Effect of Learning Facilities on Graduate Quality Through Quality of Learning Process in Vocational High School of Business and Management in West Sumatera

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Abstract— The purpose of this study was to empirically examine the effect of learning facilities on graduate quality with learning process as the intervening variable. The type of this study is descriptive research. The study was conducted in West Sumatera with 32 vocational high schools as the population. Sampling technique employed was total sampling, which can be defined as sampling technique in which we incorporate all subjects in the population as study sample. Type of data used in the study was secondary data obtained from each of sample school. The data was then analyzed by using Path analysis to determine the effect of exogenous variables on graduate quality as the endogenous variable. The findings showed that; 1) learning facilities had significant effect on graduate quality, 2) learning facilities highly determined the quality of learning process, and 3) learning process had significant contribution on the graduate quality. This study explicitly implied that both graduate quality and learning process highly depend on learning facilities. Well-equipped schools with complete learning facilities are more likely to be able have good quality of learning process; which in turns generates successful and highly qualified graduates.

Index Terms— graduate quality, learning facilities, learning process, and path analysis

1 INTRODUCTION

Education is conscious guidance and leadership organized by educators to students on physical and spiritual development toward the establishment of a major personality. Education is a process of transforming knowledge from educators to learners, so education basically is an activity to educate, teach, and conduct training by carrying out activities to transform all values. The transformation of value is intended to develop and maintain the culture owned by the community (Sadulloh, 2003:57).

The concept of lifelong education refers to educational activity as a whole. In other words, it suffices to say that education is an integrated system. Education is required to follow the development of the environment tailored to the needs of the community as well as the current reality. Parents are responsible for the education of their off-springs, for that they prefer the school as a place to acquire the necessary skills and knowledge in the process to become a well-groomed and mature human being. The education they choose must be of high quality. The quality of education is the effect and evaluation of education. The quality of education is represented by the learners as the subject of education (Zhang, 2010). The two goals in the quality of education include the objective of the education itself, which is to train a person to have basic knowledge and the goal of the school in training their students to be highly qualified and well-educated individuals.

Requirements to be fulfilled by learners is measured in accordance to the standard. The specified standard, including that for Vocational High School (SMK), is set in accordance to the market needs, in this case it's in line with the standards of-

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the business world and industry. The graduate quality is still represented by how well the student scores on the National Exam. Achievement of quality education can be done by improving the learning process (Thibaut et al, 2015). The quality of graduates can be enhanced by improving school management, enhancing the integrity of school principals, and a conducive school environment that is undertaken both collectively and individually (Suyatno, 2016).

Teacher is one of determinants of learners' success in education, the success can be seen from the percentage of students' graduation at a school each year and the average of the National Examination score. National Examination score is still the benchmark to measure the level of school success in achieving the quality of the graduates.

From preliminary observation done prior to the research, it can be concluded that among all vocational high schools in West Sumatera, SMAK N 2 Bukittinggi has the highest value of the total score on the National Examination, which is of 246,05 with the number of participants of 486 students and the average score of 61,51. While, SMK N 1 Sutera scores the lowest with 173,68 for the number of participants of 238 students with the average score of 43,42. This implies that SMK N 2 Bukittinggi managed to improve the quality of education which is signified by the average score of the National Examination. Thus, it can be interpreted that SMK N 2 Bukittinggi

generates better quality of graduates, while SMK N 1 Sutera still needs to strive hard to improve the quality of the graduates.

Graduate quality highly depends on the quality of teachers, learning facilities, academic assessments, principal supervision and student commitment to willingness to learn (Kotirde, 2014). These components in improving the quality of graduates in each school are not the same, depending on differences in school conditions, differences in school resilience, differences in principal supervision, differences in the completeness of the learning facilities and differences in creativity of teachers during the teaching and learning process.

The learning environment affects the learning process significantly, so that learning environment is expected to be conducive in order to support the quality of the learning process. Conducive environmental conditions for teaching and learning will create an effective learning process for teachers and learners (Ndungu *et al.*, 2015). The process of teaching and learning in schools requires human and non-human resources as inputs. Human resources consists of principals, teachers, counselors, employees and learners. Non-human resources include educational equipment, educational tools, educational budget and learning materials. Readiness of input is needed in the education process, the high quality of input can be measured from the readiness of input, the higher the readiness of an input, the higher the quality of the input.

Standard of Learning Facilities and Infrastructure of SMK/ MAK No. 40/ 2008 is standard measurement of facilities followed by each school. Vocational High School has a certain standard in the fulfilment of facilities and infrastructure. The fulfilment of standard facilities and infrastructure for Vocational High School found in Permendikbud No. 40/ 2008. This regulation can be a reference in assessing the quality of school whether it meets the facilities and infrastructure standard set in the instrument of Secondary School Accreditation.

From the preliminary observation, it's shown that the quality of learning facilities at Vocational High School of Business and Management in West Sumatera is not yet satisfactory. Supporting facilities crucial for quality learning process are still missing, such absence of libraries, the procurement of textbooks that have not been in accordance with the ratio of the number of students that is 1 unit of book per each learner, the study room is not designed in accordance with the number of study groups, and latrines that do not fit the learner's ratios. Difference in the quality of learning facilities is attributed to different quality in school graduates.

2 METHODOLOGY

This research is a causative research. Causative research is a type of research with the characteristics of the problem of causality between the two variables or more. Therefore, the purpose of this study is to determine the effect of learning facilities on the quality of graduate through learning process as the intervening variable. The data was analyzed by using Path analysis. The data in this research was sourced from Education Office of West Sumatra and National Accreditation Board of Secondary School of West Sumatera. From this data, the score of learning facilities quality, quality of learning process and quality of graduate were derived.

3 RESULTS

Path analysis is used to determine the effect of exogenous variables on endogenous variables through the intervening variable, and to measure the direct and indirect effects of a variable on other variables. After performing the test of normality and homogeneity, Path analysis was then carried out.

The Effect of Learning Facilities on Learning Process

The effect of learning facilities (X_1) on learning process (X_2) can be seen on Table 4.7 below.

Table 4.6 Path Coefficient of Learning Facilities on Learning Process

Variable	Path Coefficient	t_{count}	Sig.
Learning facilities (X_1) on quality of learning process (X_2)	0.703	5.407	0.000

Source: Processed Secondary Data, 2018

From the path coefficient presented on the above table, these followings can be drawn.

1. The effect of learning facilities on learning process quality is represented by the path coefficient of PX_1X_2 = 0.703, with t_{count} = 5.407 and significance of 0.000 < 0.05, it empirically proved that learning facilities has a significant effect on learning process. In other words, learning facilities determines the quality of learning process.
2. The effect of other variables:

$$Py\varepsilon = \sqrt{1-R^2\ yx_1\ x_2.....X_k}$$

$$Py\varepsilon = \sqrt{(1-0{,}494)}$$

$$Py\varepsilon = 0.711$$

This calculation showed that the effect of other variables on learning process quality was amounted to 71.1%, which means these other factors altogether play an important role in shaping the quality of the learning process at a school.

The Effect of Learning Facilities and Learning Process on The Quality of Graduates

The effect of learning facilities and learning process on the quality of graduates is as follows.

Table 4.7 Path Coefficient of Learning Facilities and Learning Pro-

cess on Graduate Quality

Variable	Path Coefficient	t_{count}	Sig.
1. Learning facilities (X_1) on graduate (Y)	0.569	4.095	0.000
2. Learning process (X_2) on graduate quality (Y)	0.288	2.071	0.047

Source: Processed Secondary Data, 2018

Path coefficient shown on the above table can be interpreted as follows.

1. The effect of learning facilities on the quality of graduate is represented by the path coefficient of PX_1Y= 0.569 and t_{count} = 4.095 with the significance of 0.000 < 0.05, this provided an evidence that learning facilities are correlated to the quality of school graduates.
2. The effect of learning process on the quality of graduate is represented by the path coefficient of PX_2Y= 0.288 and t_{count} = 2.071 with the sig. value of 0.047 < 0.05, this can be interpreted that learning process significantly determines the quality of graduates.
3. The effect of other variables

$$Py\varepsilon = \sqrt{1-R^2\ yx_1\ x_2.....X_k}$$

$$Py\varepsilon = \sqrt{(1-0{,}559)}$$

$$Py\varepsilon = 0.664$$

This result implied that graduate quality is 66.4% influenced by other variables that are not incorporated in this study. It suffices to say that these other variables highly determine the quality of graduate.

The Effect of Learning Facilities on The Quality of Graduate Through Learning Process

The effect of learning facilities on the quality of graduate through learning process can be detailed as follows.

1. The effect of learning facilities on quality of graduates represented by path coefficient of PX_1Y = 0.569 with t_{count} = 4.095 and sig. value of 0.000 < 0.05, this calculation provided evidences that learning facilities affect the quality of graduates.
2. The effect of learning process on graduate quality indicated by the path coefficient of PX_2Y = 0.288 with t_{count} = 2,071 and sig. value of 0.047 < 0.05, following this calculation it can be concluded that learning process contributes significantly to graduate quality.
3. The effect of learning facilities on learning process represented by path coefficient of PX_1X_2 = 0.703 with t_{count} = 5.407 and sig. value of 0.000 < 0.05, this demonstrated that learning facilities influences the quality of learning process.

4 DISCUSSIONS

The Effect of Learning Facilities on Quality of Graduate at Vocational High School of Business and Management in West Sumatera

Path analysis from the results of the first hypothesis testing is known that the learning facilities significantly influence the quality of graduates in vocational high school of business and management in West Sumatra. Path coefficient of 0.569, t_{count} = 4.095, and significance level 0.000 < 0.05. This can be interpreted that if the learning facilities are sufficient/ adequate then the quality of graduates will be good, and vice versa if the learning facilities are inadequate, the quality of graduates will be lower.

Vocational High School of Business and Management in West Sumatra has a value of category B on the learning facilities need improvement in school infrastructure in order to improve the quality of graduates of learners. The learning facility is in the form of a school area that fits the minimum area, a school building that meets the requirements of safety and comfort, sufficient electrical installation, has a common study area, study space, and a special study room complete with amenities. Classrooms are in accordance with the standards and have a moubiler that is quite appropriate to the number of learners.

The conclusion above is in line with the opinion of Lymo et al (2017) which states that the students' academic achievement is determined by the learning facilities, the learning facilities are in the form of availability of sufficient textbooks, maps and globes, and besides the lack of adequate physical facilities such as space class, desk and chair availability will result in low student achievement. Neji *et al* (2014) previously stated that the level of sufficiency of laboratory facilities in the field of pratikum affects the academic performance of students. Learning Facilities are not only adequate and sufficient must also be maintained properly, so it will affect the student's academic achievement, eventually Graduates Quality will be high.

School facilities have an important role in determining the quality of teaching and learning in order to achieve quality education. The quality and completeness of the learning facilities significantly influence the achievement of learning, learning achievement itself is a parameter to determine graduates quality. (Hasbullah, 2011). While there is no significant difference in the achievement of students studying in private and public schools in Ondo, which basically has different qualities in terms of learning facilities. However, this study still emphasizes the importance of teaching and learning facilities are complete and quality in support of school efforts to improve

student achievement (Alimi *et al.*, 2012). The above opinion explains that the learning facility has a significant influence on learning outcomes as a parameter in determining graduate quality and complete learning facilities will improve student academic achievement.

The Effect of Learning Facilities on The Quality of Learning Process at Vocational High School of Business and Management in West Sumatera

From the path analysis results, it is shown that the learning facility significantly affects quality of learning process at Vocational High School of Business and Management in West Sumatra. With the path coefficient of 0.703, t_{count} = 5.407, and level of significance of 0.000 < 0.05. This means that if the learning facility plays important role in shaping the quality of learning process at school. If the learning facility is of good condition and adequate, then the quality of learning process will be good.

Quality of learning process at Vocational High School of Business and Management in West Sumatra still belongs to category B, it is necessary to increase the procurement of school infrastructure primarily to support the learning process at school. The principal acts as a supervisor in the teaching and learning process, should continuously monitor the implementation of teaching and learning activities inside and outside the classroom. So as to encourage the implementation of the learning process well. Teachers should further enhance their skills by attending competent training. Besides that, the school must also complete the facilities in learning such as computer procurement for practical activities, internet network to support the movement of literacy in schools, procurement of instructional books in accordance with the number of learner ratios. Completeness of other supporting facilities for the comfort and safety of learners also need to be equipped such as UKS space, Osis space, and the Special Stock Exchange room.

This conclusion is supported by the opinion of Marko *et al*. (2011) stating that the quality environment for students, in the form of the provision of the equipment used, durable, and easy to fix to change the behavior of the individual student. Caroline (2014) states that the learning process is greatly influenced by the completeness of physical facilities. The facilities include classrooms, laboratories, latrines, libraries, teacher quality, teaching methods, coworkers, offices, lighting, and teaching materials. Dalyono (2001:241) stated that the completeness of learning facilities will help students learn and lack of learning tools or facilities will hinder the progress of learning. Mary (2016) affirmed that a clean, well-maintained learning facility and adequate and adequate study space will support the teaching and learning process in schools.

The Effect of Learning Process Quality on Quality of Graduate at Vocational High School of Business and Management in West Sumatera

From the third path analysis, it can be seen that the quality of learning process significantly affects the graduate quality in Vocational High School of Business and Management in West Sumatra. With the path coefficient of 0.288, t_{count} = 2.071, and level of significance 0.047 < 0.05. This means that the quality of learning process results in the high quality of graduates. On the other hand, if lower quality of learning process will result in low graduate quality. Thus, the learning process as an intervening variable has direct contribution to quality of graduates.

It can be concluded that the learning facility has a significant effect on graduate quality. Learning facilities can also significantly influence the quality of graduates through quality of teaching and learning process. This means that if the learning facility is used during teaching and learning process optimally, it will help improve the graduate quality. But if the learning facility is not used optimally, the quality of learning process will not be of good quality which results in lower quality of graduates.

Vocational High School of Business and Management in West Sumatra still has value in category C on the quality of graduates. The school principal in this case the principal needs to provide motivation to teachers to improve skills in planning lessons, ability in learning, and ability in conducting learning evaluation. Teaching and learning process needs to be a concern to improve the competence of graduates. The competencies of this graduate include attitudinal competence, knowledge competence, and skill competence. Quality of graduates at school not only pay attention to the knowledge and skills but also the formation of character in the learners. Industrial world and business world today as graduate recipients of each school not only see the knowledge and skills in accordance with the skills/ skills they need but behind it the world of work need people who are independent and good character. If so the character formation of learners will become a necessity for educators in addition to knowledge and skills.

The conclusion in above in line with the opinion Purwanto (2009) states that all school activities will run well and smoothly and successfully if the implementation through the processes contained in elements of substance arable. The process starts from planning, implementation, and evaluation. In accordance with the opinion above Subyobroto (2002) states that in the process of learning a quality teacher must have the ability to prepare teaching, the ability to implement teaching, and the ability to evaluate the lesson. Fang (2009) states that teach-

er quality plays a strong role to improve school quality and school quality can be seen from students' academic achievement. Students' academic achievement increases will have a good effect on graduates quality. In line with that Piggozzi (2007) states that graduates quality at school can not be separated from the learning activities utilized at schools, because that's where the quality of school can be seen. This means that graduate quality at school leads to the quality of learning process conducted in the interaction of learning between teachers and learners.

The quality of learning organized by the instructor is closely related to the learning outcomes of the students. This study also suggests that instructor characteristics have a significant effect on student learning beyond its effect on the completion rate (Matthew, 2013). That the learning process that is analyzed through the strategy approach used has a significant influence on students' learning perception. *Deep-strategy approaches* are said to contribute significantly to students' academic achievement. (Halil et al., 2015). Both of these studies explain to improve the quality of teaching and learning process in need of influence from the instructor in this case is the teacher, also the learning process conducted siperlukan strategy approach so that it can affect students' learning perception.

5 CONCLUSION

This study provided empirical evidence that learning facilities plays an important role in supporting the learning process. Well-equipped school with conducive learning environment will help enhance the learning quality itself. Better learning quality in turns will improve the quality of graduate students. This research also implied that every school should monitor the quality of learning facilities as an effort to maintain the quality of learning process.

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