

Conference Paper

Competence of Economic Teachers in the Industrial Revolution Era 4.0: Case Study at State High Schools in Malang City, Indonesia

Dian Rachmawati, Sri Handayani, and Lisa Rokhmani

Department of Development Economics, Economics Faculty, Universitas Negeri Malang - Indonesia

Abstract

The competencies needed by teachers in the era of disruption according to the Ministry of Education and Culture of the Republic of Indonesia include teachers, gatekeepers, facilitators, catalysts, and connectors. This research was conducted in 10 Public High Schools in Malang City. The focus of research is to find out how the level of competency of economic teachers in the era of industrial revolution 4.0. This research is a preliminary research, through preliminary studies and field surveys. From the survey results, it is known that the competences of economic teachers are still focused on teaching, gatekeepers, and some facilitators. Then the training model to improve teacher competences in the industrial revolution 4.0 era will be very helpful. In the next study, the development of teacher competency training era in the Republic of Indonesia 4.0 will be carried out with the aim of increasing teacher competence, which in the long run will improve the quality of students.

Keywords: teacher competence, industrial revolution 4.0Corresponding Author:
Sri Handayani
sri.handayani.fe@um.ac.idReceived: 7 February 2020
Accepted: 9 March 2020
Published: 23 March 2020Publishing services provided by
Knowledge E

© Dian Rachmawati et al. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the ICE-BEES 2019 Conference Committee.

1. Introduction

The industrial revolution which began in the 18th century, has now reached a new stage, namely the industrial revolution 4.0. In this era the world is faced with the integration of the online world with industrial production. In this context education is very affected, in the future education will certainly be more open and two-way, diverse, multidisciplinary, and related to work productivity and competition. So that a big challenge arises for educators and students.

The challenge faced by teachers is facing students in the Z generation, namely the generation that is very close to technology and determines the future of the industrial revolution 4.0 (Shahroom and Hussin, 2018). Then the alpha generation is expected to be the most educated generation because access to education is increasingly affordable. In addition, the demands that must be faced by teachers are to stimulate

OPEN ACCESS

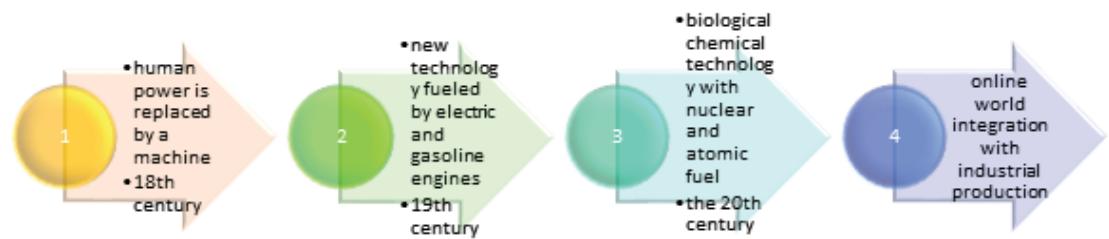


Figure 1: Stages of the Industrial Revolution (Source: Ministry of Education and Culture)

students to think critically and solve problems, communication and collaboration, creative and imaginative, digital citizenship, digital literacy, and student leadership and self-development.

Referring to the World Economic Forum, 2017, to change the educational climate, several things that need to be prepared include: a curriculum ready for the future, professional teaching staff, digital fluency, a new agreement on lifelong learning, openness to educational innovation. To realize this, the role of all parties is certainly needed.

Referring to Article 10 Number 14 of 2005 concerning Teachers and Lecturers stating that each teacher must have four competencies namely pedagogic competence, personality competence, social competence, and professional competence that can be used to support the Making Indonesia 4.0 government program. In line with the changing phase of the Industrial Revolution which has entered the 4.0 industrial revolution, all teachers must respond and follow the qualifications needed in this era. Teachers must be qualified in this era which emphasizes data-based knowledge, technology, and humanism not only the basic abilities they have had so far.

Malang City is one of the cities in Indonesia that has a potential base in the education services sector. So, to see the development of education in the city of Malang, researchers conducted preliminary research to find out how teacher competencies, especially economics in ten (10) Public High Schools in Malang City. Based on data, the number of economic teachers in Malang city consists of 35 people with undergraduate education backgrounds and various lengths of work. To find out the initial competencies of the teachers the researchers conducted an initial survey.

The table above shows the number of Public High Schools in Malang city with each composition of economic teachers. This focus preliminary research is to see the extent of the competency level of economic teachers to face the era of industrial revolution 4.0.

TABLE 1: Economic Teacher Population in Malang City

School	Address	Amount
SMA Negeri 1	Jl. Tugu Utara 1	3
SMA Negeri 2	Jl. Laks. Martadinata No. 84	5
SMA Negeri 3	Jl. Sulatan Agung Utara No. 7	3
SMA Negeri 4	Jl. Tugu Utara No. 1	4
SMA Negeri 5	Jl. Tanimbar No. 4	3
SMA Negeri 6	Jl. Mayjen Sungkono No. 58	4
SMA Negeri 7	Jl. Cengger Ayam 1/14	3
SMA Negeri 8	Jl. Veteran No. 37	2
SMA Negeri 9	Jl. Puncak Borobudur No. 1	5
SMA Negeri 10	Jl. Danau Grati No. 1	3
Amount		35

2. Methods

This research is preliminary research, which in the future will be developed into development research. So that this stage is the initial stage carried out through library research and field surveys. Following are the stages of development research:

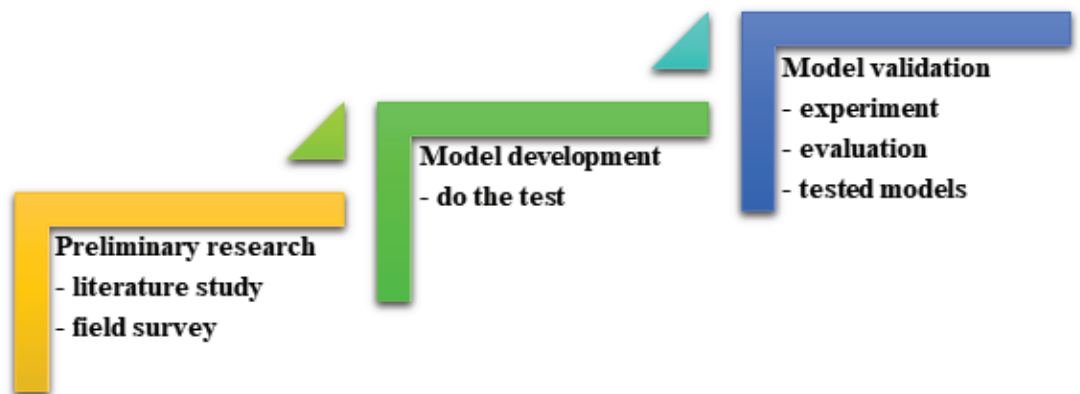


Figure 2: Stages of research

Preliminary research is descriptive and not for testing hypotheses. Borg and Gall said that development research is a process for developing new products or perfecting existing products, with the method of producing certain products and testing the effectiveness of these products. With the first descriptive description, which was used in literature and field studies, the two evaluative, which were carried out by evaluating the trial process, and the third experiment, to test the efficacy of the products produced.

3. Results and Discussion

- Teacher competency as teacher

Teachers in Public High Schools in Malang City have the ability to convey subjects that can be understood and understood by students. This can be seen by using professional competence in accordance with Law No. 20 of 2003 concerning the national education system. Professionals in question are (1) mastering the substance of the field of study and scientific methodology, (2) mastering the structure and curriculum material in the field of study, (3) mastering and utilizing information and communication technology in learning, (4) organizing subject matter curriculum material (5) improve the quality of learning through classroom action research

- Teacher's competence as a goalkeeper

As a goalkeeper is to help students to be able to sort the negative influences from various parties and the environment. The way in which the teachers do is provide advice and appeals regarding the development of the world and its negative impact on young people on the side lines of economic learning. In addition, teachers also provide good examples of behaviour, and encourage students to take part in positive activities both at school and outside of school. In this case the bias can be seen from the increase of students' awareness of the negative influences of various environments, by looking at the low number of juvenile delinquencies especially high school level in Malang City.

- Teacher competency as facilitator

As a teacher facilitator, the role is to help students exchange ideas. Economic teachers at Malang City Senior High School encourage students to discuss, analyze problems, and express their opinions. So that in this case students as a center of learning. So that the application of economic learning in the classroom is no longer a teacher center, because teachers provide opportunities for students to independently and critically respond to problems and economic studies related to learning.

- Teacher competency as a catalyst

The intended competency is the teacher is able to identify, explore and optimize the potential of students. The competence of economic teachers is still not visible because almost in all schools the development of potential is usually directed to teachers in the Field of Counseling (BK). So because the teacher referred to here is a subject teacher, economics, they encourage students to understand and like these subjects. So it is necessary to increase this competence.

- Teacher competence as a liaison

As a liaison, the teacher is expected to be able to connect students with learning resources. While based on the results of the survey on high school teachers this role is still limited to certain learning resources, for example open subjects. While a small proportion use the internet as a source of learning on economic subjects.

4. Conclusions

From the explanation above, it can be concluded that the competencies of economic teachers in Malang Senior High School, most of them still have competencies in the fields of teaching, gatekeepers, and facilitators. Whereas the next two competencies, namely catalysts and links, have not been maximally carried out. So that from this matter requires the existence of a training model to increase the competence of Economic Teachers in the era of Revolution 4.0.

References

- [1] Shahroom, Aida Aryani, & Hussin, Norhayati. 2018. *Industrial Revolution 4.0 and Education*. International Journal of Academic Research in Business and Social Sciences, Vol. 8, No. 9, 314 - 319