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The Influence of Teachers' Competence Toward the Learning Outcome of Students from the Beauty Department in a Vocational High School in Semarang

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Abstract: This research aims to unveil the correlation between teachers' pedagogical and professional skills towards the learning outcome of Beauty department program students in a Vocational High School in Semarang. The objectives include 1) the correlation between teachers' pedagogical skills to students' learning outcome; 2) the correlation between professional competence with students' learning outcome; 3) the influence between both teachers' competences to students' learning outcome. This research employed a survey. The researcher targeted the Hair Beauty department of a Vocational High School in Semarang. The population of this research is the XI grade students who take Hair Beauty major. This research employed a saturated sampling method for 36 students. The data were analysed with the correlation and double regression techniques.The result showed that 1) there is a correlation between teachers' pedagogical competence and students' learning outcome in the rate of 0.768; 2) there is a correlation between teachers' professional competence towards students' learning outcome in 0.652; and 3) there is a collective correlation between teachers' pedagogical ability and professionalism to students' learning outcome in 0.778.

1 INTRODUCTION

Global education recently faces some challenges and dynamic changes. The demand for information and communication, the vast development of technology, and the shift in working structure in the global era require people to have a high degree of professionalism. Hence, vocational education becomes key to prepare skilled and professional workers in the working market(Putu Sudira, 2017).

Indonesia is progressing to have a structure in placing workers' based on specific working fields, education, and professional level.Through the Indonesian National Standard of Competence or KKNI, it is expected that future workers might be able to have a clear career path based on the required competencies. Therefore, a prospective worker should get a learning process which sharpens their competence, critical thinking, problem-solving skills, creativity, and higher-order thinking skills in the real working world.

Currently, the government tries to provide more significant concerns on the development of vocational education. The global transformation demands the students to understand the requisites for the working market in the future. Ideally, the education system should enrich students with the keys to professional working. The system means focusing on the comprehensive development of people's working skills and the ability to be a better one. Thus, they can have better or proper working capacity or be able to be appropriately trained before jump on to the working fields (Sudira,2017). Vocational education can guide future workers with knowledge and skills that they can have the best identity of work and high order thinking skills.

Trilling &Fadel (2009) mentions that to answer future global problems, people are required to possess these skills, which are: (1) learning and innovation skills, including the ability of critical thinking, problem solving, communication, cooperation, creativity, and innovation; (2) digital

literacy skills:information literacy skills, media literacy, and communication technology literacy; (3) career and life skills:flexible and adaptation, initiative and independence,social and multicultural interaction, productivity and accountability, and the leadership skills.

A beauty department of a vocational high school in Indonesia is a middle school which prepares the students to work in a beauty working fields as well as develop students' professional skills in the beauty industry. The working areas for this department are facial treatment, body treatment, hair salon, SPA, make-up artist, wedding make-up, et cetera. To anticipate the fields, students of the department should have excellent preparation from their cognitive, affective, and psychomotor learning outcome to be the work-ready graduates.

In preparing the students, schools, through their teachers, play a vital role. Teachers are the critical elements of the schooling education system (Depdiknas,2008:1). The quality of students' learning outcome depends on the teachers' teaching skills. If a teacher has excellent teaching skills, it will impact the learning environment. Teachers are educational workers who have to determine the factors of the educational institution's success. The case happens because teachers directly work with the students to guide them to be a better graduate and even worker.

1.1 Pedagogical Competences

Teachers' pedagogical competency covers the ability to manage the learning process, which includes planning, implementation, and evaluation of learners' learning outcomes(Rahman, 2014). The essential criteria of the pedagogical competences are stages of development (transmitting/ teaching contents, including it into a network, applying, combining it, reaching performance/ forming competence), components (information, materials, knowledge, abilities, performance, effectiveness), factors (physical, intellectual, behavioural, instrumental, actional), context (educational, psychological, interactional, administrative, organizational, social, economic, cultural), level of application (individual, team, group, institution, community), and purpose (the individual's development, increasing motivation for learning, developing responsibilities, developing the curriculum)(Liliana Mâță, 2011). Indonesian teacher's pedagogical competence includes (1) mastering the characteristics of learners, such as physical aspects, moral, spiritual, social, cultural, emotional, and intellectual abilities; (2) mastering learning theories and principles of educational learning; (3) develop a curriculum related to the subjects taught; (4) Organize pedagogical knowledge; (5) utilizing information and communication technology for the benefit of learning; (6) facilitating the development of potential learners to actualize various potentials; (7) communicating effectively, empathically, and well-mannered with learners; (8) conducting assessment and evaluation of learning processes and outcomes; (9) utilizing assessment and evaluation results for learning purposes; and (10) reflective in taking action to improve the quality of learning (Mardapi & Herawan, 2018).

1.2 Professional Competences

Indonesian teachers' professional competence standards cover (1) mastering the knowledge materials, structures, concepts, and mindsets of knowledge that support the subjects / skill sets are taught; (2) mastering the standard of competence and basic competence of subjects / skill packages that are taught; (3) developing creative learning materials; (4) developinga professional way by doing reflective actions; (5) utilizing information and communication technology to communicate and develop themselves (Mardapi & Herawan, 2018). The concern of researchers and practitioners with creating a system of professional standards in the field of training teachers is motivated by the need to provide future teachers with both the opportunity to access the highest possible quality of initial training in professional institutions and also with the possibility of attending continuous training programs that meet the requirements of current demands (Liliana Mâță, 2014). Therefore, teachers will always learn to grow their skills and teaching capability. Teachers should master the materials well with clear illustration and contextual examples.

In this research, the researcher limits the investigation only to pedagogical competence because it is very influential for students' learning outcome, affective development, and skills growth. Therefore, the teacher emphasized planning,

executing, and evaluating the learning process. To help teachers master the materials, they should be able to have a set of knowledge and skills in teaching and upgrade their ability to modernity.

Daryanto (2010:181) explains that teaching gives students knowledge, characters, and skills. Teacher emphasizes instilling those components to students. Thus, the teacher should be able to understand what teaching and teaching materials are complete.

Meanwhile, Nana Sudjana (2009:19) states ten competence which teachers should have, which are: (a) mastering materials, (b) managing the teaching and learning process, (c) managing classroom activities, (d) utilizing learning sources, (e) mastering the principles of education, (f) managing the teaching and learning interaction, (g) measuring students' learning achievement, (h) understanding the function and services of guidance and counselling, (i) understanding school administration skills, and (j) interpreting a research finding based on his or her research in education. From all competencies, the teacher is directed to be an educator. The direction shows that teachers have essential competence in the teaching and learning process.

Also, pedagogical skills and professionalism are essential for teachers. According to Marsh (1996:373), the sources of teachers' evaluation are their peers, the school committee, the educational workers, leaders of the schools, the parents, and themselves. There are some strengths and weaknesses from these sources, which are 1) observation: thorough, but need more time and resources in observing; 2) self-evaluated: short, but prone to dishonesty; 2) portfolio: easy to do, but not realistic; 3) peers: easy to do, but peers always feel wrong about judging others; 4) students: only applicable to particular aspects; 5) leaders: prone to hallo effect; and 6) documentation and artefact: only limited to a specific issue.

1.3 Learning Outcomes

Learning outcomes are the specifications of what a student should learn and demonstrate, on successful completion of the course or the programmes(Kumar, 2016). The result of learning is a manifestation of the ability achieved, controlled or owned by the individual, in this case, the student after receiving a learning experience and the results can be knowledge, understanding and application of concepts, calculation of problem-solving based on the subject (Lotulung & Tumurang, 2018). The learning outcome is related to students' memorization and enforcement. The learning outcome is the experience of the students(Nana Sudjana, 2009). The higher the graphic of the issue will motivate the students to keep learning.

The opinion above can be concluded as learning outcome results changes to students in terms of knowledge, understanding, and behaviour. As in the learning taxonomy, there are three aspects of learning, which are cognitive, affective, and psychomotor aspects.

2 RESEARCH METHODS

This research employs a quantitative design. The data of this research came from quantitative observation and statistical analysis(Gall, M. D., Gall, J. P., & Borg, 2003). This research is an ex-post-facto since it happened in the past(Bordens, K. S., & Abott, 2008). The instruments of this research are tests, questionnaires, and scoring sheets. Previously, the questionnaires and tests were validated by validators and small-scaled trials. The result is reliable if the score is above 0.70 to gather data. The test scoring is either skill-based or comprehensively based on dimensions and creative strength, which is what we used in this study(Krumm, Filippetti, & Gutierrez, 2018).The analysis of the data was using regression with normality, linearity, and multi co-linearity test.

2.1 Normality Test

This research uses the one-sample *Kolmogorov Smirnov* Normality test. The test helps the researchers to know whether a variable interferes or has a normal distribution. Table 1 provides the result of the test.

Table 1. The result of One-Sample Kolmogorov Smirnov-Z Normality tests

	Model 1
Kolmogorov Smirnov-Z	1.184
Probability	0.121

The result of the normality test showed that the residual probability value (ρ) of this research has the score of (ρ) > 0.05 with the normal distribution. Thereby, the t-test in the regression 1 model is valid.

2.2 Linearity Test

The linearity test of this research was through regression technique. Table 2 describes the experiment as follows.

Table 2. Linearity Test Result

Variable		F - count	Sig	Conclusion
Learning outcome	Pedagogical	2.924	0.42	Linear
Learning outcome	Professional	3.160	0.14	Linear

The result of the test showed that all regressions have a score of p>0.05. Therefore, all independent variable to the dependent variable is linear.

2.3 Multi co-linearity Test

The multi co-linearity test was done through regression with Variance Inflation Factors (VIF). Table 3 provides the result of the test as follows.

Table 3. The Result of Multi Co-linearity Test

Variables	VIF	Notes
Pedagogical Competence	2.219	No multi co-linearity
Professional Competence	2.219	No multi co-linearity

Table 3 shows that all variables have VIF less than 10. Thus, there is no multi co-linearity between independent variables.

2.4 Correlation Test

Correlation aims to know the bonding between two variables stated in a correlated coefficient. In this research, the data were analysed using Pearson and Spearman Rank correlation test (non-linear). The correlation depends on the value of correlation coefficient (r) >0.40 and the probability of (ρ) < 0.05. The analysis of the data used a computer program of SPSS. The summary of the correlation test is in Figure 4 as follows.

Table 4. The Matrix of Correlation

Variable / Sub-variable	Coefficient of Correlation (r)	Probability	Results (the existence / absence of correlation)
Pedagogical – learning outcome	0.768	0.00	Correlated
Professionalism – learning outcome	0.652	0.00	Correlated

2.5 The Correlation between Teachers' Pedagogical Competence towards Students' Learning Outcome

Based on the coefficient correlation of teachers' pedagogical competence to students' learning outcome in the Hair Beauty department of a Vocational High School in Semarang, there is a coefficient of correlation of (r) 0.768 with the probability of (ρ) 0.00. The result shows that there is a significant relationship between pedagogical competence and the students' learning outcome. Therefore, the variable of pedagogical expertise (consists of students' understanding; learning plans; learning execution; learning evaluation,andstudents' development). There is a strong correlation between the sub-variable of students' learning outcome to the readiness of the Vocational High School students to work. In conclusion, a robust pedagogical competence will impact students' learning outcome.

2.6 The Correlation between Teachers' Professional Competence and Students' Learning Outcome

The coefficient of correlation between teachers' professional profile to students' learning outcome showed the number of (r) 0.652 with the probability of (ρ) 0.00. The result showed that there is a significant correlation between teachers' professionalism and the sub-variable of students' learning outcome. In conclusion, teachers' effective professional profile will impact students' learning outcome.

2.7 The Correlation between Teachers' Pedagogical Skills and Professionalism with Students' Learning Outcome

The multiple linear regression model of the pedagogical competence (X_1) and professionalism (X_2) resulted in the learning outcome of (Y_1) in the formula of $Y_1 = a + b_1 X_1 + b_2 X_2$. Based on the regression analysis, there is an equation of $Y = -22.756 + 0.535X_1 + 0.237X_2$; $R^2 = 0.606$. The equation means that the constant (a) is -22.756, which means that the pedagogical competence (X_1) and professionalism (X_2) is highly required for the learning outcome (Y_1).

The coefficient of pedagogical competence (b_1) and pedagogical competence variable (X_1) are the variables which influence students' learning outcome with the positive regression of 0.535. The result means that if the pedagogical competence (X_1) increase in one level, the learning outcome (Y_1) will increase in about 0.535, where the other variables are constant.

The coefficient of professional competence (b_2) and the variable of professionalism (X_2) are the variable which influences the learning outcome with positive regression of 0.237. The result shows that if the professional competence (X_2) increase in a level, the learning outcome (Y_1) will increase in 0.237 with the assumption that the other variables are constant.

From the test of multiple coefficients of correlation (R) in 0.778, there is a strong correlation between professionalism and students' cognitive development. Meanwhile, the ratio of determination (R-square) is 0.605, which shows that 60.5% of the students have the readiness of starting a business. Meanwhile, the rest 39.5% shows other aspects of preparedness out of the researched factors.Furthermore, the test also showed relative contribution and active contribution from the pedagogical competence to students' learning outcome in 48.47% and 29.319%. Besides, there is also a relative contribution and effective contribution of the professionalism to the learning outcome in 12.03% and 7.27%.

3 DISCUSSION

Planning of learning activity is a sequence which should be done by teachersbefore coming to the classroom. The planning start with the activities of formulating the objective of the learning, methods, model, media, and the time allocation in each lesson. The teacher makes the lesson plan. A good lesson plan makes a good learning process.

In planning the learning activities, teachers also need to decide the scoring system to evaluate students' learning outcome. The technique of the evaluation is in line with the learning objectives to improve students' cognitive, affective, and psychomotor skills. Concerning that, cognitive load theory proposes that extraneous aspects of learning need to be reduced such that learners' working memory capacity will not be overloaded (Seufert, Wagner, & Westphal, 2017). Besides, there are some factors which influence the decrease in students' cognitive skills. The decreasing factors are each student's prior cognitive (e.g., knowledge) and non-cognitive (e.g., motivation) elements, which may or may not impact their learning processes and outcomes. (Han, 2014).

The learning process is the implementation of the lesson plan. Teachers control the application of the learning process. Teachers also administer the educational contents and the interaction between them and the students. Teacher succeeds if they can implement their learning process optimally, effectively, and efficiently. In contrast, a learning process will not be optimum without teachers' ability to manage the learning process.

Professionalism demands teachers to master the materials. They should have an approach which can improve students' understanding, specifically in the hair beauty department. In general, students' learning outcomes can be described in terms of different domains (Sivan & Chan, 2013). The result helps the students understand how to learn is an essential goal for all subjects and levels of education (Kruse, Jerrid; Wilcox, 2009).

The professional competence and pedagogical skills have a strong correlation between students' learning outcome. In this case, qualitative and quantitative responses suggested that students recognise the contribution of lecturers and teaching and learning provision to their overall experience, which is in agreement with others (Neves & Hillman, 2016). As in Dicker, et al., most (95%) of the students surveyed agreed with the statement that 'the lecturers I have an impact upon my learning'(Dicker et al., 2017).

4 CONCLUSION

Pedagogical and professional competence is correlated with each other. The capability generally demands teachers to manage the study fields. Teachers should have pedagogic and professional expertise which can help them learn effectively, teach clearly, and variate their learning methods using media and attraction. They should be able to empower the students by guiding and directing them to understand the materials easily.

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