or integrity, including firework ethics and morals based on professionalism or the major they focus on, including foreign languages (Crossan et al., 2013). In this case, English and skills in informatics are mastery of digital technology to communicate and to work in general as civil engineering and planning alumni so that these alumni have been able to work in teamwork and self-development (Holtzman & Kraft, 2010).

So based on the data presented above, here we want to emphasize that the Pontianak Polytechnic Wa alumni are one example of alumni who can fill the offered job opportunities, this is indicated by the data we receive, namely from the alumni book and the data we get through personal data (Green & Zhu, 2010). Then the racing data in the form of social media applications and existing networking and the interviews we did with some alumni, which they communicated with qualitative data. All of these illustrate that the skills or work performance of the alumni have been categorized according to the demands of the job. Looking at the data, we believe that the engineering department of the Pontianak State Polytechnic is one of the providers of labor for the Pontianak area where the data results show some evidence of characteristics than alumni where the user is like the company they supply expertise (Putri et al., 2020).

They averaged an excellent level of satisfaction. Namely, we have distributed approximately 120 questionnaires that follow work experience and content related to the level of satisfaction. All graduate profiles are in percentage in the results section then the waiting period to get a job since they graduated from college, as well as the reasons and income they get. The results of the work they are currently working on are then indicated through how alumni get jobs in each company to which they apply for a job application (Araminta & Halimi, 2015). All of the categories above indicate that the performance of Pontianak State Polytechnic alumni has functioned following the job users' performance or expectations and the university as a provider or the place where they become alumni. Another indicator is from the available data, and we see how alumni get the competencies needed by the world of work. The competencies they got when they graduated from Pontianak polytechnic college found the level of user satisfaction (Hovland & Lumsdaine, 2017).

Thus, we dare to say that this study has produced relevant answers to answer the questions and hypotheses of this study. So we can reiterate that this royal goal has achieved its goals with a good level of validity and accuracy. Moreover, thus we hope that the results of this study will serve as a guide and input for the same researchers in the future (Diederich et al., 2019).

IV. Conclusion

From the results of this study, it can be concluded that:

1. From the questionnaire distributed to graduate service users, it can be concluded that the level of integrity of graduates is 60% and is categorized as good, 80% of graduates have expertise based on good fields of knowledge, 40% of graduates have sufficient or even poor English skills, 80% of graduates are categorized as good in using information technology, 60% of graduates have competence in good communication, 80% of graduates have excellent teamwork competence, and 80% of graduates have excellent self-development.
2. From the questionnaire distributed to alumni, it can be concluded that 78% of those who returned the questionnaire were graduates who, during their college years, were students

who did not receive the Bidik Misi scholarship. As many as 36% of graduates have a waiting period of 1-3 months in getting their job. They get job information as much as 27.8% through the internet/online advertisements/ mailing lists. From their jobs, 70% of alumni work in private companies, and 95% of alumni work according to their educational background.

3. Based on the sources of the questionnaires returned by the alumni, it can be concluded that the competencies of graduates mastered are competencies regarding their knowledge in their fields or disciplines and their ability to work together in teams. Meanwhile, the competencies needed in their work are their competencies for critical thinking, negotiation, and analytical skills. In addition, the ability to speak English and present ideas/products/or reports is essential when they are already working.

Suggestion

The suggestions in this research are:

1. The study program is expected to always establish good communication with alumni so that the study program can easily track alumni who have worked. This is intended so that the study program knows whether the competencies they have are appropriate or not with graduate service users in the construction world.
2. Alumni are expected to help Departments and study programs in obtaining information about graduates.

References

- Akintayo, D. I. (2010). Work-family role conflict and organizational commitment among industrial workers in nigeria. *International Journal of Psychology and Counselling*, 2(1), 1-8.
- Andari, S., Setiawan, A. C., & Rifqi, A. (2021). Educational management graduates: A tracer study from universitas negeri surabaya, indonesia. *IJORE: International Journal of Recent Educational Research*, 2(6), 671-681.
- Andari, S., Setiawan, A. C., & Rifqi, A. (2021). Educational management graduates: A tracer study from universitas negeri surabaya, indonesia. *IJORE: International Journal of Recent Educational Research*, 2(6), 671-681.
- Araminta, L. D., & Halimi, S. S. (2015). ASEAN economic community 2015: Needs analysis of universitas indonesia's engineering students. *Indonesian Journal of Applied Linguistics*, 5(1), 11-18.
- Crossan, M., Mazutis, D., Seijts, G., & Gandz, J. (2013). Developing leadership character in business programs. *Academy of Management Learning & Education*, 12(2), 285-305.
- De Vries, H., Bekkers, V., & Tummers, L. (2016). Innovation in the public sector: A systematic review and future research agenda. *Public Administration*, 94(1), 146-166.
- Dede, C. (2010). Comparing frameworks for 21st century skills. *21st Century Skills: Rethinking how Students Learn*, 20(2010), 51-76.
- Diederich, S., Brendel, A. B., & Kolbe, L. M. (2019). On conversational agents in information systems research: Analyzing the past to guide future work.
- Donaldson, M. L., & Johnson, S. M. (2011). Teach for america teachers: How long do they teach? why do they leave? *Phi Delta Kappan*, 93(2), 47-51.

- Donaldson, M. L., & Johnson, S. M. (2011). Teach for america teachers: How long do they teach? why do they leave? *Phi Delta Kappan*, 93(2), 47-51.
- Duderstadt, J. J. (2010). Engineering for a changing world. *Holistic engineering education* (pp. 17-35) Springer.
- Ebrahim, S., Shyu, S., Herman, D. E., Bomia, M., Wankmiller, J., Barta, J. L., & Zarate, J. (2017). The evolution of cave dwellings in the nafusa mountains libya. *Mich.Acad*, 46, 0.
- Green, F., & Zhu, Y. (2010). Overqualification, job dissatisfaction, and increasing dispersion in the returns to graduate education. *Oxford Economic Papers*, 62(4), 740-763.
- Hasbullah, Hatta, M., and Arifin, Z. (2018). Communication Pattern of Wilayatul Hisbah, Lhokseumawe City in Implementing Amar Makruf Nahi Mungkar. *Budapest International Research and Critics Institute Journal*, Vol. 1, No. 4, 194-205.
- Holtzman, D. M., & Kraft, E. M. (2010). Skills required of business graduates: Evidence from undergraduate alumni and employers. *Business Education & Administration*, 2(1), 49-59.
- Hovland, C. I., & Lumsdaine, A. A. (2017). *Experiments on mass communication* Princeton University Press.
- Irawati, R. (2016). The effectiveness of three-step interview technique to teach speaking viewed from the students' language anxiety.
- Khasanah, U. (2019). Tracer study as an effort to improve higher islamic education quality and relevance. *ATTARBIYAH: Journal of Islamic Culture and Education*, 4(2), 121-143.
- Kintsch, W., & Vipond, D. (2014). Reading comprehension and readability in educational practice and psychological theory. *Perspectives on Learning and Memory*, , 329-365.
- Lazarus, D., & Ferris, T. (2014). Assessing the roles of indonesian vocational education and training to increase Student's employability. Paper presented at the *The 4th Indonesian Student International Conference (KIPI-2014)*, Canberra, 7-8.
- Lubis, R., et al. (2019). Survival Strategy for Lokan Seekers in Paya Pasir Village, Kec. Marelan, Medan, Indonesia. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*. Volume 2, No 1, Page: 293-303.
- Nurlaelah, N. (2022). The detailed description of construction waste in low-cost housing project in indonesia. Paper presented at the *Book of Abstract Conference Proceeding International Conference on Multidisciplinary Research for Sustainable Innovation (ICMRSI)*,
- Peersman, G. (2014). *Overview: Data collection and analysis methods in impact evaluation* UNICEF Office of Research-Innocenti.
- Powell, A., Roberts, V., & Patrick, S. (2015). Using online learning for credit recovery: Getting back on track to graduation. promising practices in blended and online learning series. *International Association for K-12 Online Learning*,
- Puspitacandri, A., Soesatyo, Y., Roesminingsih, E., & Susanto, H. (2020). The effects of intelligence, emotional, spiritual and adversity quotient on the graduates quality in surabaya shipping polytechnic. *European Journal of Educational Research*, 9(3), 1075-1087.
- Putri, S. A. M., Hayati, S. R., & Firmansyah, E. J. R. (2020). An investigation of the antecedents to marketing mix strategy implementation. *Ihtifaz: Journal of Islamic Economics, Finance, and Banking*, 3(2), 125-142.
- Subur, I. M., & Baihaqi, A. (2021). Satisfaction level of higher education graduates in the industrial revolution era 4.0.

- Sveinsdóttir, H., Ragnarsdóttir, E. D., & Blöndal, K. (2016). Praise matters: The influence of nurse unit managers' praise on nurses' practice, work environment and job satisfaction: A questionnaire study. *Journal of Advanced Nursing*, 72(3), 558-568.
- Wahyudi, A., Suardiman, S. P., & Rosada, U. D. (2019). The profile of bidik misi Grantee's resilience. Paper presented at the *3rd International Conference on Education Innovation (ICEI 2019)*, 266-268.
- Willar, D. (2012). *Improving Quality Management System Implementation in Indonesian Construction Companies*,
- Willar, D., Coffey, V., & Trigunarsyah, B. (2010). Improving quality management system implementation in indonesian construction firms: A research project. Paper presented at the *Proceedings from the 1st Makassar International Conference on Civil Engineering (MICCE 2010)*, 1-8.
- Willar, D., Coffey, V., & Trigunarsyah, B. (2015). Examining the implementation of ISO 9001 in indonesian construction companies. *The TQM Journal*,
- Wolfe, K. L., Phillips, W. J., & Asperin, A. (2014). Using hotel supervisors' emotional intelligence as a benchmark for hospitality students. *Journal of Hospitality & Tourism Education*, 26(1), 2-9.
- Zohrabi, M. (2013). Mixed method research: Instruments, validity, reliability and reporting findings. *Theory & Practice in Language Studies*, 3(2).