



# Distance Education: Digital Civic Education Developed Awareness for Higher Education

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**Abstract.** The Digital era has brought open access to communication and information, and the digital era also brought communication to a new era in how people's communication-based face-to-face becomes digital. There is no boundary of distance to communicate with digital technology. Making space feel does not exist anymore. With the distance that feels like disappearing, distance education is more and more becoming part of the new era. A social presence in the digital era feels more lively because it has become people's daily life and part of their new life. In higher education, they are more and more connected daily through digital media, which has become part of their social life. As digital technology becomes part of daily life, students have to be aware, as they have done when interacting face to face, that there is value in it. This awareness is necessary because both digital and directly are their social life that needs skill, knowledge, and disposition as part of learning in civic education. This research concerns civic education's role in developing student awareness of digital technology through distance education, especially for higher education demands self-study. Distance education that fully supports their activity using distance learning requires unique technology to set up their course design, which is now, as discussed before, becoming daily social life communicated through digital media.

**Keywords:** Civic Education · Digital Awareness · Distance Education · Higher Education learning

## 1 Introduction

Distance in the digital era is falling closer, and information can be accessed anywhere. Digital technology has become every one daily life and made the world more open to improving access to information. Even in this connected world, it still took an effort to make it work for society to have the necessary awareness of what to do in this connected world. How to manage information access that society got can become taxing and overwhelming. Such as psychological problems, depression and anxiety disorders, and problems such as insomnia [1], so society has to manage tools for facing this problem, especially for the younger generation where digital information is part of their lives. Civic education is one of the courses concerning how this younger generation behaves in the digital era. Civic education is education to prepare the young generation for their

concern about becoming part of society, and one of their goals is to make good and smart citizens [2]. Technology transformation has transformed how society is interpreted if we refer to the environment people made for interaction and communication. That environment can be found in many nations' digital flat form. As mentioned by Macbride that a nation is now bombardier by massive information from around the world [3]. This massive information can be confusing and influence those who access it. The digital era is touching almost every society in the world hardly find any community that is not influenced by digital information in this era. Printing information has transformed into digital information, distributing information quickly worldwide. How quickly information is distributed made hardly a day pass without receiving information in many forms. Although, not all information can be easily understood, such as information that is used native language. The differences in natural language can also become an obstacle to how society understands the information with a different language and culture. In the digital era, it shows that competency is needed not only to be part of the digital era but also because it is unavoidable with such massive information. As mentioned before, there is hardly any day off without getting information from society daily unless they are literally disconnected from all media and technology information. Digital technology is changing nature conservation [4]. It also means changing people's lives, impacting their daily lives and cultures. Digital technology brings a new way of living, primarily how people communicate.

Although there is some problem with digital technology, it also brings improvement to society. As Kranzberg says, "Technology is neither good nor bad; nor is it neutral." [4] It depends on how people use it; like Gandhi says as seven social sins, "*Science without humanity.*" [5]. Technology can be interpreted depending on people use it. If people use it for a bad thing can become a problem that treats their humanity; in digital technology deceiving information or knowledge as a hoax is one of the bad things people do with technology. So it came back to competency and responsibility in the digital era; what competency is needed in a digital era, especially in the education system in which students and lecturers both use technology access for education. Information became vital in social interaction, so the system was built on people to make communication easier. The distance education system makes communication possible between lecturer and student; distance education creates a system for exchanging information and moves class to the system. The system means the technology used for distance education is used in exchange for class. The class usually takes place in a building where the lecturer and student in the same room are moved to the system [6].

Today citizens coexist and are shaped by technology. Digital citizenship and democratic citizenship are closely related to how this knowledge is mastered and practiced to make this relationship valuable [7]. The use of distance education is one of the coexist shapes of technology, especially in the civic education majors. To bring civic education to distance education, they must bring a democratic environment through social presence, cognitive presence, and teaching presence [8]. In higher education, distance education for civic education demand self-discipline and responsibility so the students can succeed [9]. Responsibility also needs to build student awareness toward the digital era because now there is where today citizenship is shaped based on technology.

## 2 Methodology of Research

This research uses the qualitative method. The process of data gathering is through the questioner which is given to a student that has or is in the process of a civic education course. The research is conducted at Universitas Terbuka (UT) or Indonesia Open University. The survey form consists of multiple-choice and essays. This method is chosen so it can see how the opinion of the student and tries to describe how civic education builds student awareness in the digital era, especially in the distance education system at Indonesia Open University that carry an education system through distance education. Indonesia Open University implements a distance and opens learning system. The term distance means that learning is not done face-to-face but uses media, both print media (modules) and non-prints (audio/video, computer/internet, radio broadcasts, and Television). Because of the characteristics environment at Indonesia Open University that was using digital access for the learning questionnaire method is relevant. "The aims of online questionnaires supporting teaching and learning of statistics are compared to aims of other computer-based and non-computerized methods and tools." [10]. As mentioned before, Indonesia Open University is an education system that uses technology as its primary learning.

With this kind of condition where Indonesia Open University student is spread in all Indonesia territory, it needs a questionnaires system that can be done any time anywhere, and the internet is a powerful platform for the conduct questionnaires, it also because Indonesia Open University has many adult students the use of questionnaires through the internet is relevant as mention "Another advantage is that the Internet can access populations in real-time and can reach segments of the population that are traditionally difficult to contact, such as home-bound older adults." [11]. The data is collected through google form and spread to the student at Indonesia Open University, especially for those whose has to take or are in the proses of learning civic education is primary research. The data has been collected and then processed in several stages. The first stage is preparing and organizing all the data to be analyzed. The second stage is to scan all the data. The third stage is to code the data. The four-stage is to connect the data with the problem of this research. The last stage is to interpret the data to the research theme. The data is communicated with an inductive method, from specific to general.

## 3 Result of Research

### 3.1 Studies in Indonesia Open University

The open meaning is that there are no restrictions on age, year of diploma, study period, registration time, and frequency of taking exams. The only limitation is that every Indonesia Open University student must have completed senior secondary education (*SMA* or its equivalent). Indonesia Open University students are expected to be able to study independently. Independent learning requires students to learn on their initiative or initiative. Independent learning, in many ways, is determined by the ability to learn effectively. A student's ability to learn depends on the speed of reading and the ability to understand the content of the reading. Indonesia Open University students must have self-discipline, initiative, and robust learning motivation to study independently and effectively. Students must also manage their time efficiently to study regularly based on a self-determined

study schedule. Because Indonesia Open University has a variety of ages, it can be considered an adult, and an independent learning mentality must become part of Open University's development. Civic education learning is a core course for all faculty at Indonesia Open University. The number of students taking the civic education course at Indonesia Open University is usually high, around 3000 students [12].

The course uses Moodle platform as a learning management system (LSM). The learning itself lasts for eight weeks, with the learning material that has been prepared for every week. During the week, students choose when they finish their assignment in the period that has been set before. This kind of system demands the student to have a disciplined mentality because it is their responsibility to finish the studies they are given. When they will finish it, and how they will get a response to any revision that they had. To monitor student work, they will be assisting a tutor to see how the progress of the student; the tutor also gives input to any work the student has been made. Although Indonesia Open University demands an independent student, the presence of a tutor can also motivate the student and monitor the student's course.

### **3.2 Distance Education for Civic Education in Developed Awareness as Digital Citizen**

Using distance education for studies is the same as using digital information because the way the study is processed uses technology [6]. The more advanced technology being used, the more accessible communication can be maintained because it makes communication two directions and not one direction. Distance education itself is not meant to use technology for education. However, technology is essential to make distance education work, like how schools need a place to deliver, which usually happens in the classroom. Distance education took technology as a place to deliver their education system. It also happens in the digital era where communication is happening on the digital platform that is usually done by talking face to face. Looking at how technology developed, society is heading into the digital era or mentioning a digital city (Schuler, 2001). This connection can also happen across countries, not the only region of the nation. The Digital era needs digital competencies for development in civic education courses. In this research, the competencies that are considered importance base on [13–16] can be seen in the Table 1.

This competency digital is the area that has been researched to measure how far the students have implemented their skills, especially in data literacy, communication, digital content creation, security, and how to solve the problem. Based on the questionnaire, 80% of the students used internet access to find their answers when the assignment was given, 18,8 used youtube, and 1,2% used books and other media such as Television, newspapers, and magazines. This shows that digital technology is an integral aspect of a university student [17], where digital technology can extend and change student learning. The habit of a student finding the answer online because it feels more convenient than other methods. They can use their Hand Phone, laptops, and Computer without having to flip a page. With the search engine, the student feels they can focus on the problem they are trying to solve. Meanwhile, from the tutor's point of view, this habit raises some problems like the standard answer even though the tutor wants answers from various points of view. Their reliance on digital access shows that this is part of the information

**Table 1.** Digital Competency

No	Competency Area	Area Developed
1	Data literacy	<ul style="list-style-type: none"> <li>✓ Looking for information and also how to filter unnecessary information,</li> <li>✓ Taking and keeping information,</li> <li>✓ Data management and digital content.</li> </ul>
2	Communication	<ul style="list-style-type: none"> <li>✓ Interaction through digital technology,</li> <li>✓ Sharing information and content,</li> <li>✓ Engage citizenship online,</li> <li>✓ Collaboration in digital Chanel,</li> <li>✓ Manage private digital information.</li> </ul>
3	Digital Content Creation	<ul style="list-style-type: none"> <li>✓ Developed digital content,</li> <li>✓ Copyright and license,</li> <li>✓ Programing.</li> </ul>
4	Security	<ul style="list-style-type: none"> <li>✓ Protect their equipment,</li> <li>✓ Protecting personal data,</li> <li>✓ Protecting their health,</li> <li>✓ Protecting the environment.</li> </ul>
5	Solve the Problem	<ul style="list-style-type: none"> <li>✓ Solve a technical problem,</li> <li>✓ Identify needs and responses to technology,</li> <li>✓ Identify digital competency gaps.</li> </ul>

age shift to digital information, so one of the competencies needed is digital literacy, how to look for information, and what source that information came from. In this case, student literacy still needs to deepen by giving various information about managing information sources, collecting it, and serving it as an opinion based on data, not the other way around. Present the data but only rely on the data without any understanding of what is presented. This way off, the answering question can be seen from the student's inclusion of opinions, but it is not explained how they relate to the answers given.

Students' daily access to digital media is high, with 67,5% very often accessing the internet, 30% often, and 2,5% rarely. Students often access the internet (online) for any activity outside studies. High access to the internet shows that this has become part of daily life and how digital information influences students. Online activities are not only information access but also entertainment in it, such as movies, music, and social media. It almost says that anything can be found online; instead of positive or negative, it depends on every one responsibility. The purpose of civics courses in Indonesia is so the younger generation to have a nationality, and a sense of love for their homeland, in the context of moral Pancasila [18]. Even access online is a personal responsibility, but as Winataputra says, civic education is built in the context of moral Pancasila, which stands for five principles: 1) Belief in the One and Only God. 2) Just and Civilized Humanity. 3) The unity of Indonesia. 4) The People's sovereignty is Led by the Inner Wisdom of Deliberation among Representatives. 5) Social Justice for the Whole of the People of Indonesia. With moral Pancasila, students must be responsible for accessing, sharing,

taking information, and keeping information. The result is how far they get formal learning to use online technology, so it is safe. Out of risk using online technology, 48,8% felt they had had enough studies given by the university, and 45% felt they still lack guidance on online access to avoid danger and problems. In comparison, the 6,3% are still confused about determining the credible source. The result shows that there is still a need for proper guidance. The assignment given to the student may need the proper distinction between the proper way of getting the answer or which boundary is the answer proper as a theoretical argumentation.

Communication is based on digital competency. Literacy has progressed from simply using reference resources to find information (Pérez-Escoda & Fernández-Villavicencio, 2016) to finding the proper reference; sometimes is taxing for many comparisons have to be made. 63,7% of students always done reference verification, 26,3% often made reference verification, and the rest 10% seldom verified their reference. So much digital literacy, like e-books, just by the type of a keyword seems overwhelming to the student [19]. Often the top search source is the one being used and makes many references look the same; willingness to read is necessary to get the correct reference, and with so many references, time is needed. The willingness to explore and accompanied with the necessary skill made this overwhelming reference became clear. This skill for finding information is needed in the digital era not to get lost in the overwhelming information. It is easier to choose a book for the student to read and present their reading. However, that will give their information in this digital era is limited, and students also will not train to find the correct information. It does not mean that book is irrelevant, but now with the life still of the student who accesses online daily, it is necessary to have digital literacy.

Digital content creation, security, and solving the problem of online access through digital technology are also based on digital competency. As part of digital citizenship, it is responsible for understanding the norms form using digital technology [20]. How the work off-license, how to make sure safety, and how to protect from harm digital access. The Table 2 shows how students respond to the way they use digital technology.

The Table 2 is shown the student in the process of taking a civic education course or after taking it. There is awareness about responsibility when using digital technology that as Indonesia people have moral Pancasila in their daily activity. Moreover, in digital interaction, there is also a moral responsibility. Nevertheless, the problem is there like to face all kinds of problems themselves. This can become a problem if the information they get to solve the problem is without moral value. For example, when students need activation of digital technology, the solution they get is to crack the program. This can be harmful to the device and illegally use a program, but if the student comes to university, it can be provided with an authorized program. However, the student is conscientious when providing their information data, which is very positive considering the number of crimes that can occur due to misuse of personal data.

**Table 2.** Digital Technology Used

No	Responsibility	Respond
1	Data individual responsibility	Students give enough personal data but not excessive, There is awareness about privacy in public, but it is more lack among their peers.
2	Digital technology they used	Most of the students realize that license, Lack of knowledge made students only use the technology without now how they work and what information is taken from them, Many skip information such as used and agreement.
3	Is there any training on any digital technology that the student usually used	None outside the university site access all the other digital technology they use daily; they mostly learn autodidact, Some of the students use available tutorials online.
4	Solve Problem	Problems that arise when using digital technology are usually tackled alone by searching available tutorials, Seldom do students ask for guidance access and where to access to get literacy

## 4 Discussion

The Digital era brought communication to a new way of living, mainly during the pandemic. It transforms into the most common safe way of communication. Meanwhile, for academics, the use of digital technology made distance education more manageable with the support of the system. It can be seen as more manageable because digital technology has become common nowadays it show in this Table 3.

Because of the common thinking, it does not take long to learn how to use technology in distance education, and distance education practitioners have embraced a wide range of educational technologies for learning in higher education [21]. Meanwhile, distance in the face of technology seems outdated because distance does not matter anymore [22]. Convenient and flexible, and supported by the growing number of the Internet user-made distance learning has become accessible any time, anywhere [23]. Technology developed has made distance education learning common thing, especially in communication technology, which has minimized the distance of how people communicate. A big transition in the way people communicate can be seen switch when the pandemic Corona Virus hit the world. At that moment, many universities switched their learning using the distance education system. In the process, information technology seems can be a medium to hold education. It does not mean that all the university has switched and fully built distance education based on their education. But this pandemic accident show how technology can support education system for many university.

**Table 3.** Distance Learning activities

No	Distance Learning Activities	Feed Back
1	How Often do they connect	Most of the time
2	How often do they find the answer online	Almost all the time
3	How often used online references for the assignment	Most of them
4	How often is problem solve provide online	Almost everything can be solved online
5	Can the studies access using multiple technologies (Smart Phone, Computers, or Laptop)	Yes it can
6	Can the studies access anywhere	It can be everywhere at any time as long as there is internet service
7	How the studies go	It came from the multi-approach such as video learning, discussion forum, module, and paper assignment
8	Who provides the feedback for student	Each class that has a maximal of 54 students provides a tutor, Every student is divided into a various virtual class

Although it may seem like technology is so positive when used for education, it comes with its challenge. The main concern in this research is how students are aware of this digital era and how to build responsibility as part of the digital era or, say, digital citizens [24]. Civic education courses see that a digital citizen is part of the citizen. In contrast, a digital citizen there seems to have the same communication and interaction that deem a citizen responsible. Moreover, civic education aims to become an active, helpful community citizen [25]. In the case of Indonesia, it must follow the five principles of Pancasila. Pancasila implementation must be done as a citizen and digital citizen; they follow the same principles because both bring Indonesia identities. The vision of Citizenship Education is as a substantive, pedagogical, and socio-cultural vehicle to build democratic ideals, values, concepts, principles, attitudes, and skills in citizens through life experience and democratic life in the nation and state [26]. Moreover, with digital information, democracy is now part of the information that citizens can access; hardly a day goes by when we do not receive a message from some organization proclaiming with great self-satisfaction that it is shifting to “paperless” communications [27]. So many information in the digital form is access by citizen made them must be able to detinguis all the information they get.

## 5 Conclusion

Awareness in the digital era is essential for students. That way, competencies for civic education must bring data literacy, communication, digital content creation, security, and solving the problem. Moreover, the digital era has become part of citizens’ way of



life; it cannot be avoided, but responsibility must be built when the student becomes part of a digital citizen. Responsibility for sharing content, using content, and the way of communication, also realize the rule of their nation. Students must know about their identities and how to bring them in public the same as they bring in digital interaction. For security, they must know about protecting their personal information data for their safety. For literacy reference, the student must be willing to browse and know where to find the correct and responsible reference. Last, the digital era brings so much information that can influence the point of view, way of life, and habits but not to the point of eliminating identity. As a nation, they must have a common identity to develop as part of their nationality.

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## References

1. C. G. Fairburn and V. Patel, "The impact of digital technology on psychological treatments and their dissemination," *Behav. Res. Ther.*, vol. 88, pp. 19–25, 2017, <https://doi.org/10.1016/j.brat.2016.08.012>.
2. A. A. Wahab and Sapriya, *Teori & Landasan Pendidikan Kewarganegaraan*. Bandung: Alfabeta, 2011.
3. S. MacBride, *Many voices, one world: Towards a new, more just, and more efficient world information and communication order*. Rowman & Littlefield, 2004.
4. W. M. Arts, K., van der Wal, R., & Adams, "Digital technology and the conservation of nature," *Ambio*, vol. 44, no. 4, pp. 661–673, 2015, <https://doi.org/10.1007/s13280-015-0705-1>.
5. G. Marg, "If Gandhi Didn't Say It, He Should Have," *NUMBER 4 Vol. 41 JANUARY–MARCH 2020*, p. 403, 2019.
6. M. G. Moore and G. Kearsley, *Distance education: A systems view of online learning*. United State Of America: Wadsworth Publishing Company, 1996.
7. A. Dode and E. Dode, "The Values of Civic Education through Information Technology," *Acad. J. Interdiscip. Stud.*, vol. 4, no. 2 S2, p. 15, 2015, <https://doi.org/10.5901/ajis.2015.v4n2s2p15>.
8. M. Y. Setiani, "A Social Constructivist Learning Approach for an Online Civic Education Tutorial at Indonesia Open University." Education: Education, 2014.
9. S. Alrakhman, Riza Budimansyah, Dasim Sapriya, "Distant Education: Online Learning for Civic Education," in *Annual Civic Education Conference (ACEC 2021)*, 2022, pp. 381–388. <https://doi.org/10.2991/assehr.k.220108.070>.
10. S. Bebermeier, F. W. Nussbeck, and G. Ontrup, "'Dear Fresher ...' – How Online Questionnaires can Improve Learning and Teaching Statistics," *Psychol. Learn. Teach.*, vol. 14, no. 2, pp. 147–157, Apr. 2015, <https://doi.org/10.1177/1475725715578563>.
11. J. Remillard, M. L., Mazor, K. M., Cutrona, S. L., Gurwitz, J. H., & Tjia, "Systematic review of the use of online questionnaires of older adults," *J. Am. Geriatr. Soc.*, vol. 62, no. 4, pp. 696–705, 2014, <https://doi.org/10.1111/jgs.12747>.

12. M. Y. Setiani and A. M. MacKinnon, "A community of inquiry-based framework for civic education at Universitas Terbuka, Indonesia," *Distance Educ.*, 2015, doi: <https://doi.org/10.1080/01587919.2015.1081740>.
13. A. Pérez-Escoda and N. G. Fernández-Villavicencio, "Digital competence in use: from DigComp 1 to DigComp 2," in *Proceedings of the Fourth International Conference on Technological Ecosystems for Enhancing Multiculturality*, 2016, pp. 619–624. <https://doi.org/10.1145/3012430.3012583>.
14. A. Isman and O. Canan Gungoren, "Digital citizenship," *Turkish Online J. Educ. Technol.*, vol. 13, no. 1, 2014, <https://doi.org/10.1002/asi.20906>.
15. M. Ilomäki, Liisa Kantosalo, Anna Lakkala, "What is digital competence?," *Linked portal*, 2011.
16. S. Carretero, R. Vuorikari, and Y. Punie, "The digital competence framework for citizens," *Publ. Off. Eur. Union*, 2017.
17. R. Henderson, Michael Selwyn, Neil Aston, "What works and why? Student perceptions of 'useful' digital technology in university teaching and learning," *Stud. High. Educ.*, vol. 42, no. 8, pp. 1567–1579, Aug. 2017, <https://doi.org/10.1080/03075079.2015.1007946>.
18. U. S. Winataputra, "Diskursus Aktual Tentang Paradigma Pendidikan Kewarganegaraan (PKn) Dalam Konteks Kurikulum 2013," in *Seminar Nasional AP3KNI*, 2014, pp. 1–12.
19. J. Miller, Carl Bartlett, "'Digital fluency': towards young people's critical use of the internet," *J. Inf. Lit.*, vol. 6, no. 2, pp. 35–55, 2012, <https://doi.org/10.11645/6.2.1714>.
20. K. Komalasari and D. N. Angraini, "Civic Education for Development of Digital Citizenship in the Era of Industrial Revolution 4.0," *Integration*, vol. 83, no. 17, p. 0, 2020.
21. J. C. Taylor, "Distance education technologies: The fourth generation," *Australas. J. Educ. Technol.*, vol. 11, no. 2, 1995, <https://doi.org/10.14742/ajet.2072>.
22. K. Aoki, "Generations of Distance Education: Technologies, Pedagogies, and Organizations," *Procedia - Soc. Behav. Sci.*, vol. 55, pp. 1183–1187, 2012, <https://doi.org/10.1016/j.sbspro.2012.09.613>.
23. I. Shih, Timothy K Antoni, Giani D Arndt, Timothy Asirvatham, Asirvatham Chang, Ching-Tao Chee, Yam S Dow, Chyi-Ren Hung, Jason C Jin, Qun Jung, "A survey of distance education challenges and technologies," *Int. J. Distance Educ. Technol.*, vol. 1, no. 1, pp. 1–20, 2003, <https://doi.org/10.4018/jdet.2003010101>.
24. D. Schuler, "Digital cities and digital citizens," in *Kyoto workshop on digital cities*, 2001, pp. 71–85.
25. J. Cogan and Derricot, *Citizenship for The 21 Century: An International Perspective on Education*. London: Cogan Page, 1998.
26. U. S. Winataputra and D. Budimansyah, *Pendidkan Kewarganegaraan Dalam Perpesktif Internasional (Konteks, Teori, Dan Profil Pembelajaran)*. Bandung: Widya Aksara Press, 2012.
27. K. M. Dhumne, "Paperless Society in Digital Era," *Int. J. Libr. Inf. Stud.*, vol. 7, no. 64344, pp. 317–319, 2017.

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