

Improving Learning Quality using Needs Analysis

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Abstract: This research aims to use needs analysis to improve learning quality at economics education study program, Universitas Negeri Semarang (UNNES). The concept of needs analysis used in this study is expected to meet the needs priority after learning process evaluation in a comprehensive manner. This is a quantitative research with a needs analysis design. This research is conducted at economics education study program of UNNES. The population of this study is faculty members and students. Data are analyzed using descriptive statistical analysis, needs analysis and focus group discussion. The results show that the learning quality including planning, implementation and evaluation at economics education study program of UNNES is good based on perceptions of students and faculty members. The learning quality needs required to be improved at economics education study program of UNNES are divided into two, main priority and medium priority needs. Lecturer's quality and internet access improvement are the two main priorities. Based on the obtained research results, the teaching quality at Economic Education Department of UNNES is classified into a good category. However, improvement still needs to be made. Learning quality improvement based on needs analysis is required to improve lecturer's quality, internet access and lecture supporting facilities. Thus, this research is greatly essential for decision-makers to improve learning process based on the investigated needs analysis.

Key words: Learning quality, needs analysis, main priority, learning evaluation, facilities, supporting

INTRODUCTION

The education quality in higher education institutions may be better guaranteed if it has a good and solid higher education institutions quality assurance system (Kardoyo, 2011). University management quality is very important in encouraging improvement of academic quality. Higher education institutions must be accountable to both its internal and external stakeholders. In other words, public accountability is a necessity. The strategy is through enforcement of the principles of good university governance. Widarwati (2012) states that study programs management in today's era of intense competition today is not an easy task.

The management of study program at UNNES should improve the quality of the lectures. Students, alumni and alumni users have submitted good constructive suggestions related to the curriculum as well as the availability of lecture facilities and infrastructure (Kardoyo and Nurkhin, 2016). Empirical academic performance may be observed from three viewpoints: those of the students, the study program management and the dimensions of the institution (Widodo, 2012). The student viewpoint takes a picture of their satisfaction with the academic services rendered. The study program management covers aspects of the curriculum, learning and academic atmosphere, students and graduates, human resources, academic facilities and infrastructure,

research, community service and co-operation and the management system. The institutional viewpoint encompasses students and graduate's standards, curriculum standards, learning and academic atmosphere, research and community service and quality assurance.

Tactical and strategic decision making in improving the quality of the courses will be more appropriate if it is conducted with a needs analysis. Needs analysis endeavors to capture what are already possessed, what are inadequate and the comparison will ultimately be utilized to determine what is needed. The concept of needs analysis is put forth by McKillip. He proposes "may be different from related concepts such as wants ("something people are willing to pay for") or demands ("something people are willing to march for"). Needs analysis, involving the identification and evaluation of needs is a tool for decision making in the human services and education. Decisions can be varied including such as resource allocation, grant funding and planning. In other words, needs assessment is a process of evaluating the problems and solutions identified for a targeted population. In this process, it emphasizes the importance and relevance of the problems and solutions.

The concept of needs analysis is widely used in the field of education. Waldopo (2011) and Zheng (2010) used it to determine the need for English language learning in China. While, Waldopo (2011) used

needs analysis concept to determine the need for multi-media interactive programs as a learning medium. Hamat and Embi used needs analysis to design course management system for ESL instruction in institution of higher learning. Shah and Gopal (2012) used needs analysis to explore current and future training needs for managers. He found 7 different competencies and determined an index of priorities for the implementation of training for managers. Khan and Masrek (2017) used a “training needs analysis” to solve the problems librarian’s expertise mismatch.

In addition to the utilization of needs analysis, there are several other models that can be used to improve the quality of lectures at universities. The model in question are *inter alia* improvement decision models (Chien, 2007), lean six sigma (Isa and Usman, 2015; Tetteh, 2015). Lean six sigma can be used to improve campus facilities and services as well as to identify the competence of lecturers in order to increase student knowledge. The growing need for performance excellence in Higher Education Institutions (HEIs) requires continual improvement. Sharing good practices and learning from others also called benchmarking is an essential part of continual improvement (Asif, 2015; Chien, 2007).

Literature review: Higher education quality assurance is the process of planning, fulfillment, control and development of higher education standards consistently and continuously, thereby both internal and external higher education stakeholders, namely students, faculty, employees, society, businesses, professional associations and the government obtain performance satisfaction regarding the performance and output of the higher education institution. The aim of higher education quality assurance is to guarantee higher education quality implementation at the input, process and output levels based on legislation, basic values, vision and mission of the higher education institution. Quality assurance activity is a manifestation on the accountability and transparency of higher education institutions. In the Higher Education Institutions Quality Assurance System (SPM-PT) issued by the directorate general of higher education, Ministry of National Education in 2010, the standard higher education learning process involves elements, namely:

- Planning standards of learning process by the higher education institution
- Implementation standards of learning process by the higher education institution
- Supervision standards of learning process by the higher education institution

The concept of needs analysis is put forth by McKillip. He proposes three models of the needs analysis, namely discrepancy model, marketing model and decision-making model. The first model is a model that is widely used, particularly in the education field. The model includes three phases, namely goal setting (identifying what are to be achieved), performance measurement (determining what has been achieved) and discrepancy identification (representing the difference what it should be and what already exists). Marketing Model defines a needs analysis as principle of reciprocity from customers. Meanwhile, the decision-making model is an adaptation of Multi Attribute Utility Analysis (MAUA) to determine the issues of an applied research.

McKillip identifies five stages in the needs analysis, namely: determine the user and usefulness of the needs analysis; describe the target population and service environment; identifying needs including describing issues and outlining its solution; determine needs priority and present results of the analysis.

MATERIALS AND METHODS

This research is a quantitative research by using needs analysis design. This study is aimed to analyze the current situation and circumstances that should be regarding the quality of learning at UNNES Economics Education study program from the perspective of its faculty members and students. The study is conducted in July-December, 2016. The population in this study is all students and lecturers of the UNNES Economics Education study program. Lecturers referred to are active lecturers teaching the second semesters of 2015/2016 and first semesters of 2016/2017. Meanwhile, students are those active in the second semesters of 2016/2017.

Data are obtained using a questionnaire based on the needs analysis approach. The questionnaire contains questions to disclose opinions of students and faculty regarding course quality, covering the stages of planning, implementation and evaluation of lectures. Alternative statement answer consists of five options. Interview techniques are also used to strengthen the research findings. Data analysis performed is descriptive statistical analysis, needs analysis and focus group discussion.

RESULTS

Description of learning quality: The research involves the participation of faculty members and students as research respondents. Table 1 describes the results regarding the UNNES Economics Education Study Program in 2016. Learning quality was measured by

Table 1: Learning quality at the Unnes Economics Education Study Program

Learning stages	Scores	Notes
Planning stage	3.84	Good
Implementation stage	3.81	Good
Evaluation stage	3.68	Good
Average	3.78	Good

Table 2: Learning planning quality

Statement items	Scores	Descriptions
Graduate profile determination	3.74	Good
Conformity of curriculum with vision-mission of study program/institution	3.94	Good
Course sequence	3.83	Good
Availability of semester study plan (RPS)	4.09	Excellent
Availability of course materials/learning media	3.77	Good
Preparation of study schedule	3.94	Good
Preparation of academic counseling	3.62	Good
Average	3.84	Good

23 statement items completed by respondents (students). Table 1 describes learning quality in general which includes the planning, implementation and evaluation stages. It shows that the quality of learning at the UNNES Economics Education Study Program is categorized as good with an average score of 3.78. The evaluation stage phase obtains the lowest score. This demands additional attention of management and faculty to improve it.

These findings are also corroborated by the opinion of students regarding their learning process during 2016 (from planning, implementation and evaluation). Basically, 66% of respondents say that the learning quality is good. Basically, 32% of respondents stated that the learning quality is good. And only 2% of students stated that the learning is insufficient. Good quality of learning planning is *inter alia* demonstrated with the availability of semester study plan (Rencana Pembelajaran Semester (RPS)) for each course and uploaded to the Integrated Academic Information System (SIKADU/Sistem Informasi Akademik Terpadu).

Table 2 shows the quality of learning planning at the UNNES Economics Education Study Program in 2016. It shows that preparation of academic supervision activities obtained the lowest scores compared to other academic supervision items. It means that the the coordinator of study program is expected to improve it. Students consider academic mentoring activities as important. In addition, the availability of RPS (semester study plan) at start of the semester obtained the highest score. Students find it very helpful to prepare for their studies, anticipating for both materials and references that they should possess.

Table 3 describes the quality of learning implementation at the UNNES Economics Education Study Program. The results show one item that received the lowest score among other items. The item in question is the “willingness to assist students outside of class hours”. Students expect more intensive communications

Table 3: Learning implementation quality

Statement items	Scores	Descriptions
Mastery of course material by lecturer	4.15	Excellent
Capability of lecturer to elucidate course material	4.09	Excellent
Conformity of lecturer expertise with course taught	4.04	Excellent
Willingness to assist student outside of class hours	3.34	Sufficiently good
Assignments given are in accordance with course burden	3.74	Good
Availability of course supporting references	3.36	Good
Academic atmosphere in class rooms	3.94	Good
Student’s scientific ethics	3.85	Good
Lecturer discipline (presence and timeliness)	3.77	Good
Average	3.81	Good

Table 4: Lecture evaluation quality

Statement items	Scores	Descriptions
Explication of assessment procedures by lecturer	3.66	Good
Midterm exam problems are according to class circumstances	3.77	Good
Semester final exam problems are according to class circumstances	3.64	Good
Course monitoring by head of the study program	3.57	Good
Learning facilities/support facilities	3.51	Good
Willingness of study program management to receive reports/complaints from students	3.77	Good
Willingness of study program management to provide counseling and similar services	3.85	Good
Average	3.68	Good

can be established outside classes to assist them resolve issues encountered or provide feedback, encouragement and advice. This willingness of faculty to communicate with students outside of call hours will impact ease of student’s completion of their study. Table 3 also shows that there are three items that obtained a score of above 4, namely, mastery of lectures by professors, their capabilities in elucidating course material and expertise conformity of lecturers with the subjects taught. These results are considered excellent because students have provided a positive opinion regarding the quality of lecturers (mastery of material, ability to explain and expertise conformity).

Table 4 describes the quality of learning evaluation stage at the UNNES Economics Education Study Program. The results show that no items obtained a score of above 4 (excellent). In general, the learning evaluation stage proceeded well. Course monitoring by the head of the study program and learning facilities/support facilities are two matters that obtained the lowest scores compared to other items, respectively 3.57 and 3.51. Students are of the opinion that learning monitoring is only intensively performed at the beginning of the semester.

Learning quality improvement by using needs analysis:

In this study, a needs analysis on learning quality improvement at the UNNES Economics Education Study

Program was also conducted by asking students to provide input in addition to ratings that have been previously described. There are at least 10 items that amounted to inputs from students. The first point is regarding the integrity and commitment of lecturers. This was based on the fact that a number of lecturers could not attend classes due to various reasons. Although, there are lecturers who are very busy, they were still be able to teach their assigned classes. According to students, this is due to lack of commitment from the concerned lecturers.

Improved internet facilities quality is very much expected by students. High speed internet access will assist student's activities both in completing class assignments and other academic activities such as searching for journals and other literature. The current internet facility at UNNES is considered below standard and often offline. Learning support facilities also need to be improved such as the availability of libraries and its collections, parking facilities and others. Special class students expect the presence of administrative services on Saturdays to support their student's weekend classes and administrative needs.

Lecturers that teach at UNNES Economics Education Study Program are also respondents. Several important matters that need to be improved include, campus internet access speed need to be increased, student academic atmosphere need to be improved, availability of access to accredited national and international journal subscribed need to be further improved, writing assistance and facilitation of articles publication in reputable international journals, better management of study program journal to become an accredited or reputable journal and the organization of seminars/workshops to enhance students and lecturers capabilities or competence.

Based on the description regarding the quality of the learning stages (planning, implementation and evaluation) at the UNNES Economics Education Study Program, it can be determined what needs must be met and prioritize their fulfillment. Results of the needs analysis can be seen in Table 5. Needs analysis showed that four issues are the primary priorities in order to improve the quality of lectures.

DISCUSSION

Learning quality at the UNNES Economics Education Study Program: The results exhibits that the quality of learning at the UNNES Economics Education Study Program is categorized good for learning planning, implementation and evaluation (Table 1). This indicates that students during 2016 have experienced good and

effortless learning. Among the factors that caused the success the UNNES Economics Education Study Program was the smooth coordination of the head of study program and faculty in planning learning activities. Study program management performs coordination activities with the course lecturer prior to the commencement of a certain semester. During aforesaid meeting, study program manager and lecturers evaluate class implementation during the previous semester and plan for improvements in the following semester. Lecturers prepare materials such as RPS, teaching materials or others for a smooth teaching of courses. In the meantime, the program manager improves infrastructure.

One of the items awarded highest score by students on study planning was availability RPS that was uploaded by lecturers through the SIKADU menu (Table 2). This is due to the readiness of the lecturer before semester commencement, the success of study program manager to coordinate this matter in at the pre-semester stage. Lecture monitoring tools are also the key to its success. Meaning, lecturers will feel uncomfortable if it is known that their lecture material has not yet been uploaded. Learning monitoring at beginning of semester early had positive impact, namely ensuring that the course was started well. Other items that received positive responses are the preparation of lecture schedules. This may be due to the orderliness of class schedules, making students easier to carry out regular activities in addition to attending classes. Most of the students are teachers or employees. Therefore, they can still work at their respective jobs without complications.

However, student gave less than the maximum scores on the academic mentoring or guardianship preparation item (Table 3). Students considered this activity important, based on various purposes. In addition to being a means of communications with academic counselors regarding courses attended, students can become more familiar the faculty. From this communication, it is hoped that a pattern of relationships will develop which in turn is expected to improve study quality. Lecturers and students will be able to understand each other's role.

In the learning implementation stage, students responded very well to the course material mastery by lecturer's item (Table 4). These results show that the average lecturer teaching courses at the UNNES Economics Education study program are capable in teaching their respective fields. This positive aspect should be maintained and enhanced. Therefore, increasing the confidence of students and prospective students about the quality of lecturers is necessary. Lecturer capability in teaching course materials also obtained a score of excellent.

Table 5: Needs analysis results of learning quality improvements

Needs for course quality improvements	Priority scales
Lecturers competence improvement (scientific field, research and publication)	Main
Internet quality improvement (Wi-Fi)	Main
Improvement of library collections and access to subscribed journals	Main
Improvement of lecture classroom facilities and infrastructure (tables, chairs, LCD, whiteboard and others)	Main
Administrative services on Saturdays	Medium
Extra parking area	Medium
Assistance on faculty and student's publications in international journals	Medium
Quality improvement of academic counseling for students	Medium

Processed research data

However, quite the opposite happened with the aspect of willingness to help students outside of class hours. Students gave the lowest score. Meaning, students consider lecturers have not given their spare time to provide guidance beyond the classroom. This is not surprising because lecturer's activities at the UNNES Economics Education Study Program are very high both for classes at the S1 (bachelor) and S2 (master) programs and other three pillars of tertiary education (Tri Dharma Perguruan Tinggi) activities. In addition, the availability of lecture support references also received a lower score compared to other items. The quality of references collection at the university library is considered inadequate. Moreover, the demands made on students are currently high in order to realize a higher quality of lectures to gain international reputation.

At the learning evaluation stage, students focus on two areas, namely the learning facilities and monitoring implementation of the course (Table 5). The quality of supporting facilities is expected to be more improved in order to add comfort and efficiency to the learning process. Course monitoring is only effectively performed at the beginning of semesters. This is obviously not good. Study program management is expected to carry out course monitoring regularly to ensure the lecture implementation is according to schedule. Regular course monitoring will be able to anticipate issues that might arise and resolve them expeditiously. Course monitoring implementation can begin from the SIKADU menu and then followed up with direct classrooms monitoring.

Learning quality improvement using needs analysis:

Based on the needs analysis (Table 5) the need to improve learning quality is determined into two priorities, main and medium priorities. Main priority means that the study program management should immediately address the issues. Medium priority means that management

will fulfill them if main priority needs have been or are in the process of being, complied with. Thus, tuition improvement at the UNNES Economics Education Study Program will proceed well. Fulfillment of the above needs involve multiple parties.

Lecturers are the main pillar in addition to students, of the tertiary education level learning process. This means that the quality of lecturers should be a major concern to improve the lectures quality. A meaningful, inspiring and attractive learning process will not exist if they originate from lecturers of regular quality. Well qualified lecturers will be able to encourage students to continually improve their capabilities. Qualified lecturers can also manage classes and create a good academic atmosphere during the learning process. Study program management should be able to prepare faculty development program through training, focus group discussions, workshops and the like both in the respective scientific fields or learning process. In addition, fulfillment of assistance for article publication in reputable international journals will complete requirements to improve the quality of lecturers.

Improvement of internet access quality is also a main priority need. This is required to facilitate the learning process such as completion of simulang, the search for learning resources via the internet during classes, search of material for student assignments, access national and international journals and other references for student's final project completion and other interests. Study programs management should coordinate with stakeholders related to internet access at UNNES. Increased internet band with capacity or other solutions should be taken immediately. Thus, users (faculty and students) may no longer bothered by the internet access inefficiency.

The next main priority of need is to increase the quality of lectures in classrooms, laboratories and libraries. UNNES is currently seeking to become a conservation-minded university and gain international repute. Study programs management together with relevant parties is expected to realize lecture facilities that are adequate and environmentally friendly. The facilities referred to are among others, tables, chairs, whiteboard, LCD projector and other class facilities. Increase of the number and quality of references in the library also need attention. Rapid science and technology development need to be balanced, therefore students do not feel too much left behind. Study programs management also needs to increase access to subscribed international journals for the fulfillment of gaining international reputation. Faculty and student's scientific works quality will increasingly improve.

CONCLUSION

The learning quality that includes planning, implementation and evaluation, at the UNNES Economics Education study program, based on student's perception is categorized as good. Nevertheless, there are still several issues that need to be improved such as scheduling counseling sessions, willingness of faculty in providing guidance and monitoring outside of class hours. The needs to improve learning quality at the UNNES Economics Education study program is classified into two need priorities, namely main and medium need priorities. Improving lecturer quality and internet access are two main priorities in addition to improvement of course support facilities.

The lecturer at the UNNES Economics Education Study Program is expected to contribute ample time to provide academic and non-academic guidance to students outside of lecture hours. Study programs management is expected to coordinate with relevant parties to continuously and jointly improve the quality of the lectures. Study programs management is expected to carry out lectures monitoring activities regularly.

The research was limited to only a number of study programs, so it has not been able to explore the need to improve the quality of learning more extensively. However, this study is still very important for decision-makers to improve the learning process based on a needs analysis that has been done.

REFERENCES

- Asif, M., 2015. Determining improvement needs in higher education benchmarking. *Benchmarking Intl. J.*, 22: 56-74.
- Chien, T.K., 2007. Using the learning satisfaction improving model to enhance the teaching quality. *Quality Assurance in Educ.*, 15: 192-214.
- Isa, M.F.M. and M. Usman, 2015. Improving university facilities services using Lean Six Sigma: A case study. *J. Facilities Manage.*, 13: 70-84.
- Kardoyo, K., 2011. [Analysis of quality assurance faculty of economics: Achievement of academic quality goals and conformity of academic procedures with ISO quality standards 9001:2008 (In Indonesian)]. *Educ. Dynamics*, 6: 108-118.
- Kardoyo and A. Nurkhin, 2016. [Satisfaction analysis of higher education service: Case on prodi magister of economics education unnes (In Indonesian)]. *J. Educ. Horizon*, 31: 164-175.
- Khan, A. and M.N. Masrek, 2017. Training needs analysis based on mismatch between the acquired and required levels of collection management skills of academic librarians. *Collection Build.*, 36: 20-28.
- Shah, H. and R. Gopal, 2012. Training needs analysis for bus depot managers at GSRTC. *European J. Train. Dev.*, 36: 527-543.
- Tetteh, G.A., 2015. Improving learning outcome using six sigma methodology godson. *J. Intl. Educ. Bus.*, 8: 18-36.
- Waldopo, 2011. [Needs analysis on multi media interactive program as learning media (In Indonesian)]. *J. Educ. Cult.*, 17: 244-253.
- Widarwati, N.T., 2012. [Management of study program (In Indonesian)]. *Widyatama*, 21: 115-120.
- Widodo, J., 2012. [Determinants of academic performance of post graduate program of UNNES (In Indonesian)]. *Educ. Dynamics*, 7: 94-101.
- Zheng, Y., 2010. On needs analysis and college English teaching in China. *J. Lang. Teach. Res.*, 1: 477-479.