

Building Digital Citizenship Literacy Skills Through 21st Century Skill-Based Civics Learning with Information Media and Technology Skills

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ABSTRACT

The era of the 21st century currently brings very rapid changes and has a significant impact on all aspects, including in the world of education, especially learning activities. Components and skills that exist in the 21st century consist of critical thinking and problem-solving skills, creativity and innovation, communication and collaboration, and Information media and Technology skills. The purpose of this study is to describe the general description of 21st century skill-based Civics learning with an information media and technology model for students' literacy skills in shaping aspects and competencies of citizens whose skills are needed in the 21st century. The method used is descriptive qualitative by conducting and interpreting through literature studies, and surveys through google form to find out a general description of information media and technology skills with the consideration that civic education is a compulsory subject taught in all schools and majors in universities, therefore it is necessary to include information media and technology skills in the design of Civics learning models.

Keywords: *Digital Citizenship literacy, Information Media and Technology -Based Civics Learning.*

1. INTRODUCTION

The advancement of science and technology in the current era of disruption can have a positive impact, including providing convenience in human life activities, on the other hand, it also has a negative impact because it can destroy the values of socio-cultural life that have long existed in the Indonesian nation. To form the readiness of citizens who will face the challenges of globalization and the industrial revolution 4.0 in the 21st century, Indonesians must be able to respond to changes that are happening very rapidly. 21st century skills and characteristics of 21st century people consist of the ability to understand the global community, the ability to cooperate with others, and to take responsibility for their roles or obligations in society. In addition, the dimensions of global citizenship that are interrelated consistently with one another, including social responsibility, global competence, and the involvement of global citizens, are a multidimensional framework [1].

In order to shape the skills of people in the current age of digital disruption, the position of the world of education is very important through Citizenship Education (Civics) to form smart and good citizenship citizens, taking into account that citizens are taught at all levels of education, both at school and higher education. In terms of shaping and imparting knowledge

to students in today's digital environment, it can be built in order to build student skills and skills in the 21st century and change the mindset of students which is very drastic [2]. So that effective learning is needed by integrating ICT literacy into Civics learning, [3] the 21st Century Learning Framework, which includes the principle of digital citizenship, namely the provision of media literacy skills to encourage the growth of global citizens, can be drawn from the ideas and concepts of media literacy in education. ICT learning outcomes will lead to a creative and student-centered learning environment that encourages active learning, discoveries of learning, and skills of higher-order thought [4], these are achieved by adapting lesson content and learning activities to the needs and skills of each student, facilitating collaboration, and providing context and assignments that are as authentic as possible. In addition, ICT-based Mobile M-Learning is being carried out in Nigeria, where the aim is to provide alternative learning solutions in the digital era[5]. Based on this explanation, the questions in this paper are; how to describe the relationship between Civics learning and ICT learning skills, how to foster digital citizenship literacy and to increase the competence of global citizens. The purpose of this research is to disclose a conceptual descriptive picture and steps of ICT-based

Civics learning to foster student learning literacy in the digital era that has a global perspective based on the values of Pancasila and the 1945 Constitution of the Republic of Indonesia.

2. THEORETICAL REVIEW

2.1 Digital Citizen Literacy Knowledge

The industrial revolution 4.0 is marked by a cyber-physical system, where industry has touched the virtual world, human, machine and data connectivity are all everywhere and are called the Internet of Things/IoT. According to Komalasari and Anggraini [6], the components in building digital citizenship are; respect, educate and protect citizens, and digital aspects including digital knowledge, digital ethics and digital skills. Furthermore, J. E. Aoun [7] suggests three types of literacy in the industrial revolution era 4.0; first, data literacy, which is the ability to read, analyze and use information (Big Data) in the digital world; second, technology literacy, which reveals an understanding how machines work, technology applications (Coding, Artificial Intelligence, & Engineering Principles); and third, human literacy, which covers humanities, communication, and design. Therefore, to become a complete digital citizen, it is necessary to pay attention to the values and components of being smart and good citizen, as stated by [8] which is so complex and multidimensional.

B. Trilling and C. Fadel [9] In his research findings convey the ideas and opinions of citizens regarding digital literacy, which is the need for education on the use of digital media, both through government and non-government agencies, such as NGOs, Massa media, communities, and so forth. The goal of educating citizens related to literacy is to shape an active and aware citizen. Meanwhile, from the media side, it is to present complete and balanced information that can be used as material for citizens to become active citizens and play a positive role. In the context of media education, the real challenge is that there is an insufficiently open perspective on media literacy. The instances of learning about media in schools are only interpreted as the development of students' technical abilities in using technology/media as a learning tool; it has not touched the understanding of media literacy.

2.2 21st Century Skills-Based Citizenship Education and Integration of Digital Citizen in Civics Education

B. Trilling and C. Fadel [9], describe the skills that exist in the 21st century, namely; life and career skills, learning and innovation skills, as well as information and technology media skills, which must be possessed by students. These skills must be equipped with creative-critical-innovative abilities, strong character, in this case, being responsible, socially caring, tolerant,

productive, and adaptive, and supported by the wise use of information and communication technology. Furthermore, information media and technology literacy skills are used to reprocess information, critical information of its usefulness and benefits from it. Development of digital-oriented Heater digital citizenship knowledge, digital skills, and digital ethics. This is in line with the competency aspects of knowledge about citizenship, citizenship, and civic character education.

Learning is a container and a process of learning to students by which it is planned and evaluated systematically so that students can achieve learning objectives effectively and efficiently. Learning should be able to support the achievement of three 21st century skills for students[10]. One of the 21st century skills developed in civic education learning by utilizing information and communication technology in the digital era, is carried out with various learning models that are very suitable for these skills. According to Komalasari and Anggraeni [6], implementing ICT-based civic education learning is directed to Digital Learning and Blended Learning

3. METHOD

The method used in this research is descriptive qualitative with data collection techniques using library research in the form of searching for data and information through documents, both written documents, photos, pictures, and electronic documents that can support the writing process, as well as by reading and studying books, journals, newspapers related to research topics [11] and surveys through google form to find out an overview of information, media and technology skills. According to Laurence W. Newman[12] survey researchers, the process of taking samples from respondents who answered several questions, in this case, measuring variables and making conclusions based on questions about the behavior, experience, or characteristics of a phenomenon.

Furthermore, the data were analyzed qualitatively and comprehensively using the Miles & Huberman [13]model on all sources obtained to obtain the conceptual and syntactic learning of Civics based on information and communication technology which includes four components, namely: data reduction, data presentation, inference, and verification of all these components. analyzed simultaneously and repeatedly.

4. RESULTS AND DISCUSSION

In terms of the objectives and learning models of civics education in the digital era based on 21st century skills, according to M. Saleh, K. Komalasari, and IS Masyitoh[14], it is necessary to integrate information and communication technology skills into the design of

learning concepts so as to improve student skills and effectiveness learning.

Komalasari and Anggraini[6] grouped seven ways of managing classes that create students who are able to live in the future, namely: 1). Digital literacy and research; This digital literacy is directly related to research literacy because digital data sources function as the main research resource, 2). Move away from common habitual standards; a shift from pure academic standards to personalized critical thinking habits which previously from institutions to students, 3). game-based learning; it brings together the power of simulation, social play, emotional control, and digital literacy to produce clear learning and participation in learners, 4). Connectivity; through social media, mobile learning (mobile learning), mixed learning, e-learning, and learning experiences can be used to develop interconnection, interdependence and cooperation skills, 5). Transparency; openness is the opposite of traditional closed schools where walls and classrooms are thick, teachers and local government policies that regulate, assess, and process everything, 6). Please-based education completes digital platforms that tend towards globalization so that students are connected with exotic ideas in the same exotic location. Authentic learning experiences enable students to direct personal change in pursuing social change starting from homes and communities that love one another, 7). Self-Direct Learning and playing; it is at the heart of the future of learning, not allowing learners to play with information, platforms, and ideas alike by ignoring the access, tools, and life patterns of 21st century skills. Provide opportunities for students to independently learn to organize themselves and manage time for learning and playing by utilizing smartphones wisely according to ethics.

Enhancing students' digital learning skills in civic education learning (PKn) can be accomplished by instilling and studying information and communication technology, which must begin with the use of digital devices critically, confidently, and creatively, and pay attention to the values of using digital technology. [15] Learning technology and information media has the potential to place students as central learning and involve them actively in the learning process, improve discovery and learning experiences, as well as problem solving skills. This will bring out related skills at the same time as advanced digital competencies, such as confident online collaboration and the critical use of digital tools.

To fulfill the 21st century skill-based Civics learning objectives, the writers adapt one of Trilling and Fadel's 21st century talents, specifically information and communication technology skills, to the demands of today's learning models. Learning technology and information media, according to Syaiful [16], may improve the efficacy of civic education learning by adding digital literacy skills into learning syntax and developing them through field experiments. The following is a description of the findings regarding student perceptions of technology skills and information media in civic education learning described in table 1.1.

Table. 1 Respondents' perceptions of technology skills and information media in Civic Education learning

No	Statement	Answers				
		F	%	V	C	
1	Civics learning provides knowledge experience in accessing information actively and efficiently	Very less	12	2.3	2.3	2.3
		Less	23	4.4	4.4	6.7
		Moderate	83	15.9	15.9	22.6
		Good	286	54.7	54.7	77.2
		Very good	119	22.8	22.8	100.0
		Total	523	100.0	100.0	
2	Civics learning provides knowledge experience in accessing information actively and efficiently	Very Less	14	2.7	2.7	2.7
		Less	24	4.6	4.6	7.3
		Moderate	101	19.3	19.3	26.6
		Good	279	53.3	53.3	79.9
		Very good	105	20.1	20.1	100.0
		Total	523	100.0	100.0	
3	Civics learning provides value in Using, managing information effectively and accurately to solve problems	Very Less	15	2.9	2.9	2.9
		Less	31	5.9	5.9	8.8
		Moderate	115	22.0	22.0	30.8
		Good	246	47.0	47.0	77.8
		Very good	116	22.2	22.2	100.0
		Total	523	100.0	100.0	
4	Civics learning is able to choose media and develop media used to	Very Less	20	3.8	3.8	3.8
		Less	38	7.3	7.3	11.1
		Moderate	121	23.1	23.1	34.2

	communicate	Good	247	47.2	47.2	81.5
		Very good	97	18.5	18.5	100.0
		Total	523	100.0	100.0	
5	Civics learning forms citizenship competence in analyzing information media	Very Less	14	2.7	2.7	2.7
		Less	22	4.2	4.2	6.9
		Moderate	98	18.7	18.7	25.6
		Good	274	52.4	52.4	78.0
		Very good	115	22.0	22.0	100.0
		Total	523	100.0	100.0	

The table shows the results of distributing questionnaires via Google Form to 523 respondents after data was processed using SPSS. It can be seen that responses to items 1-6 about technology and information media skills in civic education learning are heavily dominated by good and very good responses. The first question has a good response of 54.7 %, very good 22.8 %, the second question has a good answer of 53.3 % very good 20.1 %, the third question has a good answer of 47.0 %, very good 22.2 %, and the fourth question has a good answer of 42.2%. The fifth question in the good category received 18,5 %, and the fifth question in the very good category received 52,4 %. The sixth question in the good category received 22,0 %, while the sixth question in the very good category received 43,6 %. This encourages researchers to incorporate technological skills and information media into the syntax of the civic education learning model.

This description is the key to the theme of this paper, which can be described as follows:

Table. 2 Description of Information, Media and Technology Proficiencies and Student Activities

Information, Media and Technology Skills	Treatment	Learning model
Information Literacy	Students are able to access information effectively and efficiently, information that will be used critically, accurately, and effectively to solve	Digital learning and blended learning

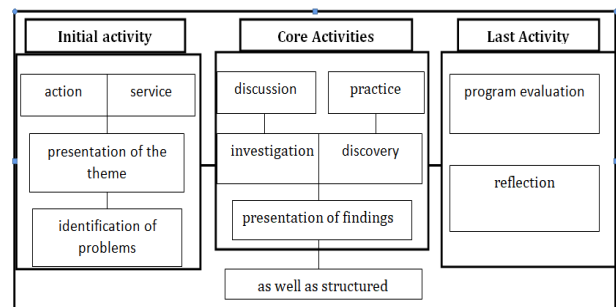
	problems	
Media literacy	Students are able to choose and develop the media used to communicate	
ICT Literacy	Students analyze media information and create suitable media for communicating	

Source: Author's Primary Data Processed Analysis 2020

Based on the activity plan outlined in the table, the appropriate learning model for civics education is the Discovery-Inquiry learning model, Problem Based Learning, ICT Based Learning, Self-Regulated Learning, Project Based Learning, and Service Learning. consideration of the use of the model will help improve students' thinking skills as stated by Syaiful and Gstani [16][17].

The description of the learning steps can be seen in the following figure:

Figure 1. Description of the learning Information, Media and Technology models



Based on the description of Figure 1, the syntax and learning steps are as follows:

1. The initial activity is to serve the act of serving the presentation of the theme and identification of problems; in this first syntax, students are facilitated by the teacher in terms of services regarding the presentation of themes and problems in learning materials. Service learning requires the use of learning strategies that combine community services with a school-based structure to reflect these services, emphasizing the relationship between service experience and academic learning. By this, there will be a very effective collaborative [18]. In other words, this strategy provides a practical application of new knowledge which required various skills to meet the needs in society through structured projects and tasks and other activities. In this case, students are involved in investigations for problem solving by integrating skills and concepts from various content of subject matter that will have a positive impact [19]. This strategy includes gathering information related to questions,

synthesizing, and presenting the findings to others. The learning model used is Discovery-Inquiry learning, Problem Based Learning, ICT-Based Learning.

2. The core activities are discussion, practice, investigation, discovery, and presentation of findings, as well as structured assignments; in this second syntax students are formed in small study groups of 2-5 students with a heterogeneous group structure, collaborating and working together to achieve learning goals. The success of learning from groups depends much on the abilities and activities of group members, both individually and as a group. Furthermore, students take an approach where the workplace is integrated with the material presented by the class for the benefit of the students. The findings of the learning material being studied are more varied, not only in verbal form, but also more varied, such as text, visual, audio, and motion and then presented [20]. Of course, students are invited to directly explore the findings using digital tools. The learning model applied is ICT-Based Learning, Self-Regulated Learning, Digital Learning and Blended Learning.
3. Last activity; program evaluation and reflection; at this stage the teacher evaluates and provides reinforcement and revision of student findings. The learning model used is Service Learning, Blended Learning and living value learning

5. CONCLUSIONS

Civics education in the digital eras 4.0 and 5.0 must be altered in the field of learning based on three 21st century skills in order to meet the required objectives, particularly in the development of creative, communicative, and innovative learning models. One of the three abilities is technology and information media skills, which are included in a variety of competences such as information literacy, media literacy, and ICT literacy. These abilities should be included into the learning syntax and suggested via the creation of learning group tasks in the classroom. The engagement of students in the development of group assignments through the use of digital technology seeks to implant values and morals with full responsibility in order for them to become smart and good citizens in accordance with the values of Pancasila and the 1945 Constitution.

Civic education learning needs a touch of digital technology to help students identify key issues that arise in society included in digital media via social experiments in the field. This is, for sure, enabling students to find and solve problems through critical analysis with accurate sources of information. Civics

learning can be done through various learning models, such as: service learning, problem-based learning, discovery learning, project-based learning, and living value learning, by combining Digital Learning, Blended Learning and Self-Regulated Learning. In addition, both teachers and lecturers can apply learning models that are in accordance with the conditions and levels of primary, secondary, and higher education by developing the learning syntax described in the discussion of this paper, taking into account the construction of students' thinking differently at each level of education. It is important to assess the efficiency of the previously described learning model in this study.

AUTHORS' CONTRIBUTIONS

All authors have a role in the completion of this paper, in the form of processing data and providing guidance

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