

## Students' Perceptions of Civic Engagement in ICT Skills-Based Citizenship Education Learning

Muhamad Saleh<sup>1\*</sup>, Kokom Komalasari<sup>2</sup>, Sapriya Sapriya<sup>3</sup>, Iim Siti Masyitoh<sup>4</sup>

<sup>1</sup>Postgraduate School, Civic Education Study Program, Universitas Pendidikan Indonesia, Bandung-West Java, Indonesia

\*Email: [muhamadsaleh87pkns317@upi.edu](mailto:muhamadsaleh87pkns317@upi.edu)

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### Abstract

The era of the 21<sup>st</sup> century today brings very rapid changes and has a significant impact on all aspects, including in the world of education, especially learning activity. The components and skills existing in the 21<sup>st</sup> century comprise critical thinking and problem solving, creativity and innovation, communication and collaboration, and ICT (Information and Communication Technology) skills. The goal of this research is to conceptually describe an overview of 21st century skills-based Civics learning using an ICT model to develop students' digital literacy skills in shaping aspects and civic competencies required in society, in this case student civic engagement. In addition, the purpose of this study is to see students' perceptions of ICT-based civic education learning skills. The method used is descriptive qualitative by conducting analyses and interpretations through literature studies, with the consideration that civics education is a compulsory subject which is taught in all schools and departments in Higher Education. Students' perceptions of Civics learning on the ICT skill variable show that most of them are in good category with a total of 61%. very good category by 22%, moderate category by 12%. Furthermore, the less category is 3%, the very less category is 2%. Therefore, it is necessary to include ICT skills in the design of the Civic Education learning model.

**Keywords:** Digital citizenship literacy, ICT-based Civics Learning, Civic Engagement

### Introduction

Civic education is a learning program in higher education that focuses on fostering and developing civility/virtue/civic virtues that must be displayed in the personal profile of a plenary citizen, Winataputra (2015: 274). In this age of globalization and disruption, life skills will help to develop interdependence, differentiation, and self-regulation so that future citizens, particularly students, can reflect the components of citizenship in society. Citizenship education is very important in the lives of students (Komalasari, 2012: 96). In the era of the Industrial Revolution 4.0 and 5.0 in the 21st century, students must be able to adapt to changes, especially in the field of information and communication technology. To realize these students' citizenship skills, an understanding of civic engagement through civic education is needed to actualize themselves and create their own civic identity (Jacoby, 2009). With the practice of instructional learning through civic education it will effectively help students to realize civic engagement in the community, (Lin, 2015), Therefore civics education practice in the classroom must be student-centered and more discussion and cooperative, (Campbell, 2006). Qualivied education enables individuals to acquire problem-solving skills, build self-confidence, motivation, complement knowledge and skills that

enable them to become informed, positive thinkers who contribute to social and economic development, UNESCO (2012). The use of digital literacy, specifically the need for digital media education through both government and non-government institutions such as NGOs, mass media, communities, and so on. citizen. Meanwhile, the media's role is to present complete and balanced information that citizens can use as material to become active citizens and play a positive role (Pradana, 2018: 179). The use of digital media by Assard and Bennet (2007), will affect people's digital knowledge of the information adopted (Suyatno and Machfiroh, 2016). Digital ethics of Ribble (2004), Bailey, (2011), and Choi, (2016) are very important for citizens in terms of using, utilizing and disseminating information through digital media, and of course, they must pay attention to the values and norms that derive from the outlook of life of the nation and state

To provide knowledge and skills to students in the current digital era, it is necessary to have effective learning by integrating in the 21<sup>st</sup> century skills (Trilling & Fadhel 2009) information communication and technology skills (ICT) in civic education learning, with the consideration that digital media is very important. attractive to the younger generation and offers a new avenue for student participation in society. Schools must rethink how they prepare students for active and participatory citizenship, (Baumann, 2012). Learning using ICT can be beneficial for an innovative and student-centered learning environment so as to foster active learning, and high-order thinking skills, (Mooij, 2001: 415). Learning experiences by integrating digital learning are essential for young people as the learning experiences they need to become active and fundamentally engaged citizens for knowledge, expression, joining the public, and taking action, (Sherrod et al., 2010). ICT Learning M-Learning can provide solutions for ICT-based learning, (Oyelere et al., 2016). With the inclusion of technology about learning, it will bring students to enjoy the learning process more. In addition, it will increase the competence of teachers regarding classroom management instructional skills, personal skills and professional guidance skills,(Villegas, 2022). Based on this description, the question in this paper is how students perceive civic engagement through civic education learning by applying ICT skills-based learning skills. The purpose of this study was to obtain an overview of ICT learning in its application to civic education.

### **Materials and Methods**

This research used two approaches; quantitative and qualitative with the dominant-less dominant design from Creswell (1994). The method used in this study is descriptive qualitative with data collection techniques using literature studies in the form of searching for data and information through documents, both written documents, photographs, images, and electronic documents that can support the writing process, as well as by reading and studying books, journals, and newspapers related to research topics. Therefore, the stages can be classified into three; the description stage, the reduction method, and the selection stage.

The sample in this study consisted of 120 students from Halu Oleo University who were spread in teaching architecture and education science, architecture, architecture, and architecture. A quantitative approach and survey method, (Newman, 2000) were used in the present study, the survey method was used to fully discover the Students' Perceptions of Civic Engagement in ICT Skills-Based Citizenship Education Learning, and data collection was done using questionnaires. The questionnaire used was in the form of closed questions with the objective test as knowledge indicator and Likert scale. Furthermore, the data is analyzed qualitatively and comprehensively on all the sources obtained so that a conceptual prototype of the ICT-based 21st century Civics learning model design is reproduced whose data analysis is in accordance with the model of Miles and Hu-

berman (1994: 33) which includes four components, namely: data reduction, data presentation, drawing conclusions, and verification to all these components was analyzed simultaneously and repeatedly.

### Results

Table 1 below will describe students' perceptions of 21st century skills-based civic education learning on ICT items to support the creation of learning syntax.

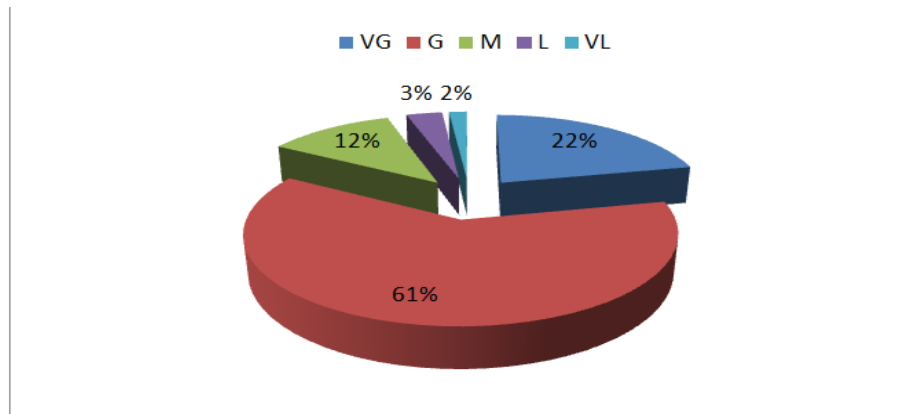
**Table 1. Perception of Research Subjects on Learning Conditions of ICT-Based Citizenship Education in Research Aspects (N= 120)**

No	Statement	Answers				
		F	%	V %	C %	
1	Civics learning provides understanding and knowledge in accessing information about assignments actively and efficiently	Very good	26	20	20	20
		Good	74	58	58	58
		Moderate	14	11	11	11
		Less	4	3	3	3
		Very Less	2	2	2	2
		Total	120	100.0	100.0	
2	Able to improve skills in accessing and using communication and information technology	Very good	26	20	20	20
		Good	66	52	52	52
		Moderate	20	16	16	16
		Less	7	5	5	5
		Very Less	2	2	2	2
		Total	120	100.0	100.0	
3	Civics learning provides an understanding of the use of digital-based literacy	Very good	27	21	21	21
		Good	58	45	45	45
		Moderate	28	22	22	22
		Less	5	4	4	4
		Very Less	3	2	2	2
		Total	120	100.0	100.0	
4	Civics learning forms the character of politeness in communicating in digital media	Very good	63	49	49	49
		Good	50	39	39	39
		Moderate	3	2	2	2
		Less	4	3	3	3
		Very Less	0	0	0	
		Total	120	100.0	100.0	

**Source:** Author's Primary Data Processed Analysis 2022.

### *Student perception on learning condition of ICT-Based Citizenship Education in Research Aspects*

The following figure tries to simplify about the students' perception on learning condition of ICT-Based Citizenship Education in Research Aspects.



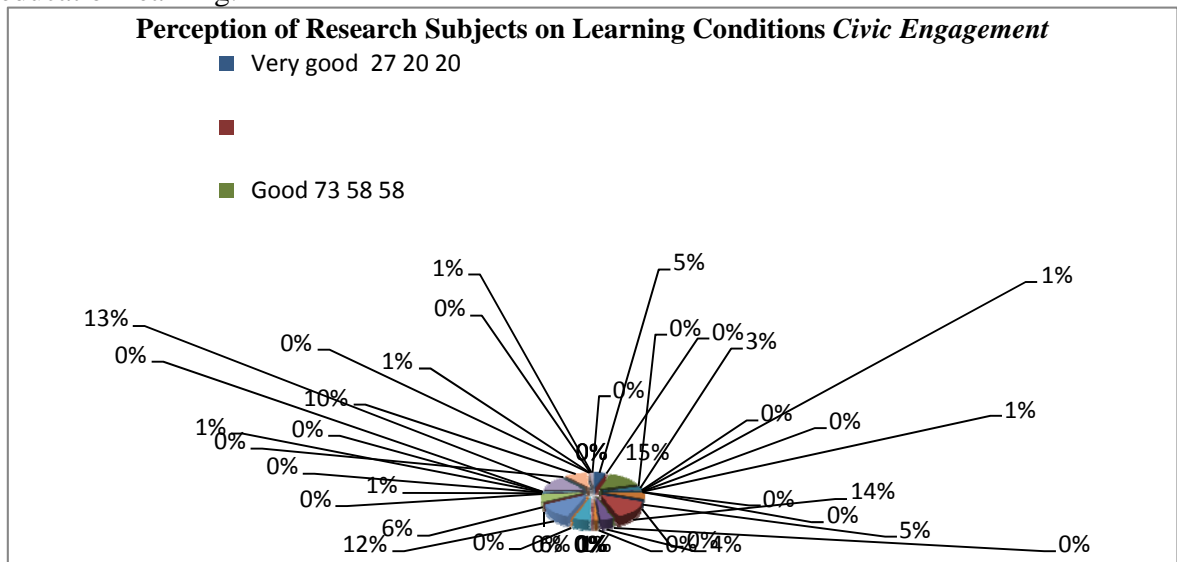
**Figure 1. Student perception on learning condition of ICT-Based Citizenship Education in Research Aspects.**

**Tabel 2. Perception of Research Subjects on Learning Conditions Civic Engagement in Research Aspects (N= 120)**

No	Statement	Answers				
		F	%	V %	C %	
1	Responsibility to be involved in overcoming problems that occur in the community	Very good	27	20	20	20
		Good	73	58	58	58
		Moderate	14	11	11	11
		Less	4	3	3	3
		Very Less	2	2	2	2
		Total	120	100.0	100.0	
2	Creating skills, and innovation to produce new works in society	Very good	28	20	20	20
		Good	66	52	52	52
		Moderate	20	16	16	16
		Less	7	5	5	5
		Very Less	2	2	2	2
		Total	120	100.0	100.0	
3	Have a Volunteer Spirit	Very good	29	21	21	21
		Good	56	45	45	45
		Moderate	28	22	22	22
		Less	6	4	4	4
		Very Less	2	2	2	2
		Total	120	100.0	100.0	
4	Civic Professionalism and Social Justice, Public Agency, Community Building, Leadership, Intellectual Development	Very good	63	49	49	49
		Good	50	39	39	39
		Moderate	3	2	2	2
		Less	4	3	3	3
		Very Less	0	0	0	
		Total	120	100.0	100.0	

Source: Author's Primary Data Processed Analysis 2022.

Based on the results of the study, it was explained that students' perceptions of 21st century skills-based civic education learning on the ICT skill variable showed that most of them were categorized as good with a total of 61%. the very good category is 22%, while the moderate category is 12%. Furthermore, the less category is 3% while the very less category is 2%. Based on these data, it can be concluded that the importance of including ICT skills in civic education learning and based on these data strengthens researchers to develop an ICT-based learning syntax in civic education learning.



**Figure 2. Perception of Research Subjects on Learning Conditions Civic Engagement**  
Source: Author's Primary Data Processed Analysis 2022.

Furthermore, for the variable of students' perceptions of civic engagement from the questions given, the dominance by frequent/agree answers with the highest score by the question item having a sense of social responsibility towards the community showed a score of 58% and very good showed a score of 20%. From the score data, it can be concluded that the variable category of students' perceptions of civic engagement is in the good category.

Based on the data distribution of learning variables, using ICT skills in Civics learning can provide a stimulus to students regarding civic engagement in the form of social capital, citizen participation, democratic practice, public services, public problem solving, political involvement/participation, community participation, civic professionalism and social justice, public bodies, community development, leadership, and intellectuals. Tables 1 and 2 contain data from student perceptions that describe positive responses in terms of civic education learning innovations that will be used as a reference for developing learning designs that use the ICT learning model to build real student civic engagement in society and the virtual world. digital. The discussion chapter will go over the elaboration of Civics learning design using ICT skills in greater detail.

### Discussion

Implementation of Civic Engagement for students in real life is very important, because it is a form of participation or participation of citizens with a full sense of responsibility (social responsibility) which is manifested in the form of attitudes and behavior as smart citizens and good

citizens with full awareness and alertness to solve problems and responsibilities as full citizens. Civic engagement tries to make every citizen can be directly involved in the process of helping other citizens, as well as train and practice every competency possessed by citizens such as knowledge, skills, values and also motivation that can contribute to society, this is an effort made by citizens, the state to improve the quality of life in society in a community, it can be through political or non-political processes in terms of building a better democracy (White 2012). Civic engagement is manifested in pedagogical activities and carried out in universities so that students can actually make it happen in the community, in addition to developing community engagement as a sustainable activity, it needs to be displayed explicitly in various policies (Boland, 2011).

The importance of citizen involvement contained in civic education (PKn), which is oriented to the concept of "contextualized multiple intelligence" with local, national, and global nuances, (Cheng: 1999 in Winataputra & Budimansyah 2012: 4) is the process of preparing citizens in terms of forming skills so that they are ready to be used and useful for the progress of the Nation and the State. Lecturers and teachers can provide opportunities for students to learn and implement the role of citizenship who are directly involved in the community (Jacoby, 2009: 5-6). The formation of knowledge and skills can be done through the process of learning experiences and transformation of learning experiences.

Advances in technological development allow the birth of the concept of digital citizenship which must be full of responsibility and ethics in accordance with values and norms, therefore the need for a positive attitude in technology so that everyone can work and play in the current digital era, because of that moral and ethical values, (Komalasari, 2017). Digital citizenship broadly refers to a person who has the knowledge and skills to effectively communicate, participate and utilize digital content and the need for a positive and confident attitude towards digital technologies (Education Services Australia, 2020). To become a complete digital citizen, it is necessary to pay attention to the values and components of a smart and good citizen, (Rible & Bailey. 2011). According to Choi, (2016: 9) one of the components of digital citizenship is civic engagement. Involvement and participation of citizens in online form, for example in the political, socio-economic, and cultural fields. This participation can be done in two ways, namely; Political participation in macro form is the use of the internet as a public space for discussion and deliberation, for example participation in government e-voting, online petitions that are very important for digital citizen engagement, and personalized engagement where participation does not have to be a political activity but a community in all its forms digital.

Learning is a place and learning process for students that is planned and evaluated systematically so that students can achieve learning objectives effectively and efficiently. Learning must be able to support the achievement of three 21st century skills (Komalasari, 2017), one of the 21st century skills developed in Civics learning is Information and Communication Technology (ICT) by utilizing information and communication technology in the digital era carried out with various learning models that are very in accordance with these skills, especially in ICT learning directed at Digital Learning and Blended Learning, (Komalasari, 2019). Teachers and lecturers need to be equipped with digital competencies themselves, because having good digital competencies will be more effective, (Dar & Ponraj, 2022) therefore to support this process, Ala-Mutka et al (2008) recommends pedagogical innovation with digital competencies including the following:

1. Teacher/lecturer training; Teacher training in all fields should cover advanced digital levels of teacher competencies and their teaching, not only concentrating on the skills of teacher ICT users, but also these topics should be part of teacher training. Training must consider aspects of the

use of ICT as a learning tool in teaching subjects and as a tool used by learners for their course work and learning.

2. Analyzing the context of digital competence. Students should be allowed and encouraged to use ICT literacy for their learning, information-seeking, and creation tasks. In this way, they learn to use and be creative with digital tools and media in various fields

3. Analyzing the context of digital competence; Students should be allowed and encouraged to use ICT literacy for learning tasks, information seeking, and making learning projects. In this way, they learn to use and be creative with digital tools and media in various fields. Innovative learning approaches also support digital competence. Implementation of ICT in education and training through an innovative, independent teaching and learning approach. ICT for learning has the potential to place learners at the center and involve them actively in the learning process, promoting discovery and learning experiences, problem solving skills. This brings up skills related at the same time to advanced digital competences, such as confident online collaboration and critical use of digital tools.

The use of social media an important role in shaping community involvement, especially the younger generation in the form of political participation (Rice & Moffett, 2019). With these pedagogical and digital competencies, it is very possible to use ICT learning in Civics learning to foster Civic Engagement in students by utilizing the design of learning media in the form of YouTube, Instagram, Twitter, Facebook, Snapchat, and other social media that are tailored to the theme every time meetings in civic education learning. Based on the data in table 1 regarding ICT-Based Citizenship Education Learning and table 2 regarding student civic engagement, it can be classified regarding its application in the classroom through civic education learning. From the results of the questions on the two variables contained in the table, they can be classified and described in table 3 below:

**Table 3. Instructional ICT in the Teaching of Citizenship Education**

<b>Model learning</b>	<b>Information media and technology</b>	<b>Teaching Instruction</b>	<b>Learning Goals</b>	<b>Application of engagement to Students</b>	<b>Leaarning components of Civic Education</b>	<b>Learning Media</b>
Digital learning and blended learning	Information literacy	provide understanding and knowledge in actively and efficiently accessing information about tasks	Students are able to access information effectively and accurately in order to to solve problem critically	Being volunteer in social service, leadership and intellectuals, civic professionalism and social justice, etc.	Citizenship education introduction, National identity, National Integration, Constitution and The State, Right and Duites of Citizens Democracy Human Rights Rule of Law	social media: facebook, instagram, twitter,
	Media Literacy	skills in accessing and using information	Students can choose and create their own com-	developing skills and innovating to create new		Chat App: Whatshap, telegram, google meet, zoom meeting,

Model learning	Information media and technology	Teaching Instruction	Learning Goals	Application of engagement to Students	Learning components of Civic Education	Learning Media
		and communication technology	communication media.	works in society	Geopolitical: The Archipelago	Youtube, online media, online library, e-journal
	ICT Literacy	provide an understanding of how to use digital literacy, form the politeness character in digital media communication	Students form the politeness character in digital media communication	Citizenship Professionalism and Social Justice, leadership and intellectuals, civic professionalism and social justice, etc.	Insight Geostrategic, The Country Defened	

Source: Author's Primary Data Processed Analysis 2022.

**Syntax and Stages in classroom learning**

The teaching syntax is divided into four stages, which are as follows:

1. Thematic and case study presentations
2. Exploration and discovery
3. Development of the findings
4. Evaluation and reflection

The syntax is described in three stages, starting with the first. Preparation and planning are included in the introduction, as is presenting the indicator's theme and identifying the indicator's sub-themes. The second stage, Core activities, includes discovery, portfolio journal creation, and presentation of findings. The third stage is the final activity, which includes evaluation, strengthening, and closing. It is described as follows based on these stages:

*Stage 1: Preliminary*

The teacher makes preliminary preparations and initial planning by serving and presenting the themes of learning indicators during the preliminary stage. Lecturers serve as facilitators, mediators, and motivators for students by presenting actual themes and identifying problems in indicators of learning material. One to five students are grouped together during six substages; the first of which is policy identification; the second involves choosing problems to study; the third involves gathering information about the problems being studied; the fourth involves students developing class portfolios; the fifth involves presenting the portfolios; and the sixth involves studying and deepening learning experiences (Budimansyah, 2008). The service learning model includes preparation, action, reflection, and demonstration (Ardani, S. U. & B. 2016) as well as the project citizen model.

*Core Activities' second stage*

The findings from experimental social case studies will be presented by the study group as a result of group identification. The model strategy employed is discovery learning, with a continuous



stage of discussion encompassing all aspects of indicators, elaboration and statements of problem findings, data collection and processing, verification and generalization of findings, and project-citizen-based project-based learning strategies.

#### *Final Activities in Phase III*

In the final activity stage, the lecturer evaluates the results and findings of the group and then provides reinforcement from student presentations.

Because of the similarities in their implementation, the use of learning media can be combined. So that the use of effective learning media can be combined and the learning process can be maximized. Learning application platforms can be used online to meet specific needs. The use of ICT skills in civic education learning is a process of changing behavior in students that is both visible and invisible, so teachers must understand students' personal and environmental factors (Rodríguez et al., 2012, Panigrahi et al., 2018). This is related to the service learning model, in which lecturers must serve and understand the needs of their students. Learning services can educate students to be directly involved in the community through civic education (Jacoby, 2019: 359), so it is critical to consider environmental, internal, and personal factors when serving students (Santrock, 2011).

To develop digital citizenship, citizens must have several skills; digital interpreneurship, critical thinking, creative, innovative; the ability to collaborate with networks; communication across languages-continent, across cultures; the ability to use and utilize digital devices effectively, efficiently and ethically; has a strong filter of cultural and ideological influences to minimize a culture of laziness (Komalasari, 2019: 160, UNESCO, 2011). Behavior formation is a mental transformation process that involves brain activity (Bandura, 1971). As part of the ICT-based civics learning process, it is essential to instill moral knowledge and moral feeling in students. This can be done by implementing audio-visual media so that students can build on the learning experiences they have had and, once they have a moral feeling, they will be motivated to learn, civic engagement is put into effect in the community when students engage in it. The principles and characteristics of a wise and decent citizen must therefore be considered in order to become a fully formed digital citizen, as stated by (Rible & Bailey. 2017). The participation of students in the community in civics learning can be accomplished in two ways: Political participation in macro form is the use of the internet as a public forum for discussion and deliberation, such as participation in government e-voting and online petitions, which are crucial for digital citizen engagement, and personalization engagement, in which participation does not have to be political but community activities in all digital forms, so that students think critically about the progress of society, citizens of the nation and state, government policies, and political activities using social networking sites, both of which are incorporated as control agents in the political superstructure/government agencies and the political infrastructure of non-governmental institutions, all of which cannot be separated from ethics and social responsibility of citizens Because it has an impact on the operation of democracy for a government founded on values and norms.

#### **Conclusion**

Learning Civic education is currently in need of transformation, particularly to include ICT skills packaged as creative, communicative, and innovative learning. The incorporation of media literacy, information literacy, and information media technology into learning will assist students in understanding and applying the subject matter in society. Thus, student civic engagement can be realized through the use of technology, such as digital media in the form of social media, or directly

in the community. Positive student involvement in digital technology aims to instill values and morals with full responsibility, so that they become smart and good citizens in accordance with existing norms. Civic education can be learned using a variety of learning models, including service learning, problem-based learning, discovery learning, project-based learning, and living value learning, which can be achieved by combining Digital Learning, Blended Learning, and Self-Regulated Learning. Teachers and lecturers can use the ICT-based learning syntax above to apply learning models that are appropriate to the conditions and levels of primary, secondary, and higher education, while keeping in mind that the construction of students' thinking differs at each level of education.

### References

- Ardani, S. U. & B. (2016). The Influence of the Service Learning Learning Model on High School Geography Learning Outcomes. *Journal of Education: Theory, Research, and Development*, 4(1), 10–13.
- Ala-Mutka, K., Punie, Y., & Redecker, C. (2008). Digital competence for lifelong learning. European Commission, Joint Research Centre, Institute for Prospective Technological Studies, 10. <http://ftp.jrc.es/EURdoc/JRC48708.TN.pdf>
- Bandura, A. (1971). *Social Learning Theory*, Englewood Clift, N.J.: Prentice Hall.
- Baumann, P. (2012). Civic Engagement through Digital Citizenship: Engaging Youth in Active, Participatory Citizenship through Digital Media. *The Progress of Education Reform. Education Commission of the States*, 13 (1).
- Boland, J. A. (2011). Positioning civic engagement on the higher education landscape: Insights from a civically engaged pedagogy. *Tertiary Education and Management*, 17(2), 101–115. <https://doi.org/10.1080/13583883.2011.562523>
- Budimansyah D. (2008). Revitalization of Citizenship Education Learning Through Citizenship Learning Practices (Project Citizen). *Acta Civicus, Journal of Citizenship Education*, 1(2), P.115, Bandung
- Campbell, D. E. (2006). *What is education's impact on civic and social engagement? Measuring the Effects of Education on Health and Civic Engagement*, March, 1–387.
- Creswell, J.W. (1994). *Research Design: Qualitative and Quantitative Approaches*. Sage Publication, London, ISBN: 10: 08039952554, pp: 248.
- Choi, M. (2016). A Concept Analysis of Digital Citizenship for Democratic Citizenship Education in the Internet Age. *Theory and Research in Social Education*, 44(4), 565–607. <https://doi.org/10.1080/00933104.2016.1210549>
- Dahl, R. (2008). *On Democracy*. New Haven: Yale University Press
- Dar, G. A., & Ponraj, P. (2022). Teacher Effectiveness and Digital Competence of High School Teachers in Shopian, District, Jammu and Kashmir. 11(2), 362–369.
- Education services Australia. (2020). *Digital Citizenship*. [https://scholar.google.com/scholar?hl=id&as\\_sdt=0%2C5&q=Education+Services+Australia%2C+2019&btnG=diakses+pada+11+oktober+2020](https://scholar.google.com/scholar?hl=id&as_sdt=0%2C5&q=Education+Services+Australia%2C+2019&btnG=diakses+pada+11+oktober+2020)
- Jacoby, B. & Associates. (2009). *Civic Engagement in Today's Higher Education an Overview*, In *Jacoby, B: Civic Engagement in Higher Education Concept and Practice*. U.S: [www.Jossebass.Com](http://www.Jossebass.Com)

- Jacoby, B. (2019). Educating Students for Civic Engagement: What the Arts Have to Do With It. *Journal of College and Character*, 20(4), 359–366. <https://doi.org/10.1080/2194587x.2019.1669467>
- Komalasari, K. (2017). *Contextual Learning Concepts and Applications*. Bandung: PT Refika Aditama.
- (2019). *Development of Digital Citizenship in the Era of the Industrial Revolution 4.0*. Bandung: UPI Press
- Komalasari, K. (2012). *THE EFFECT OF CONTEXTUAL LEARNING IN CIVIC EDUCATION ON STUDENTS' CHARACTER DEVELOPMENT Background*. 27, 87–103.
- Laurence, W. Newman, *social research methods*, 4th ed. Boston: Allyn & Bacon, 2000.
- Lin, A. (2015). Citizenship education in American schools and its role in developing civic engagement: a review of the research. *Educational Review*, 67(1), 35–63. <https://doi.org/10.1080/00131911.2013.813440>
- Miles, B. Matthew & Huberman, A. Michael. (1994). *Qualitative Data Analysis: A Methods Sourcebook*. Arizona State University. SAGE Publications, Inc.
- Morais, D. B., & Ogden, A. C. (2011). Initial development and validation of the global citizenship scale. *Journal of Studies in International Education*, 15(5), 445–466. <https://doi.org/10.1177/1028315310375308>
- M. S. Ribble, G. D. Bailey, and T. W. Ross (2017). Digital Citizenship: Addressing Appropriate. *Educ. Online*, 16(1), 377–393, doi: 10.17051/io.2017.80833.
- Oyelere, S. S., Suhonen, J., & Sutinen, E. (2016). M-learning: A new paradigm of learning ICT in Nigeria. *International Journal of Interactive Mobile Technologies*, 10(1), 35–44. <https://doi.org/10.3991/ijim.v10i1.4872>
- Panigrahi, R., Srivastava, P. R., & Sharma, D. (2018). Online learning: Adoption, continuance, and learning outcome—A review of literature. *International Journal of Information Management*, 43(July 2016), 1–14. <https://doi.org/10.1016/j.ijinfomgt.2018.05.005>
- Pradana, Y. (2018). Attribution of Digital Citizenship in Digital Literacy. *Untirta Civic Education Journal*. 3(2), 168–182.
- Ribble, M. (2004). Digital citizenship: Addressing appropriate technology behavior. *Learning & Leading with Technology*, 32(1), 6–11
- Rice, L. L., & Moffett, K. W. (2019). Snapchat and civic engagement among college students. *Journal of Information Technology and Politics*, 16(2), 87–104. <https://doi.org/10.1080/19331681.2019.1574249>
- Rodríguez, P., Nussbaum, M., & Dombrovskaja, L. (2012). ICT for education: A conceptual framework for the sustainable adoption of technology-enhanced learning environments in schools. *Technology, Pedagogy and Education*, 21(3), 291–315. <https://doi.org/10.1080/1475939X.2012.720415>
- Santrock, John, W., (2011) *Educational Psychology*, Michael Sugarman: New York
- Sherrod, L. R., Torney-Purta, J., & Flanagan, C. (2010). Handbook of Research on Civic Engagement in Youth. In *Handbook of Research on Civic Engagement in Youth*. <https://doi.org/10.1002/9780470767603>
- Suyatno & Machfiroh (2016). Political Marketing Activity In Simultaneous Regional Election 2015. *Mimbar: Jurnal Ilmu Sosial dan Pembangunan*. 33 (1):99-106
- Smeets, E., & Mooij, T. (2001). Observations in Educational Practice. *British Journal of Educational Technology*, 32(4), 403–417.

- Trilling, B., & Fadel, C. (2009). 21st Century Skills Learning for Life in Our Times. *Journal of Sustainable Development Education and Research*, 2(1), 243.
- UNESCO (2011). *Digital Literacy in Education*. Moscow: UNESCO Institute for Information Technologies in Education
- (2012). *Youth and skills: Putting education to work. EFA global monitoring Report*. Paris: UNESCO
- Villegas, C. H. (2022). *Technology and Livelihood Education Teachers' Competence and Work Skills and Work Attitudes of Public High School Students*. 11, 86–96.
- Winataputra, U.S. (2015) *Reconstruction of Citizenship Education: Historical-Epistemological Analysis*, Universitas Terbuka Press: Jakarta
- Winataputra U. S. & Budimasyah, D. (2012). *Citizenship Education in an Educational Perspective to Enlighten the Nation Life (Ideas, Instrumentation and Praxis)*. Widya Aksara Press: Bandung.