

Teacher Competency in Civic Education Learning to Encounter Industrial Revolution 4.0 (Case Study at Sekolah Menengah Pertama 2 Bandung)

Faris Mu'taz Fawwazi¹, Aim Abdulkarim², Kokom Komalasari³

Pascasarjana Pendidikan Kewarganegaraan, Universitas Pendidikan Indonesia^{1,2,3}
Jl. Dr. Setiabudi No. 229, 40154

Correspondence Email: Farismutaz7@gmail.com

ABSTRACT

The industrial revolution has had a profound effect on the world of education. In addition to having a positive impact on several things, the industrial revolution also had a negative effect. The method used in this research is a case study with a qualitative approach, which will be applied in schools. The results of this study indicate: How does the Pendidikan Kewarganegaraan teacher's competence develop content, processes, media, learning resources and assessment of the learning process in the industrial revolution 4.0? After doing research, the industrial revolution provides a change in terms of learning media to learning in the classroom conducted by teachers, through the industrial revolution 4.0, teachers are increasingly motivated to develop learning activities in the classroom and also increasingly diverse learning media.

Keywords: Industrial Revolution 4.0, Teachers, Civic Education Learning

INTRODUCTION

Education today has headed towards the better, making education activists have to adjust their old habits and open a new page in order not to be left behind from other countries. The change of era in the world of education is normal and should be grateful, because ancient learning will produce older-thinking students too. The presence of technology is changing the perspective of education to be faster and more practical, than in the past which only relied on a series of old books from the library. Now the times have changed to almost empty books replaced by a search engine that is commonly named by students namely "mbah google", where this search engine is more effective and efficient than having to open pages after pages of books that already look yellow and so old. The incident is one of the many shifts in the world of education, a serious concern because if technology is more advanced whether the presence of teachers in the classroom is not needed? Such questions will arise in the minds of educational activists who are now in the era of the industrial revolution 4.0 or the era of disruption.

The existence of the industrial revolution 4.0 in the era of disruption today cannot be separated from globalization, because the process of globalization has entered all aspects of life, including education. In addition to having a positive impact, on several issues, the process of globalization also has a negative effect. Therefore, in the context of education, various comprehensive and continuous efforts are needed so that the education process is ready to face all kinds of challenges in the global current. From the start, Indonesia's national education was born not only to form intelligent and skilled students, but also to become citizens who can uphold positive values that are in line with the culture and character of the nation. The process of globalization is happening faster and faster because of the support of advances in information and

communication technology. The speed of development of this technology also gave birth to a new era, a digital era that uses a variety of digital media. According to Trisiana et al (2019, p. 92) digital media is media that is encoded in a machine-readable format. However, this digital era has changed the pattern of citizens' lives to become completely digital, and demands all aspects of life, including education to be ready for the digital era.

In the study of Pancasila Education and Citizenship, the globalization process and the rapid progress of Information and Communication Technology have confronted teachers in the era of information disclosure. This era was marked by the birth of *digital citizenship* on which the world of education inevitably had to follow that era. The birth of digital citizenship, of course, gave birth to new challenges of strengthening the global outlook of citizens. This is because, the development of digital citizenship is to create a community of digital technology users who can properly and intelligently evaluate the use of their own technology to become productive members of digital society. Of course, teachers must be able to make the best use of technology for the common good. Because globalism in the millennial era, must be faced with a strong, confident, and always maintain identity as an independent nation (Salamah, 2018, p. 37).

Speaking of the challenges of teachers in the industrial revolution era 4.0, all subjects will feel the impact is no exception citizenship education which is very closely related to social change. Citizenship Education teachers in the era of the industrial revolution must innovate in learning as well as the media used in the classroom because it does not rule out the possibility that technology could cripple their work. The role of the teacher and the teacher's task as a determinant factor for the success of education, especially in facing education in the era of the industrial revolution 4.0. The existence and improvement of the teacher's professionalism becomes a very important discourse. Education in the era of the industrial revolution 4.0 requires the management of good and professional education management. A teacher's professional emphasizes the teacher's ability to transfer knowledge, the teacher's ability to design strategies, and the teacher's ability to implement his learning.

RESEARCH METHODS

Research Approach

This research uses a qualitative approach. The reason why researchers use qualitative approaches is to be able to obtain information and data naturally and richly in research, and to be able to explore in depth the problems being studied. This is in line with Creswell (2015, p. 31), "Qualitative research is best suited to answer research problems whose variables are unknown and need to be explored". The explanation above can be summarized by using qualitative research that is suitable for obtaining real data, one of which is for learning research. Researchers may get less information about the phenomenon under study, so researchers must have more participants through exploration. As Al-Muchtar (2015, p. 176) has stated that, qualitative research is a research method based on the philosophy of postpositivism, which is used to examine the condition of natural objects to understand a phenomenon or case in a natural social context by promoting a process of deep communication interaction between researchers and the phenomenon under study.

Subsequently explained again by Sugiyono (2018, p. 35) explains "qualitative research is conducted when: 1. If the research problem is unclear; 2. To understand the

meaning behind visible data; 3. To understand social interactions; 4. To understand feelings people; 5. to develop theories; 6. to ensure the truth of data; 7. examine the history of development ". in accordance with the above purposes, research studies using this qualitative design to establish *the competency of teachers*.

Research methods

A qualitative approach with a case study method is considered appropriate for this research study because what is the focus of the research is the problem that occurs in the education city of Bandung. Likewise, with the expert opinion as follows According to Danial and Wasriah (2009, p. 64) metode case study is a method of intensive and meticulous about the disclosure of the background, status, and environmental interactions to individuals, groups, institutions and particular community. This method will give birth to certain prototypes or characteristics that are typical of the study. Through a qualitative approach with the case study method it is expected to be able to get an overview of the problems that occur in depth.

RESULTS AND DISCUSSIONS

The teacher is a figure who is so respected because he has a significant contribution to the success of learning in school. The teacher is very instrumental in helping students develop to achieve their optimal abilities. When parents register their children at every level of education at a particular school, at that time they also have high expectations of the teacher, so that their children can get education, coaching and learning and guidance so that the child can develop optimally. The teacher must be an agent of change in student learning, so students experience the learning process themselves. Therefore, the expectation of success in education is often borne by the teacher (Sedana, 2019, p. 188).

According to Richard Leblanc, lecturer at York University, Ontario, Canada, there are 10 things that must be considered, in order to be a good teacher and a good leader. (Leblanc, 1998). In this case the writer, chose 3 things as a philosophy in order to be a good teacher and leader. Among others, namely: (1) Love, a teacher must have a feeling of "Love", both love for his profession as a teacher and in teaching, he must teach full of love for his students. This is in line with Leblanc, who said that the core of teaching and education is love. In this case, it can also be said, that love, in education, is more important than mere rational reasoning. Because in love, there are intentions that can encourage people to learn, to help them find their own suitable learning patterns, to find themselves.

In Undang-Undang No.16 of 2007 in article 1 paragraph 1 it is explained that the teacher must have four competencies in teaching to support the personal teacher to become a professional teacher. The competencies that must be possessed by teachers are:

1. Pedagogic competence Is the ability to manage student learning which includes understanding of students, designing and implementing learning, evaluating learning outcomes, and developing students to actualize the various potentials they have.
2. Personality competence Is the personality of educators who are steady, stable, mature, wise, and authoritative, be an example for students, and have good character.

3. Social competence Is the ability of educators to communicate and interact effectively with students, fellow educators, educational staff, parents / guardians of students, and the community.
4. Professional competence Is the ability of educators in the mastery of broad and deep learning material that allows it to guide students to obtain the specified competencies.

But in this research that will be highlighted is the role of teachers in the 4.0 industrial revolution in the era of disruption. Digitalization in various fields makes it easy for students to explore knowledge; learn science easily without involving teachers or parents. This greatly helps students' understanding in the cognitive field and their skills. However, in the affective field of students, the role of the teacher cannot be replaced with any technological sophistication. (Maulida, et al. 2018. p. 828). Teachers, have several roles that must be raised when teaching learning activities. According to Sofan Amri, (2013, p. 30) Teachers have a role in learning activities, namely as:

1. Corrector. Teachers assess and correct all learning outcomes, attitudes, and actions of students both at school and outside of school evaluator.
2. Inspirator. Teachers inspire students about how good learning.
3. Informator. The teacher provides good and effective information about the material that has been programmed as well as information on the development of science and technology
4. Organizer. The teacher has the role of managing various academic activities both intracurricular and extracurricular so that the effectiveness and efficiency of students are achieved.
5. Motivator. Teachers are required to be able to encourage their students to always have high motivation and active learning.
6. Initiator. Teachers become the originator of the ideas of progress in education and teaching.
7. The facilitator. Teachers should be able to provide facilities that enable students to learn optimally
8. Mentor. Teachers provide guidance to their students in facing challenges and learning difficulties.
9. Demonstrator. Teachers are required to be able to demonstrate what is taught didactically, so students can understand the lesson optimally.
10. Class manager. The teacher should be able to manage the class well, because the classroom is a place for teachers and students to gather
11. Mediator. The teacher can play a role as a media provider and mediator in the learning process of students.
12. Supervisor The teacher should be able to help, improve and critically evaluate the learning process carried out so that it can be optimized
13. Evaluator. Teachers are required to be able to assess learning products and the learning process.

The learning that must be applied by teachers in the era of the industrial revolution 4.0 is to be reproduced about the students' direct experiences, this is in line with the statement of Kolb (in Erol, et al, 2016, p. 15). "Situating learning theory claims that learning is most effective when it takes place in its natural context where the acquired knowledge is going to be used. Thus, knowledge can be transformed to competencies of action. Kolb similarly states that learning is effective when it constantly shifts between "thinking" - a process of abstract conceptualization, "feeling" - largely based on experiences, "watching" - a process of observation and reflection and "doing" - an active stage of experimentation ". Based on the above opinion learning that has been

given in class must be practiced outside the classroom which will add to the experiences of students to navigate the era of the industrial revolution 4.0.

Today's education world is also demanded to be able to equip students with 21st century skills. These skills are the skills of students who are able to think critically and solve problems, are creative and innovative, communication and collaboration skills. Besides the skills to find, manage and convey information and are skilled in using technology and information. The abilities that must be possessed in the 21st century include: Leadership, Digital Literacy, Communication, Emotional Intelligence, Entrepreneurship, Global Citizenship, Problem Solving, Team-working. While the three issues of education in Indonesia today are character education, vocational education, innovation (Wibawa, 2018, p. 132). In addition to skills in terms of learning should also be aligned, such as by Muhali "learning-oriented students are strongly encouraged to establish learners independent, therefore the skills of higher order thinking such as critical thinking, creative thinking, problem solving" (Muhali, 2018, p. 13). As with a statement of Banta the content of such education must be relevant, with a focus on both cognitive and non-cognitive aspects of learning. The knowledge, skills, values, and attitudes required by citizens to lead productive lives, make informed decisions, and assume active roles locally and globally in facing and resolving global challenges can be acquired through Education for Sustainable Development (ESD) and Global Citizenship Education (GCED). (2017, p. 449). Based on the statement above states that educational content must be relevant, focusing on aspects of cognitive and non-cognitive learning. So, students will be able to adapt and can one of them is making decisions based on information that he has researched before and the category brings him into global citizenship.

Thus, in the era of the industrial revolution 4.0, if the teacher is limited to transferring knowledge to students in the classroom, the teacher's role can be replaced by technology but the teacher's role cannot be replaced by any sophisticated technology in educating character, morals, and giving an example to students. So, it is in line with the statement of Asmaroini (2017) in the journal Lubis (2019, p. 2). The survival of the state and nation of Indonesia in the era of globalization, requires us to preserve the values of the Pancasila, so that the next generation of the nation can still live and practice it and so that the essence of the noble values will be maintained and become the guideline of the Indonesian nation for all time.

In the fourth industrial evolution, it became a big leap for the industrial sector, where information and communication technology were fully utilized. Not only in the production process, but also in the entire industrial value chain so as to give birth to a new business model with a digital basis in order to achieve high efficiency and better product quality ". Industrial revolution 4.0 is the fourth phase of the history of the industrial revolution which began in the 18th century. Industry 4.0 is predicted to have great potential benefits. As technology advances should maintain a balance in social relations in the community as suggested by Avis (2018, p. 6) Social relations inform the development of science and technology while simultaneously science and technology impacts upon social relations - we could describe this as co- constitution. The point is we cannot think of technology as being outside of the social relations in which it is embedded. Based on the above statement that technology cannot be separated from human life today, from waking up to going to sleep again the technology is there and we always use it. Based on human dependence on technology, there is an industrial era that must be faced by humans today, but this is not a threat but a process of human life that continues to grow and cannot be avoided. Therefore, the development

of technology is not to be rejected but to be maintained so as not to be too far and even humans who controlled their own creations.

Opinions on education 4.0 were also expressed by Benesova and Jiri in their journal entitled Requirements for Education and Qualifications of People in Industry 4.0 revealed that "education 4.0 will combine real and virtual world information. Virtual resources, for example glasses for virtual reality, will be used for teaching" (Benesova and Jiri, 2017, p. 2195). The praxis of education in schools that rely on the transfer of knowledge from teacher to student is no longer effective in preparing students to enter the industrial ecosystem 4.0 which prioritizes the development of 21st Century competencies. Education 4.0 can only be implemented by referring to a new educational paradigm characterized by students as connectors, creators, and constructivists in the framework of the production and application of knowledge and innovation (Brown-Martin, 2017). Synthesis of views about the characteristics of Education 4.0 leads to the following learning features:

1. Learning centered on student (student *centered*), provides an opportunity for students to learn as interest and pace of learning respectively;
2. Learning develops the ability of students to explore their own knowledge from information sources using the internet, as a vehicle for them to learn lifelong learning (*life-long learning*);
3. Utilization of ICT infrastructure and virtual learning tools to provide flexibility for students to find quality learning resources, record data, analyze data, and prepare reports and make presentations;
4. Emphasizing hands-on learning through learning methods called " *flipped classroom* ", through which students learn theoretical aspects of knowledge at home and practice in the classroom. This method develops habits and *self-learning* abilities while providing more flexible learning time for learning in schools for competency development;
5. Develop *soft-skills* of critical thinking, creativity, and problem solving, especially authentic and non-routine problem solving;
6. Collaboration and in social interaction as the main approach used in developing competencies, to introduce work culture in the industrial world and the world of work in the 21st Century.
7. Provides flexibility for the learning process in the form of blended learning, which allows students to interact, collaborate and learn from each other in class settings and remotely (*distance*) via the internet.

Education 4.0 places learners at the center of the ecosystem and empowers to build individual paths to desired outcomes. Higher education continues to develop in response to internal and external forces. Today's evolution is happening at a speed that is accelerated by a factor of change, change measured in a few years and not centuries. In Education 4.0, learning is connected directly with students, focused on students, demonstrated by learners and led by learners. In this case the learner is responsible for defining various dimensions and paths of education - what, where, when, how and why when moving up the learning ladder. Future students are more aware and proactive because of the high level of exposure and guidance available on various platforms. Education 4.0 has personalization in the learning process, where learners have complete flexibility to become architects on their own learning paths and have the freedom to aspire, approach and achieve personal goals with choices.

Research on citizenship education teachers in SMPN 2 Bandung shows good results in the development of ways of teaching students. Teachers in SMPN 2 Bandung use

various electronic devices to support learning in the classroom. They use projectors to display power points containing material to students. Where this power point provides good visuals in the delivery of material so students do not get bored in learning in class. In addition, SMPN 2 Bandung also provides a computer laboratory to support student learning. In the use of this electronic media the researchers found that teachers were easier to make the material and also easier to convey, because in the era of the industrial revolution 4.0 the current way of teaching must be adapted to the needs of students. But the use of electronic media also has problems, especially among older teachers because they have to adapt more to technological advancements. These constraints can be overcome easily because at the school the nature of the cooperation built by the teachers is very good.

Not only the use of electronic media such as projectors and computer laboratories, teachers in SMPN 2 Bandung are also equipped with other electronic devices such as laptops, adequate school servers, WiFi, interactive boards, and interactive LED monitors that display a variety of interesting information for students. The use of electronic media makes it easy for citizenship education teachers to deliver material. The use of electronic media that is in line with the industrial revolution 4.0 makes the competency of civic education teachers can be maximized because this media gives the teacher the freedom of civic education in making material, learning models, and changing classroom conditions that used to be boring to be interactive between teachers and students.

In the industrial revolution 4.0 it is not only technology that must be mastered by citizenship education teachers but also social media which is a source of information in providing learning to students. The use of electronic social media such as Instagram, Twitter, Facebook, etc. that are commonly used by students in socializing can also be used by teachers as learning media. The use of electronic social media can make students become interested in learning because they use media that are close to them. The use of search engines such as Google has also been used as teaching materials and sources of information for teachers and students, because in the era of the industrial revolution 4.0 learning is not only from books but the internet is a wider source of information. In this SMPN 2 Bandung, e-learning methods are also used to facilitate students in learning. This method gives students flexibility in learning because students can not only learn in class but outside the classroom students can still learn. This e-learning method was quite successful in being implemented in SMPN 2 Bandung, making this school win the most prestigious school awards in 2018 and 2019.

Citizenship education teachers in the era of the industrial revolution 4.0 today indeed have a lot to innovate so as not to be eroded by the times. They must be good at using technology, interacting on social media, and must also be responsive to the latest issues. All these criteria make teachers are not going to be replaced by today's sophisticated electronic devices because the teacher is not only the media but also the information providers who give love to the students so that they are not just about being clever but also a better person again.

CONCLUSIONS

Based on the results of research in the field, the general conclusion is that the competence of citizenship education teachers in the face of the industrial revolution 4.0 is at SMPN 2 Bandung. In addition to general conclusions, the researchers also formulated several specific conclusions, including;

1. The important role of this teacher is outlined in the design of learning in subjects of civic education implementing creative learning models especially during the industrial revolution 4.0 implementing learning by forming student learning groups that can be carried out in the classroom and outside the classroom through online systems. which will help students foster a critical attitude or often referred to as HOTS specifically on state issues so that in every profession the work can be carried out in accordance with professional ethics and carry out their rights and obligations as good citizens this is also able to answer the challenges faced in the industrial revolution era 4.0.
2. Industrial Revolution 4.0, Challenges, Opportunities and Solutions to the Education World. The industrial revolution is now entering its fourth phase. The rapid development of science and technology has a great impact on human life. Many conveniences and innovations are obtained with the support of digital technology. Services are faster and more efficient and have a wider range of connections with online systems. Life is easier and cheaper.
3. The role of the teacher and the teacher's task as one of the determinant factors for the success of education, especially in facing education in the era of the industrial revolution 4.0. The existence and improvement of the teacher's professionalism becomes a very important discourse. Education in the era of the industrial revolution 4.0 requires the management of good and professional education management. A teacher's professional emphasizes the teacher's ability to transfer knowledge, the teacher's ability to design strategies, and the teacher's ability to implement his learning. Just as what was said by Syam (2019, p. 13) a teacher is still needed because this noble profession not only serves to transfer knowledge but also instills life values and role models that cannot be learned from any information channel. The professionalism of a teacher is not just mastering science, technology, and management of education. All parties need to work together to improve the quality of learning. In addition, it must also conduct an evaluation in order to find a variety of solutions to face threats and challenges in the era of the industrial revolution 4.0, If this is done with careful planning and intensive implementation, surely Science and Technology in Indonesia will not be left behind.

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