

Correlation of Academic Supervision Programs and Learning Programs in the Industrial Revolution Era 4.0 Against Teacher Professional Competence

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ABSTRACT

Improvement of Academic Supervision Programs (X_1) of Learning Programs in the Industrial Revolution Era 4.0 (X_2) is a Teacher Professional Competence (Y). teacher at Bekasi Christian Private High School. Accordingly, the purpose of this study was to analyze the relationship between Academic Supervision Programs and Learning Programs in the Industrial Revolution Era 4.0 on Against Teacher Professional Competence.

This quantitative research was conducted, involving 100 teachers as a sample with data collection techniques using by questioner. The sampling technique utilized is a non-probability sampling one which is a type of purposive sampling. The data obtained were analyzed to interpret the results of the study.

The results of the study indicate a strong relationship between Academic Supervision Programs (X_1) with Teacher Professional Competence (Y) with the correlation value of 0.244, and there is also a relationship between Learning Programs in the Industrial Revolution Era 4.0 (X_2) with Teacher Professional Competence (Y) with a correlation value of 0.611.

Furthermore, there is relationship Academic Supervision Programs (X_1) and between Learning Programs in the Industrial Revolution Era 4.0 (X_2) together with Teacher Professional Competence (Y) there is still a positive value with the correlation value of 0.631. This study is suggestive of strengthening and improving Teacher Professional Competence.

Keywords: Academic Supervision Programs and Learning Programs in the Industrial Revolution Era 4.0 Against Teacher Professional Competence

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Introduction

The professional competence of teachers at the Bekasi Christian Private High School is one of the most important competencies possessed by teachers. In building professional competence in accordance with the standards of the foundation, it must have been carefully designed. In the teacher recruitment process, the selection, training and service as a teacher of professional competence is still one of the priority parts in assessing the potential of each teacher. To assess the professional competence of teachers in carrying out and carrying out their duties and responsibilities as educators,

colleagues and interactions that are built in delivering material, managing classes, helping difficulties faced by students, directing, guiding and assisting students are certainly some of the criteria in conduct an assessment of the competence of each existing teacher. Of the various programs carried out by foundations and educational units through their respective school leaders or principals, among others, by implementing academic supervision programs as well as observing and assessing students' intelligence and competence using learning programs in accordance with the current era of the industrial revolution 4.0. Every teacher is expected to have a willingness to always learn and improve their competence according to the needs of students in the school environment in operating electronic media with various applications that support their profession.

Teacher Professional competence

Having a teacher or teacher who respects his profession must of course have the potential and professional quality. An educator who has the potential and quality as a stable and professionally competent human resource as an educator has an important role as a criterion for producing educational potential with quality that can be accounted for along with various other mutually supportive criteria. (Bagou, D. Y., & Sukung, A., 2020).

Professional teachers are able to assume and carry out their responsibilities to students, parents, society, nation, state and religion. Professional teachers have social responsibility manifested through the competence of teachers from the social environment and have effective interactive abilities. Teachers are required to have academic qualifications, educator certification, competence, physically and mentally healthy, and have the ability to realize national education goals. Teacher competence is the ability of a teacher to carry out his obligations responsibly and appropriately. A teacher who is innovative, productive, and creative is a teacher who is always looking for and finding new and up-to-date things for the benefit of quality learning in the classroom. (Fitria, H., Kristiawan, M., & Rahmat, N., 2019).

Each educator must have superior potential, so that when carrying out his responsibilities as a teacher he has clear goals. Competence is defined as having expertise and potential. In addition to having potential, it is also said that in addition to having the meaning of ability, competence is declared as the state of being legally competent or qualified, which is in a condition of having authority and being legally recognized by the institution that oversees it. (Setiawan, D., Saputra, H. D., Muslim, M., & Chandra, R., 2020).

Thus, it can be synthesized that professional competence is the ability of an educator to account for his duties and obligations in mastering and understanding his duties, being able to control himself and recognize his abilities, having a calling that always improves self-quality to realize his service.

Academic Supervision Programs

Supervision is a word taken from English, namely supervision has the meaning of supervising or checking. Everyone who carries out supervision is a supervisor and if he is in an educational unit environment is referred to as an education supervisor. The word supervision is a combination of two syllables in the form of super which means above and more, while vision is defined as monitoring or observing. As a supervisor who observes colleagues or other people being supervised has a higher position than the person or colleagues visited in supervisory activities. Responsibilities include observing, reviewing, and supervising the person being visited. Soewadji Lazaruth quoting the writings of Kimball Wiles concluded that the definition of supervision in the book entitled *Supervision For Better Schools* is that Supervision is assistance in the development of a

better teaching-learning situation. This provides an understanding that everything that is done to help and improve the conditions of learning activities is good.

Academic supervision is an activity that is part of the responsibility of an educational unit leader. The implementation of this program is one of the efforts to help, assist, provide direction, provide guidance from the leadership to fellow educators so that they are able to develop their potential in carrying out their duties and professions well. Thus, an education unit leader is required to have the potential and skills both in designing program concepts, inter-individual relationships, and technically as an example for educators who are colleagues and subordinates. In addition to this, in carrying out the supervision program as a forum for evaluating the performance of educators, it is also an event and opportunity to motivate and facilitate educators in improving their position, where with the implementation of this program the leader can review, observe and assist the professional level of an educator during activities. learning in the study room. The overall implementation of this program can include monitoring and evaluating the performance of educators and education staff so that they are able to achieve goals and improve the quality of education in the face of increasingly high competition. (A. Syukri, Nuzuar, and I Warsah, 2019).

Thus educators are required to have four educator competencies. The quality and potential of every educator must be given coaching, training, and assistance in an effort to improve the quality of high-quality teaching and learning. This effort can be realized by implementing an academic supervision program. The responsibilities of the head of the educational unit are among others as a supervisor in the implementation of the supervision program. Thus a school leader must have the potential to master the principles, patterns, goals, and models of the supervision program to be used as a reference in carrying out some of his responsibilities. (Baharudin, 2017).

Thus, based on some of the descriptions above, it can be synthesized that academic supervision is a specific design activity that is part of the responsibility of an educational unit leader where all actions are in the form of a process of supervising, observing, assessing and helping efforts made by school leaders to educators in develop their potential and responsibilities as educators who excel in mastering the material, behavior and utilization of supporting infrastructure for their profession.

Learning Programs in the Industrial Revolution Era 4.0

Changes in science and technology in this century are able to provide solutions to obstacles encountered during learning activities, in addition to developing insight, knowledge is also able to make students more skilled in using advanced technology media in solving cases, challenges or obstacles during learning. (Dini, 2018). The changes in the 21st century also do not only demand an increase in the quality and competitiveness of students but also for every educator the same thing applies. Where every educator is required to be able to conquer existing technological changes, constantly updating and developing his skills as well as his insight in mastering the field of teaching and technological facilities according to their use. Every educator also has the ability to shape the thinking of each student to be able to reach the HOTS (High Order Thinking Skills) level so that in understanding, analyzing and solving every obstacle that exists with solid thinking and critical thinking power. (Hidayati, 2017)

Educators have the ability to simulate and combine patterns and teaching techniques that are diverse, fun, according to the demands of the times so that students are able to develop their skills, quality, and the development of teaching materials delivered by educators. With the accuracy of choosing each learning source and various patterns of material delivery in the online learning process, of course, it is mandatory to consider the impact on students so that learning is fun and able to adapt to the demands

of today's learning process. The SECTIONS technique by Bates is one that can be developed in carrying out the online learning process which includes S-tudent (students), E-ase of use (use is not difficult), C-ost or Time (comparison of funds and time), T -eaching (learning process), I-nteraction (building reciprocal relationships), O-rganizational Issues (coordinating every obstacle), N-etworking (using the internet), S-security and privacy (secure and maintaining confidentiality). (Bates, 2019).

The whole series of good learning certainly requires consideration and determining the choice of the right pattern in the 4.0 era which will greatly impact the continuity of learning. The efforts made by educators and education observers always refer to support in helping and providing convenience for students in finding learning materials in cyberspace with full assistance so that students are in the right direction and way. Rapid and sophisticated technological changes must be made as one of the right choices and has positive value in providing support for students to explore their talents, potentials and qualities that now add insight and knowledge that knows no boundaries of time, place, and source because whenever and wherever we are, it is possible to learn independently or in groups. (Sudrajat, J., 2020).

Based on the description above, it is synthesized that learning in the industrial era 4.0. is a learning process that is able to move along with any changes that occur. Learning in this era requires skills that are relevant to the 21st century including the ability to collaborate, creativity, communication and high critical thinking so that they are able to find solutions for any obstacles found throughout the learning process.

Identification of problems

Several conditions that occur in the school environment in an effort to explore teacher professional competencies which include academic supervision programs and learning programs in the era of the industrial revolution 4.0 in their implementation still often lead to various interesting responses that are evaluated and observed to see a correlation between one another:

- 1) There are teachers who do not understand how important it is to build professional competence in carrying out their duties
- 2) There are teachers who do not understand that the implementation of academic supervision is one of the important programs in helping to improve their professional competence
- 3) There are teachers who view academic supervision as a burden and various reasons arise for not being visited while teaching in class.
- 4) There are teachers who still think academic supervision as something scary, uncomfortable and allergic, is not ready to be visited while teaching in class, and is not an important part in improving their competence.
- 5) There are teachers who have not linked their learning with the industrial revolution 4.0 and have not realized that the implementation of learning in accordance with the development of the industrial revolution 4.0 supports increasing their professional competence
- 6) There are some teachers who think that technology literacy is only for a group of teachers who are still young, resigned and have no enthusiasm in facing the challenges of learning programs in the 4.0 industrial revolution era using learning technology with electronic media.

Scope of problem

The various identification problems found in the field and to focus on a clear discussion, the researchers set limits on the problems that will be raised in this study in order to seek to improve and develop the professional competence of teachers who have

correlation or influence through a series of academic supervision program activities carried out by the Principal. and technology-based learning programs using electronics in accordance with the era of the industrial revolution 4.0.

Formulation of the problem

- 1) Does the academic supervision program (X1) have a correlation with the professional competence of teachers (Y)
- 2) Does the industrial revolution 4.0 era learning program (X2) have a correlation with the professional competence of teachers (Y)
- 3) Do the academic supervision program (X1) and the industrial revolution 4.0 era learning program (X2) jointly have a correlation with the professional competence of teachers (Y)

Research purposes

- 1) Describe the correlation of the academic supervision program with the professional competence of teachers and the contribution of academic supervision to produce professional teachers
- 2) Describe the correlation of learning programs in the 4.0 industrial revolution era with the professional competence of teachers and the large contribution to learning in the 4.0 industrial revolution era to produce professional teachers
- 3) Describe the correlation of academic supervision programs and learning programs in the 4.0 industrial revolution era with the professional competence of teachers as well as the large contribution of academic supervision and the large contribution to learning in the 4.0 industrial revolution era to produce professional teachers

Research Methodology

A research really needs a sampling technique. The definition of the sampling technique as mentioned by Arikunto (2012), Subjects or existing teachers as a whole were sampled because they did not exceed 100 teachers

There are two types of sampling techniques, namely probability sampling and non-probability sampling. For this study, the authors used a non-probability sampling technique of purposive sampling, is a sampling technique for data sources with certain considerations. This will be considered in a study. In the author's study, the sample referred to is teachers with permanent employee status at the Foundation and at least three years of working experience as a teacher. In the author's study, the sample referred to is teachers with permanent employee status at the Foundation and at least three years of working experience as a 100 teachers samples.

Results and Discussion

The path calculation is divided into structures namely: Academic supervision program (X1), Industrial revolution 4.0 era learning program (X2), on The professional competence of teachers (Y).

Table 1. Cumulative Coefficient structure

Calculation of path coefficient for structure. The results of structure calculations can be seen in Table 1. below:

Coefficients ^a					
		Unstandardized Coefficients		Standardized Coefficients	
Model		B	Std. Error	Beta	t
1	(Constant)	30.752	3.483		8.829
	Academic supervision program (X ₁)	.272	.121	.244	2.256
	Industrial revolution 4.0 era learning program (X ₂)	.850	.150	.611	5.649
a. Dependent Variable: The professional competence of teachers (Y).					

Based on the above table it can be concluded that Academic supervision program (X₁), and Industrial revolution 4.0 era learning program (X₂) together with The professional competence of teachers (Y). (Y) produce a significant regression coefficient (0,000) and positive. Thus the influence between Academic supervision program (X₁) and Industrial revolution 4.0 era learning program (X₂). Together, the regression equation $Y = 30.752 + 0,272 X_1 + 0,850 X_2$ is propagated. The final theoretic model is illustrated below.

Figure 1. Regression $Y = 30.752 + 0,272 X_1 + 0,850 X_2$.

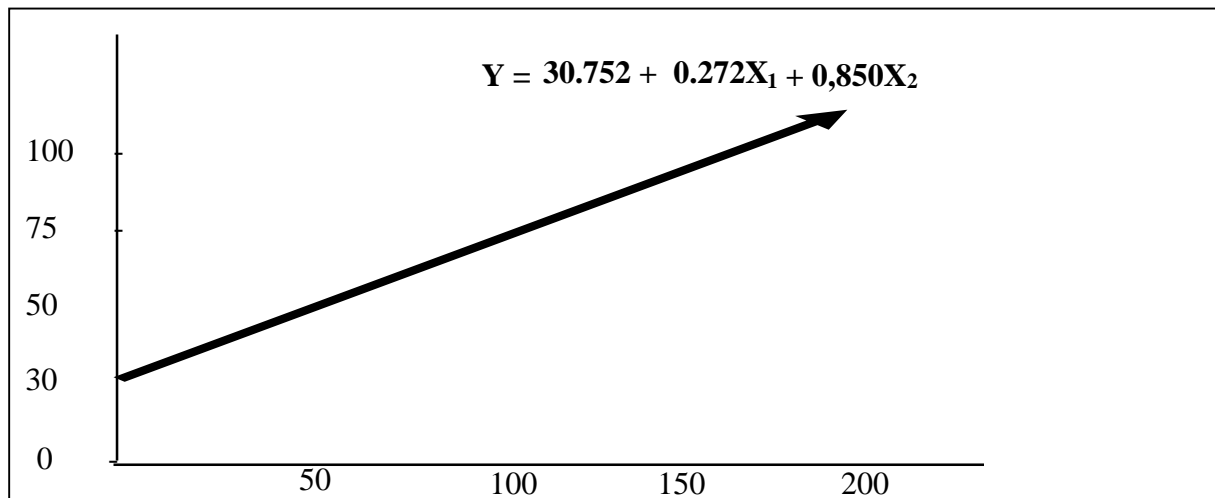


Table 2. Cumulative Correlations X1, X2 with Y

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.819 ^a	.671	.663	2.593
a. Predictors: (Constant), Academic supervision program (X ₁), Industrial revolution 4.0 era learning program (X ₂)				

Figure 2. Teoretic Models

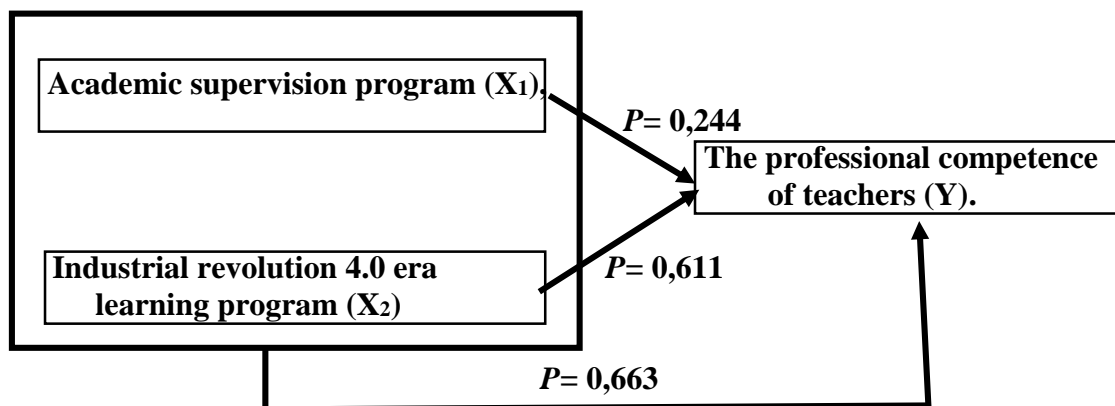


Table 3. Correlations X1, X2 together with Y

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1057.889	2	528.944	78.657	.000 ^b
	Residual	517.799	77	6.725		
	Total	1575.687	79			
a. Dependent Variable: The professional competence of teachers (Y)						
b. Predictors: (Constant), Academic supervision program (X ₁), Industrial revolution 4.0 era learning program (X ₂)						

Based on the calculation above, the F_{count} value of 78.657 and F distribution table obtained F_{table} of 1.53 at a significant level of 0.05. This shows that $0,000 < 0,05$ is greater significant influence between Academic supervision program (X₁), Industrial revolution 4.0 era learning program (X₂) together with The professional competence of teachers (Y).

Conclusion

From the calculation results obtained, the following conclusions can be drawn:

1. There is a positive and significant effect between variable Academic supervision program (X₁), and Online Learning The professional competence of teachers (Y).

Ho: $\beta_1 \leq 0$

H1: $\beta_1 > 0$

This is indicated by the calculated t value of 2.256 and then obtained a Correlation coefficient (r_{y1}) of 0.244, which means the correlation is positive and strong enough, the coefficient of determination (r^2_{y1}) of 24,4%.

2. There is a positive and significant relationship between Industrial revolution 4.0 era learning program (X₂) of

The professional competence of teachers (Y).

Ho: $\beta_2 \leq 0$

H1: $\beta_2 > 0$

This is indicated by the calculated t value of 5.649 and then obtained a correlation coefficient (r_{y1}) of 0,611 which means the correlation is positive and strong enough, the coefficient of determination (r^2_{y1}) of 61,1%.

3. There is a less positive and significant relationship between Academic supervision program (X₁), and Industrial revolution 4.0 era learning program (X₂) with The professional competence of teachers (Y).

Ho: $\beta_{y3} \leq 0$

H1: $\beta_{y3} > 0$

This is indicated by the calculated F value of 78.657. Then a multiple correlation coefficient (r_{y12}) of 0.663 is obtained. which means the correlation is positive, while the coefficient of determination (r^2_{y12}) is 66,30% and the regression equation $Y = 30.752 + 0,272 X_1 + 0,850 X_2$.

Implication

The professional competence of teachers is a very important part and affects the quality of a teacher in carrying out and taking responsibility for the tasks they carry out.

1. Build and improve the professional competence of teachers to be a part of self-development and potential of a teacher. One of the activities that support good professional competence is to carry out programmed academic supervision activities and become one of the parts that support teacher self-development. Every year at the Bekasi Christian Private High School, the scheduling of supervision and supervisors has been programmed at the beginning of the school year each year so that it is very helpful for teachers to prepare themselves in carrying out their respective supervision programs. Academic supervision carried out in accordance with existing provisions. The implementation of this program is one of the efforts to help, assist, provide direction, provide guidance from the leadership to fellow educators so that they are able to develop their potential in carrying out their duties and professions well.

2. Increasing the professional competence of teachers in the 21st century as it is today is one of the important efforts in carrying out the profession of a teacher who lives up to his responsibilities and role in providing services and assistance to his students. The same applies to the education unit at the Bekasi Christian Private High School. Educators are proficient in using various electronic media applications in carrying out their duties. Learning in this era requires skills that are relevant to the 21st century including the ability to collaborate, creativity, communication and high critical thinking so that they are able to find solutions for any obstacles found throughout the learning process.

3. Efforts to improve the professional competence of teachers in carrying out their responsibilities as educators can be carried out and supported by several programs. The academic supervision program and the industrial revolution 4.0 learning program are very supportive in optimizing the professional competence of teachers, both individually and as a whole for stakeholders in each educational unit, including the Bekasi Christian Private High School.

Suggestion

Based on the results of the research and the conclusions described above, the following suggestions can be made:

1. For the Foundation

In an effort to improve the professional competence of teachers in the education unit of the Bekasi Christian Private High School, the foundation has conducted a selection both in terms of knowledge and skills, which are very influential for teachers when carrying out their duties and responsibilities to educate, guide students. Likewise, the trainings organized by the foundation have an effect on building and improving the competence of each teacher in general and in particular the professional competence of teachers.

2. For the Principal

The mentoring, assessment and support of school leaders or school principals has an impact on every teacher in carrying out their duties and responsibilities. Scheduled academic supervision programs and their implementation as well as the use of electronic media applications in the process of learning activities can become one of the criteria for assessing the professional competence of teachers in preparing administration, mastery of knowledge, skills and class and student management. The academic supervision and industrial revolution 4.0 program is a program that is expected to remain a sustainable program.

For teachers, they can continue to develop their existing potential, both learning creativity and holistic professional competence, so that students and parents are satisfied with academic services and school management and make student psychology better and more focused.

3. For Further Researchers

Further researchers are expected to dig deeper into the indicators used and add various other factors such as conditions or program implementation processes in support of professional competence. Examining the correlation of academic supervision programs and industrial revolution learning programs not only on professional competencies but can be connected with other competencies, namely pedagogic competence, personality competence and social competence.

For researchers who want to know more about the influence of teacher expertise and teacher professional competence on teacher performance, they can add samples or research schools and in the future can find out other variables or factors that can affect teacher performance in the future through the results of further research so that schools can obtain good outputs in order to create quality graduates or outcomes for world class such as the vision and mission that has been stated on the previous introductory page.

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