

The Effect of Vocational School Leadership and Educational Innovations on the Culture of Innovation

Chaerunnisa Chaerunnisa^{1*}, Suryana Suryana², Lili Adi Wibowo³

¹ School of Postgraduate Studies, Universitas Pendidikan Indonesia Jalan, Dr. Setiabudhi No 229 Bandung 40154 Indonesia

² Universitas Pendidikan Indonesia Jalan, Dr. Setiabudhi No 229 Bandung 40154 Indonesia

³ Universitas Pendidikan Indonesia Jalan, Dr. Setiabudhi No 229 Bandung 40154 Indonesia

*Corresponding author. Email: chaerunnisa@upi.edu

ABSTRACT

The study aims to determine the effect of leadership implemented in vocational schools on the culture of innovation. The study expanded the empirical overview on vocational school principals' role in implementing educational innovation to improve the culture of innovation. The quantitative research method was used as the background of the study that can be developed for further research. Linear regression was implemented as the technique of data analysis. The data were collected through observation, interview, and questionnaire. The research uses primary data and simple secondary information from random sampling as the technic of research examples. The respondents as the source of the research are 50 vocational school principals in Bekasi. The result showed that, partially, leadership and educational innovation positively and significantly affect the culture of innovation.

Keywords: Leadership, Vocational School, Educational Innovation, the Culture of Innovation.

1. INTRODUCTION

Changes may happen to us and the environments around us unavoidably. The change is close to the dynamic environment. It may change at any time and at any place. Being adaptable to time is the primary key to surviving, especially in the academic world as the former institute of the future generation.

Innovation has always been needed, primarily in education, to overcome the problems in the range of education and the problems that can affect sustainability in education [1]. Vocational education is one of education that prioritizes appropriate expertise as it is ready-to-use in the industrial world. The Industrial Revolution 4.0, with its six primary foundations (digital society, sustainable energy, smart mobility, healthy lifestyle, civil security, and workplace technology), are the effort gained from the capacity of the performance of the vocational school and its culture of innovation. Besides, the Society 5.0 era results from the Japanese prime minister Shinzo Abe's formula in March 2017 in Hanover, Germany. At that time, Japan experienced a reduction in the productive age population. Society 5.0 is the step Japan took to improve the condition [2].

Society 5.0 is the solution of Industrial Revolution 4.0 where the paradigms in society that Industry 4.0 utilized high-tech machines can reduce the amount of work done by human labor. So, the hopes on Society 5.0 that can create new values with the development of high technology can reduce the gap between human and economic problems in the future [3].

Now, vocational school as the icon of a school that can produce ready-made-workforce in industry, of course, must be capable of producing graduates as the answers for Industrial Revolution 4.0 and Society 5.0. Aiming the result, organizational governance in school cannot be missed to produce school performance and the culture of innovation within.

The leadership undoubtedly influences the culture of innovation in the school itself. Another influence is educational innovation implemented in the blended learning process that combines the curriculum of educational institutions and the need of the industrial world. Also, the collaboration between the school as the educational institution and the industry as the user of vocational school-graduated is also important. This is meant by the form of dual system implementation

between the vocational school and the industry as the form of educational innovation in the vocational school.

A strategic leader must be capable of anticipating the change of environment in the future and be flexible to change strategic leadership effectively. The leader can determine the strategic direction, utilizes and maintains core competencies, develops human resources, maintains an influential organizational culture, promotes the ethical practice, and creates a balance the control of the organization [4].

The six pillars above are undoubtedly crucial for leaders to manage vocational education in addition to the ability to manage the organization to keep innovating and have a good partnership with the industry. So, the school can survive with the adaption on the dynamic in the education. It can affect the achievement of educational innovation in the school the principal leads. Hopefully, the school can implement the culture of innovation into the institutions to be the answer to the sustainability of each question as challenges in times to prepare well the graduates. The number of graduates absorbed in the world of work is the answer to successful innovation and organizational management done by the educational institutions so that the culture of innovation is measured.

Based on the background, the study is done to measure how far the vocational school leadership and educational innovation can improve and build the culture of innovation in the vocational school in Bekasi.

1.1. Review of Literature

1.1.1. Leadership

The leader in an educational institution, especially in vocational school, is the primary milestone determining the institution's success [5]. A leader has to be able to read the future, be flexible with the change and able to determine strategic direction, utilize and maintain core competencies, develop human resources, maintain an influential organizational culture, promotes ethical practice, and create a balance the control of the organization.

Now, educational institutions must be qualified to maintain their existence to survive during a very tight competition. Quality is a must and must be mandatory in an educational institution [6]. In order to achieve the quality, the institutions must be able to optimize the function and role of all of the educational resources, physical facilities, infrastructure, and human resources owned by others [3].

The role of leadership in organizing the institutions becomes a priority in the educational achievement of the institutions.

1.1.2. Vocational School

As a part of the National Educational System, vocational school is oriented to form life skills as training the students to master skills needed by the world of work [1]. Therefore, life skill education in vocational school has a main task to train the students in mastering a skill professionally in a particular expertise, to prepare them to have both critical thinking and high-value commitment to make them ready to mingle with the society which is multicultural, multireligious, and multiethnic [7].

The students follow the school education and choose their degree in the hope of success in the world of work. However, the aspect of success from the job market is the ability to utilize what they got from school for their future job. The number of schools is only the way to consider the suitability between school and industry. Workers may not be suitable with the appropriate grade, yet the type of school is inappropriate. Besides, most of the studies related to the phenomena of work educational incompetency view on the education grade [8].

1.1.3. Educational Innovation

Organizations can be sustainable in a dynamic environment that constantly changes, so they need to grow and innovate continuously without stopping [9]. Continuous innovation defines innovation that is done endlessly in any aspect and always is flexible with the development of times. Now, the development of times changes the world as borderless without any country restriction and territories.

This is the consequence of globalization and the revolution of information eras, which causes competition in free and in many aspects, including employment. No exception, all sectors are encroached by globalization.

Innovation is an idea, practical things, method, ways, and goods made by humans observed and felt like a new thing for someone or a group. The new thing can be a discovery or invention used to achieve particular purposes and solve problems, especially in the educational field.

Innovation is an idea, practice, or artifact that comes as new for a relevant unit. Innovation is an object. The change is a part of the response to the situation. In a situation, a creative process is needed to create an invention. However, not all invention defines innovation since not all groups of individuals, both formal and informal, suppose a new thing as a new thing [10].

Innovation is a creative process in choosing, organizing, and utilizing human resources and materials in new and unique ways that produce a higher achievement for setting goals and objectives [10]. This is how important innovation in the educational world is, for vocational school especially, which develops quite

dynamically. Innovation will bring a good adaptation in every change.

1.1.4. The Culture of Innovation

Artificial intelligence will not only give us a subversive challenge but also open us chances to innovate [11]. Every educational institution has a particular unique culture. The institutions need to keep developing a creative and innovative culture of institutions.

Culture is a continuous habit, confidence, and practice. The development of the culture of innovation will be better when they are done together. However, the development of innovation culture also finds obstacles in the individual from the institutions. For instance, the attitude of pushing on change, even the individuals aim to focus on a particular specialization. They may think of innovation as a risk with uncertainties.

Nicolas Lee stated about five things that have to pay attention to in building the culture of innovation: thinking forward, giving chances to try new ideas, updating the development of technology, giving awards for the teachers or academic staff who have a new idea and bravery to take a risk [2].

Innovation can be born from a simple and creative idea. Instead, it ends if it is not realized and manifested. Culture in institutions is a value whether it can be an obstacle or success of innovation

2. METHODS

The study used descriptive quantitative by using primary and secondary data with multiple linear regression. Multiple linear regression evaluated the effect of two or more independent variables (explanatory) towards a single independent variable. The model assumed a linear connection between the dependent variable with each of its predictors [12]. The primary data was taken from a direct interview with the vocational school principals in Bekasi as the research respondents, and the secondary data was taken from particular institutions.

3. RESULTS AND DISCUSSION

The result of the data was analyzed by Multiplied Linear Regression, with the equation,

$$Y_i + \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} \quad (1)$$

Table 1. T-Test

c				
Model	Unstandardized Coefficients		Standardized Coefficients	T
	B	Std. Error	Beta	

1	(Constant)	1,656	5,620		0,295	0,770
	Leadership	0,405	0,181	0,291	2,241	0,030
	Vocational school	- 0,091	0,226	-0,052	- 0,404	0,688
	Educational Innovation	0,976	0,148	0,584	6,605	0,000
a. Dependent Variable: Culture of innovation						

Y is described as the culture of innovation

X1 is leadership

X2 is the vocational schools

X3 is educational innovation.

Based on the data analysis stated in Table 1 below, the result showed the regressive equation as,

$$Y = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + \dots + b_n X_n \quad (2)$$

$$Y = 1.656 + 0.405X_1 - 0.091X_2 +$$

$$0.976X_3 + \text{error}$$

The regressive equation showed the connection between independent and dependent variables that is partial.

1. Constant value or constant as 1.656, shows that if there is no change in Leadership, Vocational School, and Educational Innovation variables, that Culture of Innovation (Y) in schools is valued as 1.656 units.
2. The regressive coefficient value of leadership is 0.405, which means that Leadership (X1) increases by 1% with the assumptions of Vocational School, Educational Innovation variables and constant in 0 (zero), as the Culture of Innovation in school increases 0.405 per unit. This defines that the Leadership variable contributes in POSITIVE value to the Culture of Innovation, as the better the leadership is school is, the higher value the Culture of Innovation is.
3. Vocational School regressive coefficient values as - 0.091, means that Vocational School variable (X2) increases by 1% with the assumptions of Leadership, Educational Innovation, the constant as 0 (Zero), so the Culture of Innovation variable decreases as 0.091 per unit. The result shows that the Vocational School variable contributes in NEGATIVE value to the Culture of Innovation, as the better Vocational School is applied, the lower the Culture of Innovation is.
4. Educational Innovation regressive coefficient value is 0.976, which means that the Educational Innovation variable (X3) increases by 1% with the assumptions of Vocational School, Educational Innovation variables, and constant as 0 (zero), that the Culture of Innovation increases as 0.976 per unit. The results show that Educational Innovation contributes in POSITIVE value to the Culture of

Innovation, so the more Educational Innovations are applied, the higher the Culture of Innovation is.

Table 2. F Test (Simultaneous Test)

ANOVA ²						
	Model	Sum of Square	D f	Mean Square	F	Sig
1	Regression on	874,888	3	291,629	45,880	.000
	Residual	292,392	46	6,356		
	Total	1167.280	49			
a.	Dependent Variable: Culture of Education					
b.	Predictors : (Constant, Leadership, Vocational School, Educational Innovation.					

The result of the F test in this study was calculated from the F value as 45.880 with the numeric significance 0.000. The significance level comes 95% ($\alpha=0,05$).

Table 3. Determinate Coefficient

Model Summary				
Model	R	R Square	Adjusted R Square	Std. error of theEstimate
1	.866	0,750	0,733	2,521
a.	Predictors : (Constant), Leadership, Vocational school, Educational Innovation			

Based on the comparison, H_0 is denied that those three variables, Leadership (X1), Vocational School (X2), and Educational Innovation (X3), have a significant influence on the culture of innovation.

The result of table 3 means that R2 Adjusted value as 0.733. This interprets as 73.3% types of the Culture of Innovation can be explained with the number of Leadership (X1), Vocational School (X2), Educational Innovation (X3), other factors regrant as the leftover research analysis. The result is described in Table 1.4 below.

4. CONCLUSIONS

The F test gained the hypothesis that the three variables, Leadership (X1), Vocational School (X2), Educational Innovation (X3), as a whole have effects on the Culture of Innovation with F values as 45.880, significances as 0.000. The determinative coefficient (R2) resulted in 0.730 or 73%. The result of the test showed that Multiplied Linear Regression as the equation,

$$Y = 1.656 + 0.405X_1 - 0.091X_2 + 0.976X_3 \quad (3)$$

The result of the data equation showed that Leadership at Vocational School and Educational Innovation significantly influence the culture of innovation simultaneously.

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