

Contribution of Teacher's Pedagogic Competence and Learning Facilities in School to Build a Quality Learning Process

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Abstract—This study aimed at analyzing the quality of learning process affected by the teachers' pedagogic competence level and the school's learning facilities. The method used was survey, with questionnaire as the instrument for data collection. The results showed that the teachers' pedagogic competence and the learning facilities had significant positive effect on the quality of the learning process. Therefore, the quality of the learning process may be improved by upgrading the teachers' pedagogic competence and the learning facilities.

Keywords—*teachers' pedagogic competence; learning facilities; learning process quality*

I. INTRODUCTION

Education is a learning process to prepare the next nation leaders who are prepared for excelling in the global competition. The achievement of quality education begins with the quality of the learning process. Quality learning is developed through interactive communication between the teachers and the learners. The objective is to prepare the learners for becoming knowledgeable, skilful, creative, and honourable persons. There are numerous factors that can affect the quality of learning process, among others are the teachers and the learning facilities. The learners' level of success in learning depends on how the teachers engineer the learning process. As stated by Grambs and Clarealam in Sobandi, teachers are the spearheads of the school's success through quality learning [1]. On the other hand, the success of the process of learning depends on the availability and appropriateness of the learning facilities in the school. Gie in Sobandi, argues that to have a better learning, the learning facilities, including the place, aids, and time, must be adequate [1].

In the process of learning, there are four input groups, namely *raw input*, *instrumental input*, *environmental input*, and *structural input* [2]. Learners are the raw inputs that are put into the learning process. Giving them knowledge and skills (hard skills) is not sufficient, consequently they need to have a change in attitude and have strong character (soft skills). Instrumental input is the supporting resource in the learning process that includes: teachers, curricula, materials, media, sources, and classroom management. Environmental input

includes conditions of the family, social, economy, community culture, education system, government policy, and related laws. Structural input is the formal institutional setting, that is manifested in the objectives of education, objectives of the school, the visions and missions of the school, and school management. The achievement of learning outputs and outcomes indicated by the graduates' profile is an important aspect in assessing the quality of learning process.

Many studies on the quality of the learning process have been carried out. According to Leonard, teachers who had high competence would improve the quality of learning [3]. Rahman's study also concluded that the pedagogical competence of teachers influenced the performance of teachers in the learning process [4]. Triyanto et al. study concluded that the use of learning media had a positive impact on the learning process [5]. Meanwhile, Widodo suggested that the low quality of education in Indonesia was partly due to the lack of support for physical facilities and low quality of teachers [6]. As found by Darmawan, educational facilities and infrastructure were important resources in supporting the learning process in schools [7]. For this reason, the need for optimization the provision, utilization, and management of learning facilities in schools had to be addressed.

The focus of this study was on the low quality of the learning process, which was assessed from teachers' pedagogical competence and learning facilities at schools. The research target was all 11th Grade students of the Office Administration expertise program at SMK Sangkuriang 1 Cimahi.

II. METHOD

The research employed explanatory survey. Survey research is a quantitative study using a questionnaire as the data collection instrument. Information obtained from the unit of analysis is then analyzed to explain the relationship between variables examined by testing the hypotheses using statistical data processing and testing [8].

III. LITERATURE REVIEW

The framework in this study was based on theoretical concepts about the pedagogical competence of teachers, learning facilities, and the quality of the learning process.

A. *Quality of Learning Process*

Quality service in the learning process is a necessity that will determine the success or failure of the learning process. The quality of service in the learning process is related to the intensity of the interaction between the learners and the teachers. Nasution suggests that in a system, the input will be processed through various activities using appropriate techniques and procedures [9]. Furthermore, the process will produce output that will be used by the community.

In the school learning system, however, the quality of the raw input that goes into the learning process should be directed to achieve a standardized equivalent output quality. Therefore, teachers must provide services optimally in the learning process.

Quality learning process requires optimal support of resources, so that the transformation process can achieve a significant degree of added value for the learners. The process is said to have a good quality if the coordination and harmony of all inputs are achieved in an integrated manner, so as to create a fun learning situation, motivate interest in learning, empower, and develop student's potential. Hadis explains that the quality of the learning process is defined as the quality of learning activities undertaken by teachers and learners in the classroom and elsewhere [10]. Thus, the quality of the learning process is the result of interactive activities between the learners and the teachers, which aims at changing the students' behavior into a positive and better direction, in accordance with the potential of students.

In this case, the quality of the learning process is measured through a number of indicators: conformity, attractiveness, effectiveness, efficiency, and productivity of learning Muljono [11].

B. *Teachers' Pedagogic Competence*

The term teacher competence has many meanings. Syah argues that teacher competence is the ability of a teacher to carry out his obligations responsibly and properly [12]. The Law Number 14 of 2005, Article 10 Paragraph (1) states: "The competences of teacher include pedagogic competence, personality competence, social competence, and professional competence gained through professional education".

The Regulation of the Minister of National Education of the Republic of Indonesia Number 16 of 2007 on Academic Qualification and Teacher Competency Standards states that pedagogic competence is the ability of teachers in managing the learners' learning which at least includes:

- Mastering the characteristics of learners from the physical, moral, spiritual, social, cultural, emotional, and intellectual aspects.
- Mastering the learning theories and educative learning principles.

- Developing a curriculum related to the subjects being taught.
- Organizing educative learning.
- Utilizing information and communication technology for the benefit of learning.
- Facilitating the development of learners' potential to actualize them.
- Communicating effectively, empathetically, and courteously with the learners.
- Conducting assessments and evaluations of learning process and outcomes.
- Utilizing the assessment and evaluation results for the benefit of learning.
- Performing reflective actions to improve the quality of learning.

In the Government Regulation No. 74 of 2008 on Teachers, the scope of mastering pedagogic competence includes the following eight aspects:

- Understanding of the educational insights or foundations;
- Understanding of students;
- Development of curriculum or syllabus;
- Learning design;
- The implementation of educative and dialogical learning;
- Use of learning technology;
- Evaluation of learning outcomes; and
- Learner development to actualize the various potentials they have.

Based on the explanations, it can be concluded that pedagogic competence is the teachers competence to understand the characteristics of students and to manage educational and dialogical learning by creating a varied learning atmosphere and experience, and managing the students according to the demands of the curriculum [5,13,14]. For this reason, teachers must develop the appropriate lesson plans, implement them, and evaluate the results. Teaching is a complex and multi-professional work. Therefore, teachers must have readiness for teaching, which is indicated by the mastery of the fields of science being taught and the skills in teaching them.

In this study, the teachers' pedagogic competence was measured using ten indicators, as stipulated in the Regulation of the Minister of Education No. 16/2007.

C. *Learning Facilities*

In the Kamus Besar Bahasa Indonesia, facilities are interpreted as means to expedite the implementation of

functions, so that it will facilitate the implementation of tasks [15]. According to Djamarah "facilities are all things that make it easy for students" [16]. Bafadal defines "learning facilities are all equipment, materials, and tools that are directly used in the learning process at school" [17].

Learning facilities are all of the tools (mobile and/or immobile) that are required and used in the teaching and learning process, either directly or indirectly. It is intended to simplify and ease the learning process, so that goals can be achieved more effectively and efficiently [18-20]. According to The Liang Gie, adequate learning facilities include the study room, lighting, ventilation, handbook, and complete laboratory equipment [21].

From the explanation, it can be concluded that the learning facilities serve to support and facilitate teachers in the delivery of learning materials to students, and help students in understanding what is conveyed by the teacher, in order to achieve success in the learning process. Learning facility variables are measured using the following six indicators: school building arrangement, classroom quality, library functionality, functionality of classroom and laboratory facilities, availability of textbooks, and optimization of media/aids [22].

IV. RESULTS

The results of the study were obtained from questionnaire score processing, which was assisted by Microsoft Excel 2013 software to measure how much influence the variables of pedagogic competence and learning facilities have on the quality of the learning process.

A. Description of the Learning Process Quality

The quality of the learning process was measured using five indicators, namely: conformity; attractiveness; effectiveness; efficiency; and learning productivity. The following table presents the percentage of responses received by respondents who were grouped into three criteria.

TABLE I. RESPONSES TO LEARNING PROCESS QUALITY

No	Category	Score	Total Freq.	Percentage
1	Low	53.00-62.00	14	17%
2	Medium	62.01-71.00	38	49%
3	High	71.01-80.00	26	34%
Total			78	100%

Source: Data Processing Results

Table 1 shows that 49% of the respondents perceived that the quality of the learning process was in the medium category, 34% of the respondents stated that it was in the high category, and 17% of the respondents viewed it low. Thus, almost half of the respondents perceived that the quality of the learning process was in the medium category.

B. Description of the Teachers' Pedagogic Competence

The mastery of teachers' pedagogic competencies as measured based on the Regulation of Minister of National Education of the Republic of Indonesia No. 16 of 2007, which

is affirmed in the Regulation of the Minister of Research, Technology, and Higher Education of the Republic of Indonesia Number 55 of 2017, that the mastery of pedagogic competencies in professional teachers is demonstrated by their ability to understand knowledge, attitudes, and skills to plan, implement, assess and evaluate learning.

Results of data processing on questionnaire answers, is presented in the following table.

TABLE II. RESPONSES TO THE TEACHERS' PEDAGOGIC COMPETENCE

No	Category	Score	Total	Percentage
1	Low	61.00-67.33	15	19%
2	Medium	67.34-73.66	21	27%
3	High	73.67-80.00	42	54%
Total			78	100%

Source: Data Processing Results

Table 2 presents that the 54% of the respondents perceived that teachers' pedagogic competence was in high category. However, it was not a guarantee that the teachers' pedagogic competence as a whole was high, as there were still respondents who perceived that the teachers' pedagogic competence was in the medium category (28%), and low category (19%). It can be concluded that the mastery of the teacher's pedagogic competency was highly perceived by more than half of the respondents.

C. Description of the Learning Facilities

Learning facilities were measured using six indicators, namely: the arrangement of school buildings; quality of classrooms; library functionality; the functionality of classroom and laboratory facilities; and availability of textbooks; optimization of media/aids. The results of the questionnaire data processing related to learning facilities are set out in the following table.

TABLE III. RESPONSES TO LEARNING FACILITIES

No	Category	Score	Total	Percentage
1	Incomplete	46.00 – 55.00	13	17%
2	Partially complete	55.01 – 64.00	42	54%
3	Complete	64.01 – 73.00	23	29%
Total			78	100%

Source: Data Processing Results

Table 3 presents that 54% of respondents perceived that the learning facilities were in the partially complete category, even 17% of respondents perceived that they were in the incomplete category, and 29% of respondents perceived that the facilities available in school were complete. Thus, it can be concluded that more than half of the respondents perceived that the learning facilities in schools were partially complete.

D. The Effect of Pedagogic Competence and Learning Facilities on Quality of Learning Process

Based on multiple regression calculation to measure the influence of teacher pedagogic competence and learning

facility variables in school to quality of learning process, the following equation was used.

$$\hat{Y} = 13.7045 + 0.5480 X_1 + 0.6995 X_2.$$

The equation shows that there is a one-way effect, which means that the improvement of learning process quality would be achieved when there was an increase in the mastery of teacher pedagogic competence and complete learning facility.

Based on the hypothesis testing calculation, F_{count} obtained was 34.0922 while the F_{table} with confidence level $\alpha = 0.05$ and $dk_{reg\ b/a} = 1$ and $dk_{res} = n-k-1 = 78 - 2 - 1 = 75$ as much as 0.0513 which meant that $F_{count} \geq F_{table}$ or $34.0922 > 0.0513$, therefore H_0 was rejected and H_1 was accepted. In conclusion: "There was a significant positive influence of teacher pedagogic competence and learning facilities on the quality of the learning process."

The correlation coefficient between the teachers' pedagogic competence variable and learning facilities variable on the quality of the learning process was 0.6036. When it was linked with the interpretation of correlation, the coefficient value was in the range of 0.600-0.799, meaning that it was in the strong category. In conclusion, there was a strong relationship between pedagogic competence of the teachers and learning facilities on the quality of the learning process. From the correlation coefficient value, the determination coefficient value was 36%. This meant that the teachers' pedagogic competence and learning facilities affected the quality of the learning process by 36%. The remaining 64% was influenced by other factors that were not examined.

Based on the literature review related to the condition of teachers in the study sites, all of them already had more than five years of teaching experience, and most of them had certified professional educators. This is in line with the perception of more than half of respondents who stated that the mastery of teacher competency was high, while the learning facilities (especially for practicum) were still inadequate, both in terms of quantity and quality. On the other hand, most of the learning process in vocational schools took place in the form of practice.

V. DISCUSSION

Organizing a quality learning process is a necessity to achieve quality education results. As stated by Sallis that the quality of education is influenced by leadership, strategy, system, facilities, evaluation, staff motivation, and teamwork [23].

In Sallis's view, teachers have an important role in guarding the learning process [23]. Specifically, the teachers' performance is directly related to their ability to understand education policies, choose a relevant learning strategy, use learning facilities, evaluate, and work as a member of a solid teamwork in his school. This is in line with the demands of the Law no. 14/2005, that professional teachers must master four main competencies, namely: pedagogic, personal, social, and academic (scientific).

Mastery of pedagogic competence becomes very urgent for a teacher. This will impact on the creation of a fun learning

atmosphere, thus motivating the students for learning to achieve success. As stated by Abdulhak and Riyana that teacher quality is a key factor for the implementation of a quality learning process [24].

In accordance with the demands of the curriculum, the learning objectives in vocational schools are focused on producing graduates who are ready to work with adequate knowledge and practical skills, according with the development of the needs of the workforce. The achievement of these goals is the end result of the learning process that takes place in schools. In connection with these things, the learning process at school must be contextual so that students can be easily adapt.

According to the Government Regulation of the Republic of Indonesia Number 32 of 2013 concerning Amendments to Government Regulation Number 19 of 2005 concerning National Education Standards, Article 19, the learning process in education units is organized interactively, inspiring, fun, challenging, motivates students to actively participate, and provides sufficient space for initiative, creativity, and independence according to their talents, interests, and physical and psychological development.

In today's digital era, there has been a shift in the need for labor skills, especially with regard to the use of information technology. This encourages teachers to improve mastery of digital-technology-based pedagogic competencies and communicate effectively [24]. For this reason, the school must provide learning facilities as needed. Thus, students will get a learning experience that is conducive and relevant to the demands of the workforce.

Referring to Abdulhak and Riyana's views, the learning process in the digital era must use diverse media and be directed to forge the level of students mental development, so that they can apply their knowledge and skills responsibly [24]. In this case there must be a balance between mastering hard skills and soft skills.

Professional teachers who master the four basic competencies according to the Law No. 14/2005 have full responsibility for the learning process quality in its class. In the end, improving the quality and competitiveness of Indonesia's human resources as a result of education in schools has become a national commitment.

VI. CONCLUSION

Based on the explanation above, it can be concluded that more than half of respondents perceived that the pedagogical competence of teachers was in the high category, while learning facilities in schools were perceived as incomplete by more than half of the respondents. Nearly half of the respondents perceived the quality of the learning process in the medium category. Referring to the coefficient of determination, the teacher's pedagogic competence and learning facilities had a significant positive influence on the learning process quality. Thus, if mastery of teachers' pedagogic competencies is improved and learning facilities are equipped, it will improve the quality of the learning process.

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REFERENCES

- [1] Sobandi, A. Produktivitas Sekolah Menengah Kejuruan : Studi tentang Pengaruh Kepemimpinan Kepala Sekolah, Kinerja Mengajar Guru, Iklim Sekolah, dan Fasilitas Pembelajaran terhadap Produktivitas SMK Bidang Keahlian Bisnis dan Manajemen di Kota Bandung. Bandung: Disertasi Sekolah Pascasarjana, Universitas Pendidikan Indonesia, 2015.
- [2] Saputro, S. Strategi Pembelajaran. Malang: UM Press, 2005.
- [3] Leonard. Kompetensi Tenaga Pendidik di Indonesia: Analisis dampak redahnya SDM guru dan sosuli perbaikannya. Jurnal Formatid 5 (3), 192-201. 2015.
- [4] Rahman, M.H. "Pedagogical Competence Junior High School Science Teacher". International Seminar on Quality and Affordable Education (ISQAE 2013), 386. 2013.
- [5] Triyanto, Anitah, and Suryanti's. Model-model pembelajaran inovatif berorientasi konstruktivistik. Jakarta: Prestasi Pustaka Publisher. 2007.
- [6] Widodo, H. "Potret Pendidikan di Indonesia dan Kesiapannya dalam Menghadapi Masyarakat Ekonomi Asia (MEA)". Cendekia Vol. 13 No. 2, 306. 2015.
- [7] Darmawan, B. "Manajemen Sarana dan Prasarana dalam Meningkatkan Kualitas Pendidikan" Manajemen Sarana dan Prasarana Pendidikan. Vol.6 No. 2, 93-102. 2014.
- [8] Sugiyono. Statistik untuk Penelitian. Bandung: Alfabeta. 2010.
- [9] Nasution, M.N. Management Mutu Terpadu (Total Quality Management). Jakarta: Ghalia Indonesia. 2001.
- [10] Hadis, N.D. Manajemen Mutu Pendidikan. Bandung: Alfabeta. 2010
- [11] Muljono, Pudji. Standar Proses Pembelajaran. Jakarta: Buletin BSNP. 2002.
- [12] Syah, Muhibin. Psikologi Pendidikan dengan Pendekatan Baru. Bandung : PT Remaja Rosdakarya. 2002
- [13] Sagala, Syaiful. Konsep dan Makna Pembelajaran. Bandung: CV. Alfabeta. 2008.
- [14] Alma, Buchori. Guru Profesional (mengetahui metode dan terampil mengajar). Bandung: Alfabeta. 2009.
- [15] Departemen Pendidikan Nasional. Kamus Besar Bahasa Indonesia Pusat Bahasa. Cetakan Ketuju, Edisi Keempat. Jakarta: PT Gramedia Pustaka Utama. 2013.
- [16] Djamarah, S.B. Strategi Belajar Mengajar. Jakarta: PT. Rineka Cipta. 2006.
- [17] Bafadal, I. Manajemen Perlengkapan Sekolah dan Aplikasinya. Jakarta: Bumi Aksara. 2004.
- [18] Muhroji, Manajemen Pendidikan. Surakarta: UMS Press. 2004.
- [19] Ibrahim, B. Manajemen Perlengkapan Sekolah. Jakarta: Bumi Aksara. 2002.
- [20] Sadirman. Interaksi dan Motivasi Belajar Mengajar. Jakarta: Raja Grafindo. 2011.
- [21] The Liang Gie. Cara Belajar yang Efekif. Yogyakarta: Liberty. 2002
- [22] Aunnurrahman. Belajar dan Pembelajaran. Bandung: Alfabeta. 2010
- [23] Sallis, E. Total Quality Management in Education. Yogyakarta: Ircihod. 2006.
- [24] Abdulhak, Ishak, dan Cepi Riyana. E Learning. Konsep dan Implementasi. Bandung: UPI Press. 2017.