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Digitalization of the Project Citizen Learning Model on Students' Citizenship Skills

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ABSTRACT

Civic education in the digital era enables learning models that incorporate digital media, leading to changes in the way learning occurs. Adaptation of the project citizen learning model to incorporate digital media is necessary to support the development of students' citizenship skills. The purpose of this study was to investigate the impact of digitalizing the project citizen learning model on students' citizenship skills. This study employed a quasi-experimental design with a one-group pretest and posttest. The population in this study consisted of 78 students from Madinatunnajah Islamic High School and 108 students from PGRI Babakan Senior High School. The sampling technique employed was purposive sampling, specifically involving 21 students from Class XI at Madinatunnajah Islamic High School in Cirebon City, and 36 students from Class XI at PGRI Babakan Senior High School in Cirebon Regency. The results of this study are the effect of implementing the digitalization of the project citizen learning model on students' citizenship skills.

***Keywords*:**

Digital Project Citizen; Citizenship Skills; Civic Education.

ABSTRAK

Pembelajaran Pendidikan kewarganegaraan di era digital memungkinkan perubahan model pembelajaran yang terintegrasi dengan media digital. Adaptasi model pembelajaran project citizen dengan media digital perlu untuk dilakukan agar keterampilan kewarganegaraan siswa berkembang. Tujuan dari penelitian ini adalah untuk mengetahui pengaruh digitalisasi model pembelajaran project citizen terhadap keterampilan kewarganegaraan

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siswa. Penelitian ini menggunakan metode kuasi eksperimen dengan desain one groub pretest dan posttest Desain. Populasi dalam penelitian ini adalah siswa Madrasah Aliyah Madinatunnajah yang berjumlah 78 siswa dan Sekolah Menengah Atas PGRI Babakan yang berjumlah 108 siswa. Teknik pengambilan sampel yang digunakan adalah purposive sampling yaitu siswa kelas XI Madrasah Aliyah Madinatunnajah Kota Cirebon yang berjumlah 21 siswa dan kelas XI Sekolah Menengah Atas PGRI Babakan Kabupaten Cirebon yang berjumlah 36 siswa. Hasil dari peneltian ini yaitu terdapat pengaruh dari penerapan digitalisasi model pembelajaran project citizen terhadap keterampilan kewarganegaraan siswa.

***Kata kunci*:**

Project Citizen Digital; Keterampilan Kewarganegaraan; Pendidikan Kewarganegaraan.

1. Introduction

The development of information and communication technology has brought about significant changes in various aspects of human life, including education. This digital transformation presents a significant opportunity to enhance the effectiveness of learning, particularly in the development of 21st-century skills such as critical thinking, collaboration, creativity, and digital literacy (Davis et al., 2018; Voogt et al., 2018; UNESCO, 2019). In Indonesia, major challenges persist in implementing Pancasila and Citizenship Education (PKn) learning, which often still relies on conventional methods and has not fully leveraged digital technology to encourage active student participation.

Civic Education learning should not only focus on knowledge transfer, but also on developing critical thinking skills, social participation, and responsible citizenship character (Suyato et al., 2024). One participatory learning model that has been proven effective in improving citizenship competency is Project Citizen. This model places students as the main actors in identifying public issues in their environment, analyzing existing policies, and formulating solutions and action plans through portfolio groups (Sulistyarini, Utami, & Hasmika, 2019). Project Citizen has been implemented in more than 50 countries, including Indonesia; however, its implementation in Indonesia remains largely manual, utilizing print media or simple posters (Sundawa & Dahliyana, 2022).

In today's digital era, the manual implementation of Project Citizen has limitations in reaching digital spaces, despite digital literacy and digital citizenship being crucial aspects for the younger generation. Data shows that Indonesia has more than 191.4 million social media users, most of whom are from the young age group (Kemp, 2022). However, high access to technology is not always balanced with responsible digital behavior. The rampant spread of disinformation, hatred, cyberbullying, and other unethical behavior in the digital space reflects the weak literacy and ethics of digital citizenship of the Indonesian people, especially among students (Choi, Glassman, & Cristol, 2017; Alrakhman et al., 2024).

The concept of digital citizenship emphasizes the importance of individuals' abilities to use technology ethically, critically, productively, and participatively in community life (Ribble, 2019; Scully et al., 2021). Digital citizenship encompasses not only technical skills in using devices but also social participation, critical thinking about information, and digital media ethics (Martin et al., 2019; Fajri et al., 2022; Syafaruddin et al., 2023). Therefore, the transformation of Project Citizen into a digital, measurable strategy format aims to increase the effectiveness of civics learning while strengthening students' digital citizenship competencies.

Several studies have demonstrated the significant potential of the digital-based Project Citizen development model in enhancing students' citizenship competencies. Research by Rahayu et al. (2024) developed a Project Citizen-based microlearning approach, which was proven to increase citizenship knowledge by 20%, birth skills by 21%, citizenship responsibility by 23%, and participation in citizenship by 26%. Meanwhile, Dahliyana et al. (2023) showed that the Project Citizen Digital application significantly strengthened students' national defense character. Riyadi & Utami (2022) also demonstrated that the "Smart Mobile Civic" model, based on Project Citizen, was able to enhance students' critical thinking skills, collaboration, and social participation in campus life.

In Indonesia itself, a systematic study by Fajri et al. (2022) revealed that digital-based civics learning, integrated with the concept of digital citizenship, remains very limited. In fact, the application of digital media in civics education has been proven to reduce trust in fake news (hoaxes) and increase students' digital resilience (Thomas et al., 2021; Momo et al., 2024). Unfortunately, the initial observations by researchers in several high schools in the Cirebon area revealed that the implementation of Project Citizen by civics teachers was still dominated by conventional methods without digital technology integration, resulting in suboptimal opportunities to strengthen students' digital literacy and digital citizenship.

Based on these issues, this study aims to examine the impact of digitalizing the Project Citizen learning model on the development of digital citizenship competencies in high school students. This study is expected to provide theoretical contributions in the development of technology-based civics learning models that are relevant to the needs of the 21st century. In practice, the research results are expected to serve as a reference for teachers and policymakers in designing innovative, effective civics learning that is capable of producing a young generation.

2. Methods

2.1 Research Design

This study employs a quantitative approach with a quasi-experimental design, utilizing a one-group pretest and posttest design. In this variation of the research method, observations are conducted under artificial conditions created and controlled by the researcher (Creswell, 2022; Fabrigar et al., 2024). This design was chosen because the researcher wanted to investigate the effect of a learning treatment in class, using samples from two different schools at the same grade level. In this design, the same dependent variable is measured in the participant group before being given treatment (pretest)

and after being given treatment (posttest). The treatment in this case involves learning that utilizes the Digital Citizen Project model, from model orientation to project presentation by students.

2.2 Population and Sample

This study was conducted at the Islamic High School of Madinatunnajah in the city of Cirebon and the Senior High School of PGRI in the Cirebon Regency. The population consisted of students from the Islamic High School of Madinatunnajah (78 students) and the Senior High School of PGRI Babakan (108 students), totaling 186 students. The sampling technique used was purposive sampling, in which the experimental classes were selected based on specific considerations (Sarker, 2022). The sample consisted of 21 students from Grade XI of the Islamic High School of Madinatunnajah in Cirebon and 36 students from Grade XI of the Senior High School of PGRI Babakan in Cirebon Regency. The selection of these samples was based on the researcher's assessment of the school conditions and the relevance of the learning material.

2.3 Data Collection

The data collection techniques used in this study were questionnaires and observations. For the data collection instrument, a civic skills questionnaire sheet was used as part of the implementation of the digitalization of the Citizen Project Learning Model. The civic skills questionnaire grid in Table 1 is as follows.

Table 1. Civic Skills Questionnaire Grid

Aspect	Indicator	Statement Number
Intelectual skills	Critical thinking skills	1,2, 3
	Ability to explore information	4, 5
	Ability to process information	6,7
	Ability to make intelligent decisions	8,9,10
Participatory skills	Ability to influence decisions in collaboration	1, 2, 3,14
	Ability to clearly state problems	4, 5, 15, 16,
	Ability to build negotiations	6, 9, 10, 11
	Ability to manage conflicts	7, 8, 12,13

Based on Table 1 above, civic skills are measured from two aspects: intellectual skills, assessed by 10 statements, and participatory skills, assessed by 16 statements. Before being distributed to students in the experimental class, the questionnaire was first tested on 55 respondents. Based on the trial results, 7 out of 10 statements from the intellectual skills questionnaire were categorized as having high validity, and three statements were categorized as having moderate validity. Regarding the participatory skills questionnaire, out of 16 statements, 1 statement was categorized as having very high validity, 11 statements were categorized as having high validity, three statements were categorized as having moderate validity, and 1 statement was categorized as having low validity. For the reliability of the civic skills questionnaire in terms of intellectual skills, the Cronbach's Alpha value was 0.844, indicating a very high reliability category. Regarding the reliability of the Civic

Skills Questionnaire in terms of participatory skills, the Cronbach's Alpha value was 0.755, indicating high reliability.

Observations were conducted to gather information about the stages of implementing the learning model by students in class. Researchers observed student activities starting from model orientation, reflecting on contextual social activity problems, choosing one contextual problem to be studied together in groups, identifying and collecting information on related problems and public policies from various online news media, developing portfolios using image editor applications, presenting and presenting portfolios in the form of image files via power point until the last one reflects on learning.

Data collection in this study consists of 3 stages. The first stage is the pretest, which assesses the level of initial citizenship skills in both intellectual and participatory aspects before learning. In the second stage, students participate in learning using the Digital Citizen Project model. At this stage, students explore various stages of implementing the learning model. In the third stage, students complete a posttest to assess the level of initial citizenship skills in both intellectual and participatory aspects after learning.

2.4 Data Analysis

The data were analyzed using both descriptive and inferential statistics. Descriptive statistics were used to concisely describe the data through measures such as mean, median, mode, and standard deviation, providing a comprehensive picture of students' citizenship skills. Meanwhile, inferential statistics, especially paired sample t-tests, were used to assess whether there was a significant difference between the pretest and posttest scores of students' citizenship skills. The analysis was conducted using SPSS software version 26.0, with a significance level set at $p < 0.05$. Thus, researchers can determine whether there is a significant effect of implementing the digitalization of the project citizen learning model on students' citizenship skills.

3. Results and Discussion

3.1 Result

Based on the research conducted, several stages or syntax of the digitalization of the citizen project learning model developed by the researcher are as follows:

1. Orienting the Digitalization of the Learning Model to Students

   At this stage, the researcher reflects on the students' experiences related to the application of the learning model. Based on research conducted at the Islamic High School and Senior High School of PGRI Babakan, students stated that they had never previously implemented the digitalization of the citizen project learning model. Paying attention to this information, the researcher then orients the learning model, providing an explanation of the stages of implementation and the importance of implementing the learning model. Students pay attention to the material presented enthusiastically because, for them, applying this model is something new.
2. Reflecting on Contextual Social Activity Problems

At this stage, the researcher divides the class into several groups based on the conditions and characteristics of the class (ideally, each group has 4-8 students). On the occasion of the research at the Islamic high school of Madinatunnajah, the researcher divided it into 2 (two) groups. At the Senior High School of PGRI Babakan, the researcher divided it into 4 (four) groups. After the class is divided into groups, each group is instructed to reflect on, feel, and remember the social problems they have experienced or are currently facing in their environment. As a form of democratizing learning, each group member determines who will be the group leader and then proposes one problem, along with its dynamics.

3. Choosing One Contextual Problem to Study Together with the Group

   At this stage, after each group member has conveyed the problem and its dynamics. The group chooses one problem that is most contextual and interesting to the group. Some of the problems that the group raised at the Islamic high school of Madinatunnajah and the Senior high school of PGRI Babakan during the research were garbage problems, student discipline problems, drug abuse, truancy problems, and bullying problems.

4. Identifying and Collecting Information on Related Problems and Public Policies from Various Online News Media (Social Media, Official Institution Sites, etc.)

   In this section, group members are guided to find various information related to the problem that has been chosen together. The information sought is related to the reality of the problem, its cause, and its impact. The information obtained is compiled into group data in the form of news narratives, photos, or other documents. After that, the group is encouraged to work together to identify various related policies, ranging from ethical views and school policies to more complex levels, such as laws and regulations. The form of cooperation carried out by students can be seen in the following picture:

Picture 1. The Process of Discussion and Collaboration in Identifying Problems Undertaken by the Group

When the research was conducted, students at the Islamic High School of Madinatunnajah and the Senior High School of PGRI Babakan collected information from environmental

reflections, social media, and online news sources. The information obtained was then written on cardboard that had been prepared later to become part of the information or portfolio data.

5. Developing a Portfolio Using an Image Editor Application (In This Section, Each Group is Divided into 4 Portfolio Sections)

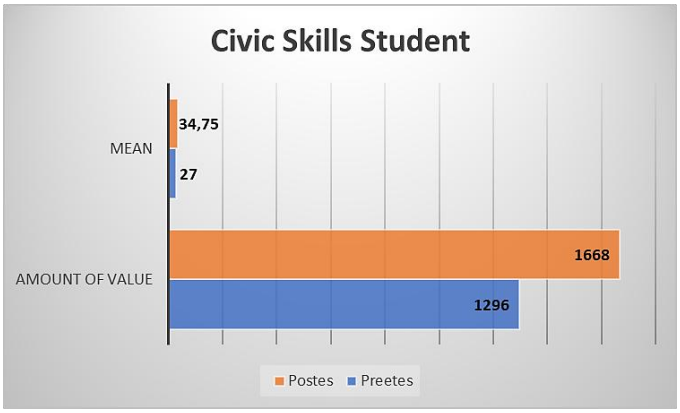
   At this stage, each group determines its members to develop four portfolio sections. Portfolio 1 (Problem identification), Portfolio 2 (existing policy alternatives), Portfolio 3 (solutions that can be offered), Portfolio 4 (work plan or steps for implementing the solution). From the data obtained and recorded on cardboard, it is then presented in the form of digital images. Students at the Islamic High School of Madinatunnajah and the Senior High School of PGRI Babakan use the Canva application for editing and developing portfolios. In this section, students' creativity is tested to present attractive and informative images.

6. Presenting and Presenting Portfolios in the Form of Image Files Through PowerPoint or on Certain Social Media (Presentation Documentation Can Be Done Using YouTube or Other Social Media)

   At this stage, students present the results of their work discussions. Presentations can be delivered in several ways, namely, directly using an InFocus projector, via YouTube, or through social media. Students from the Islamic High School of Madinatunnajah and the Senior High School of PGRI Babakan participated in a live presentation, assisted by an iFocus projector. This was done because the researcher had limited time to evaluate whether it was done using YouTube or social media.

7. Reflecting on Learning Experiences (Students from Other Groups Provide Responses, Feedback, or Appreciation)

   At this stage, reflection is carried out when the group has finished presenting the results of their work. Students from other groups then submit questions, input, and appreciation. Based on the research conducted, several students at the Islamic High School of Madinatunnajah and the Senior High School of PGRI Babakan asked, "Why take that problem?" "What if the proposed steps are not effective?" and not a few of them gave each other appreciation. Furthermore, the results of processing research data on students' citizenship skills at the Islamic High School of Madinatunnajah and the Senior High School of PGRI Babakan indicate an increase in the total and average values from completing the pre-test and post-test questionnaires, as shown in the diagram below:



Picture 2. Increase in Value and Average from Pretest and Posttest Results

Based on the image above, data were obtained from the total pretest and posttest scores of 47 respondents with complete data or who filled out both the pretest and posttest. The average increase was 7.75, and the total increase was 372. From the calculation of the increase, the average n-gain was 0.35, indicating that the increase falls within the moderate criteria. This is due to several factors, such as the implementation of the learning model, which was only carried out three times. Ideally, to analyze a problem that aims to improve citizenship skills, it needs to be addressed over a long period, allowing the skills to be truly formed and honed. In addition to the implementation time factor, there is also the readiness of students to engage in the learning process. When implementing the learning model, researchers have the opportunity to apply it at a time approaching the end of the learning activity, which can cause students' concentration to become less focused. While the normality test indicates that the significance value of the Civic Skills pretest is 0.000 < 0.05, the data is not normally distributed. While the significance value of the Civic Skills posttest is 0.003 <0.05, the data is not normally distributed. For more details, please see Table 2 below:

Table 2. Civic Skills Normality Test

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretes	.170	64	.000	.867	64	.000
Postes	.142	64	.003	.898	64	.000

a. Lilliefors Significance Correction

Furthermore, hypothesis testing uses non-parametric statistics, specifically the Wilcoxon test, because the data are not normally distributed. For testing the research hypothesis, based on data processing carried out in SPSS, the test results are obtained in the following Table 3:

Table 3. Hipotesis Test of Civic Skills

Test Statistics	
	Postes – Pretes
Z	-4.106[a]
Asymp. Sig. (2-tailed)	.000

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

Based on the results of the SPSS calculation in Table 3, it is evident that civic skills have a Significant Effect. (2-tailed) or P-Value value of 0.00. Because the Sig. (2-tailed) value is 0.00 <0.05, it means that H0 is rejected and H1 is accepted at α = 5%. Therefore, the conclusion is that the

digitalization of the citizen project learning model has a positive influence on improving students' civic skills.

3.2 Discussion

The implementation of the Project Citizen learning digitalization model has been proven to contribute to improving students' civic skills, especially in terms of intellectual and participatory skills. This finding aligns with the results of the hypothesis testing in this study, which showed an increase in critical thinking skills, information exploration and processing skills, and intelligent decision-making. This finding aligns with the research of Rahayu et al. (2024), which revealed that the development of Project Citizen-based microlearning significantly improved students' civic knowledge, skills, responsibility, and participation. This demonstrates that the learning digitalization model not only facilitates access to information but also enhances the cognitive and participatory aspects of civic learning (Adha et al., 2023). In addition, this study demonstrates that Project Citizen's digitalization encourages the development of students' participation skills, including the ability to influence decisions in work groups, systematically identify problems, negotiate solutions, and manage conflicts. This skill improvement is supported by research by Dahliyana et al. (2023), which demonstrates that the use of the Project Citizen digital platform can strengthen the character of national defense and encourage active student participation in social issues. This finding is also consistent with Vygotsky's participatory theory, which emphasizes the importance of social interaction and collaboration in the learning process to promote students' cognitive development (Vygotsky, 1978; Choi et al., 2017).

The novelty of this study lies in the integration of Project Citizen digitalization into the context of civic education in Indonesia, which has been applied more conventionally so far. The majority of previous studies, such as those by Sulistyarini et al. (2019) and Sundawa & Dahliyana (2022), still focus on the implementation of Project Citizen in a manual format without utilizing the potential of digital technology. In fact, current technological developments enable civic learning to be designed more interactively and efficiently, meeting the needs of 21st-century skills, including digital literacy and digital citizenship (Ribble, 2019; Voogt et al., 2018). Therefore, Project Citizen digitalization provides an innovative contribution to the development of civic skills while encouraging students' ethical and critical engagement in digital spaces (Pitri & Anderson, 2023).

From the perspective of constructivist learning theory, the results of this study confirm the importance of students as active subjects in building knowledge and skills through contextual learning experiences. The constructivist theory, proposed by Piaget and reinforced by Vygotsky, states that critical thinking skills, decision-making, and social participation develop optimally through students' active involvement in solving real-world problems (Piaget, 1972; Vygotsky, 1978). Project Citizen's digitalization creates a broader learning space, where students not only learn engagingly but also utilize digital platforms to discuss, search for information, publish ideas, and participate in solving public issues.

This study offers both theoretical and practical implications for the development of technology-based civics learning. Project Citizen's digitalization not only improves students' civic skills but also facilitates the strengthening of digital citizenship, which is highly relevant to the challenges of the information era (Öztürk et al., 2021). This is particularly important considering the high use of social media by Indonesia's young generation, which is not yet fully equipped with adequate digital literacy

skills (Kemp, 2022; Thomas et al., 2021). Thus, the integration of Project Citizen on a digital platform has the potential to produce young citizens who are critical, participatory, ethical, and prepared to navigate the dynamics of community life in the digital era.

This study also contributes to the development of Civics Education and Social Sciences learning models that are adaptive to the development of information technology. In general, the Project Citizen model has been widely recognized and applied in various schools; however, its implementation in Indonesia remains predominantly based on conventional methods and has not been fully integrated with digital media (Sulistyarini, Utami, & Hasmika, 2019; Sundawa & Dahliyana, 2022). In fact, the integration of digital media in this model is very important, not only to improve the efficiency and effectiveness of learning, but also to strengthen the relevance of learning to the needs of 21st-century skills, including digital literacy skills, critical thinking, collaboration, and active participation in the digital space (Ribble, 2019; Voogt et al., 2018; Harju et al., 2019; Jayadiputra, et al., 2019). The development of this model through a digital approach must start from the model orientation stage, implementation of learning, the process of searching and analyzing information based on data and facts, to the stage of presenting project results through an interactive and participatory digital platform (Nuryadi & Widiatmaka, 2022; Hover & Wise, 2022).

As a lecturer, the development of a digital-based Project Citizen is an innovative alternative in the skills-based lecture process, preparing prospective teacher students to integrate this model in schools and strengthen students' civic character. Project Citizen is not only a learning method but also a vehicle for character education and strengthening students' civic engagement at the secondary school level (Dahliyana et al., 2023; Rahayu et al., 2024). In addition, the results of this study were disseminated at the 2024 Cirebon Regency MGMP IPS Workshop forum, which involved IPS teachers as part of an effort to transfer knowledge and innovate digital-based citizenship learning models.

Furthermore, the implementation of Project Citizen digitalization has been proven to not only develop cognitive and participatory skills but also strengthen students' digital citizenship competencies. Learning experiences that emphasize collaborative activities, problem-solving, and virtual group discussions train students to interact with mutual respect, share information, and construct healthy arguments in the digital space (Choi, Glassman, & Cristol, 2017; Alrakhman et al., 2024). These values are in line with the cultural character of the Indonesian nation, namely cooperation, deliberation, and consensus, which have been passed down from generation to generation as part of the national identity (Alscher et al., 2022; Dang et al., 2022). Thus, the digitalization of Project Citizen becomes a learning medium as well as a strategic means to build the character of Indonesian digital citizens who are critical, wise, ethical, and able to actively participate in solving social problems, both directly in the surrounding environment and through digital participation on social media (Thomas et al., 2021; Trisiana & Utami, 2022; Handayani, 2022).

The practical implications of this study suggest that social studies and civics teachers, as well as prospective teachers, should be encouraged to master the digital-based Project Citizen learning model. The integration of digital platforms in citizenship learning not only increases student interest and engagement but also prepares them to be global citizens with strong social awareness, critical thinking, and digital ethics (Ribble, 2019; Owen, 2024). On the other hand, this study also enriches

learning practices in the Social Studies Education Study Program, especially in preparing graduates who not only understand theory but also have practical competence in applying contextual, collaborative, and technology-based learning models.

4. Conclusion

The implementation of the digitalization model of citizen project learning in Madinatunnajah Islamic High School and PGRI Babakan Senior High School has a positive impact on improving students' civic skills, encompassing both intellectual and participatory aspects. This is indicated by the results of data processing and testing, which suggest that the research hypothesis (H1) can be accepted. Then, the average N-gain value obtained was 0.35, which indicates that the increase that occurred fell within the moderate criteria. In the implementation of this study, several limitations were encountered, including limited time for implementation and study hours, as well as unstable student learning readiness. It is expected that the implementation of this citizen project learning digitalization model will improve students' conditions to prepare devices and explore information and innovation portfolios. It would be beneficial if the school had a learning media laboratory or computers, allowing students to focus their concentration more effectively.

For further research, the digitalization learning model should be applied to a more comprehensive and diverse sample, involving class control to strengthen the research data. And for further research, it is hoped that it will not only be carried out at the high school level but also up to college, so that the best effectiveness data is obtained to develop not only civic skills, but also civic knowledge and civic disposition, which are part of citizenship competence (civic compensation).

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