

# Development of a Class XI Citizenship Education Learning Model Based on Blended Learning Flipped Classroom at Tunas Bangsa Vocational School, Depok

 Umri Sofyan Sori<sup>1</sup>,  Nurdin Ibrahim<sup>2</sup>,  Rudi Hartono<sup>3</sup>

Universitas Ibn Khaldun Bogor  
Jawa Barat, Indonesia  
✉ [umrisofyansori@gmail.com](mailto:umrisofyansori@gmail.com) \*



## Article Information:

Received March 1, 2023

Revised May 15, 2024

Accepted May 23, 2024

## Keywords:

Blended Learning; Citizenship Education; Flipped Classroom

## Abstract

The aim of this research is to develop and test the feasibility and effectiveness of developing a Class XI Civics Education Learning Model Based on Blended Learning-Flipped Classroom at Tunas Bangsa Vocational School, Depok. This research uses the development of the Borg and Gall model which is integrated with the Rowntree model with 9 steps from the Borg and Gall model, and 3 steps from the Rowntree model. The results of the feasibility test carried out by material experts were 81%, professional design experts 94%, and media experts 88%, teacher users 87% and student users 83%. Overall, the results were in the "very feasible" category. These results indicate that the use of electronic modules is suitable for improving the learning outcomes of students in class XI citizenship education subjects at Tunas Bangsa Vocational School, Depok. The results of the effectiveness test were shown by comparing the post test results of the experimental class and the post test results of the control class with a total of 10 students as respondents. Statistical analysis uses an independent sample t test with a value of  $t_{\text{count}} > t_{\text{table}}$  or  $5.080 > 2.101$  at a significance level of 5% and  $df = 18$ , so  $H_0$  is rejected and  $H_a$  is accepted. Based on these findings, it can be concluded that the use of electronic modules as a learning medium for class XI citizenship education based on blended learning flipped classrooms is effectively used to improve student learning outcomes.

## A. Introduction

As a vital component of life, education must be able to swiftly adjust to changes in order for the caliber of human resource products produced by the educational system to meet shifting societal demands. As a result, it makes sense for education to use technology to support instruction. This supports Selwyn's view in (Lestari, 2018), according to which digital technology is now beginning to be used in educational institutions as a way to support learning, either as a learning tool, that is, a way to support learning activities and assignments or as an information tool, that is, a way to access information.

The primary goal of Vocational High School (SMK), a type of formal education unit, is to prepare students to be able to work and/or become entrepreneurs in accordance with the competencies taught. SMK offers secondary level vocational education (Ali et al., 2021; Rahmadhani et al., 2022; Riska et al., 2023). The process of implementing learning activities at vocational high schools is different from high schools in general. Vocational Secondary Schools are oriented towards the demands of the business world and the industrial world, so the education delivery model is combined with partner institutions or industrial curricula as organizers of industrial work practices. The model most widely used in this collaboration is the

dual system education model or has now turned into industrial work practice. Where this model is a combination of providing learning experience at school and work experience in the business world.

The objectives of industrial work practices according to Minister of Education and Culture Regulation No. 50 of 2020 is learning for students at SMK/MAK, SMALB which is carried out through work practices within a certain period of time in accordance with the curriculum and the needs of the world of work (Fitriananda et al., 2024; Harnety & Almasdi, 2022). The main objectives of this industrial work practice include developing professional character and work culture in students, increasing student competency according to the curriculum and the needs of the world of work, and preparing students' independence for work and entrepreneurship. Technology's role in development has led to the emergence of several online learning approaches, including blended learning. Online and in-person instruction are combined in a learning model called blended learning. There are multiple methods for blended learning: 1) the rotation model, which includes individual, flipped classroom, station, and lab rotation; 2) the Flex model; 3) the A la Carte model; and 4) the Enriched Virtual model (Kumar et al., 2021; Rahman & Mo'tasim, 2020; Zymovets & Kulak, 2023).

The flipped classroom is a type of learning model which essentially reduces learning mobility in the classroom by maximizing each other, namely students, teachers and their environment, so that they can learn online and face to face. Flipped classroom is a model where students will study more at home than in the classroom. To make students more active in learning outside the classroom while carrying out industrial work practices, the blended learning flipped classroom learning model can be used as material for developing a more effective learning model (Al-Samarraie et al., 2020; Bursa & Kose, 2020; Mojtahedi et al., 2020). The blended learning flipped classroom learning model is a learning model where students are given various study materials and other materials that will be taught face to face to be studied online even under any conditions. So that industrial work practices do not burden students and teachers with the lesson material that will be provided (Azah & Abror, 2023; Sari et al., 2021; Wulandari et al., 2023). Why should the flipped classroom blended learning model be used? Because this model is considered more effective to be applied as a learning model that is able to handle the implementation of a combination of online and face-to-face learning. Therefore, the author conducted research with a purposed to develop and test feasibility and effectiveness Development of a Blended Learning-Flipped Classroom Based Learning Model, especially in Class XI Citizenship Education subjects at Tunas Bangsa Vocational School, Depok.

## B. Research Methods

The research method for developing a citizenship education learning model based on blended learning flipped classrooms uses a Research & Development (R&D) approach. This research was conducted for 5 (five) months starting from December 2022 to April 2023 at SMK Tunas Bangsa, Jl. Raya R. Abdul Gani Cilodong Depok West Java. The objects of this research were Class XI Pharmacy students, with a population of 45 students and 30 students were the research samples. In this research, researchers integrated the Borg and Gall model with the Rowntree model because the products produced were printed and electronic modules. Where the Rowntree model is a model designed to produce a learning product, one of which is module writing, which consists of three stages, namely the planning stage, the writing preparation stage, and the writing and editing stage (Ibrahim, 2019). The Borg and Gall development model's stages, which are combined with the Rowntree model, are as follows. Through the integration of these two models, the researcher created the Borg and Gall and Rowntree models as follows: the author integrated the planning stage with the research and information gathering stage, the researcher combined the planning stage with the writing preparation stage in the Rowntree model, at the Develop preliminary form of product, The writing and editing phases in the Rowntree model steps are coupled with the preliminary field testing, main product revision, main field testing, and operational product revision in Borg and Gall. Then, carry out the remaining three processes outlined by Borg and Gall: dissemination and implementation, final product revision, and operational field testing.

## C. Results and Discussion

Researchers used the Rowntree model with a development model design that was modified from the Borg and Gall model.

Following that, the following procedures were used to create the Borg and Gall Model, which researchers combined with the Rowntree model:

### 1. Research and Data Collection (Borg and Gall Model) and Planning Stage (Rowntree Model)

At this stage, researchers create student profiles. Regarding the information that needs to be known in creating student profiles, there are several factors, including: demographic factors, motivation factors, learning factors, background factors in the field of study, and learning resource factors. All of this data was obtained through a preliminary study which is usually called a needs analysis. After researchers can map student profiles, they then carry out curriculum analysis to formulate learning objectives. At this stage the researcher took competency standards 3.4 and 4.4 which contain legal and judicial material in Indonesia. Contains basic competencies and indicators of achievement in learning law and justice in Indonesia. The media used in the blended learning flipped classroom-based Citizenship Education learning model can be media that is developed separately (by design) or can be the use of media that is already available (by utilization). The creation and selection of the media used is based on the condition of the students. The learning media chosen includes practice questions in the form of images, files and relevant learning. Apart from that, to form a printed module into an electronic module, researchers use an application to change the appearance of a plain module to an electronic module. Learning support in the learning model is facilitated through e-modules. Therefore, the availability of instructions for using e-module applications can facilitate students in carrying out independent learning. Teaching materials in the form of textbooks and student worksheets published by the Ministry of Education and Culture are reference materials in developing this module.

### 2. Planning (Borg and Gall Model) and Writing Preparation Stage (Rowntree Model)

Researchers identify existing resources and impending obstacles. Learning models can be developed based on the available learning model resources and infrastructure, especially the teaching materials used in learning activities. The resources owned by the school are related to the development of learning models and e-module online learning with computer laboratory facilities. The outline of the contents of the module that was prepared in the previous stage was then developed into a description of the material. The following are the ideas for writing, the following are the ideas or ideas for writing the module, namely: 1). Introduction 2). Instructions for using module 3). Basic competencies and learning indicators 4). Learning objectives 5). Learning materials 6). Practice answer key questions 7). Evaluate the answer key. Module teaching materials are designed and developed to support active and independent learning. So, activities are needed that can facilitate students in learning the topics discussed. Learning activities can take the form of questions, exercises, which are given in each indicator before students continue learning activities in the next indicator as well as assignments in the form of project activities. The response or feedback can be in the form of an answer key or examples of the work expected in a project.

### 3. Writing and Editing Stage

a. Make a draft, b. Complete and edit product drafts, c. Writing learning assessments, d. Carrying out tests and improvements.

To test the applicability of the product, material experts, media experts, and instructional designers evaluate the product design in development and identify its advantages and disadvantages. Similar to tables 1, 2, and 3:

**Table 1.** Results of Material Expert Feasibility Test Analysis

No	Assessment Aspects	Percentage (%)	Category
1.	Material Aspects	92%	Very worthy
2.	Language and Image	73%	Worthy
3.	Presentation Aspect	78%	Worthy
4.	Display Aspects	92%	Very worthy
Average		81%	Very worthy

**Table 2.** Results of Media Expert Eligibility Test Analysis

No	Assessment Aspects	Percentage (%)	Category
1.	Aspects of language structure	90%	Very worthy
2.	Aspects of media display	84%	Very worthy
3.	Aspects of software engineering	84%	Very worthy
4.	Implementation aspect	100%	Very worthy
Average		88%	Very worthy

**Table 3.** Design Expert Feasibility Test Analysis Results

No	Assessment Aspects	Percentage (%)	Category
1.	Learning aspect	94%	Very worthy
2.	Aspects of product quality	94%	Very worthy
	Average	94%	Very worthy

Next, the researchers conducted a small group test of 10 students from class XI Pharmacy from different subjects from the initial trial. Sampling was carried out by random sampling from class XI pharmacy majors and a sample of 10 students was drawn using the Guttman scale formula.

**Table 4.** Small Group Test Results

No	Indicator	Percentage (%)	Category
1.	Aspects of e-module display	90%	Very worthy
2.	Aspects of usability of e-modules	80%	Very worthy
3.	Aspects of e-module learning	80%	Very worthy
	Average	83%	Very worthy

After carrying out the small group test, the next step was for the researchers to carry out a large group test on 30 class XI pharmacy students. Samples were taken by random sampling from the same department. After carrying out the small group test, the next step was for the researchers to carry out a large group test on 30 class XI pharmacy students. Samples were taken by random sampling from the same department.

**Table 5.** Large Group Test Results

No	Indicator	Percentage (%)	Category
1.	Aspects of e-module display	90%	Very worthy
2.	Aspects of usability of e-modules	91%	Very worthy
3.	Aspects of e-module learning	94%	Very worthy
	Average	83%	Very worthy

The test results for a large group of students showed a score of 83%, so the percentage shows that the criteria score is very suitable for use.

#### **Product Effectiveness Test**

**Table 6.** Descriptive Statistical Analysis

	Pre-experiment	Post-experiment	Pre-control	Post-control
N Valid	20	20	20	20
Mean	57.15	75.35	58.75	68.80
Median	56.50	75.00	59.50	69.50
Mode	49a	73	49a	70
Std. Deviation	7,541	3,200	7,594	4,797
Minimum	45	70	45	60
Maximum	70	80	73	78

The experimental group received the lowest Citizenship Education learning outcome score of 45 and the highest of 70 on the pretest that was administered before using the electronic module. The median was 56.50, the mean was 49, and the computed average was 57.15. According to the pretest findings, which were obtained prior to using the electronic module, the control group received the highest Citizenship Education learning outcome score of 73 and the lowest score of 45. The median is 59.50, the mode is 49, and the computed average was 58.75. Following the use of the electronic module, the experimental group's posttest findings showed that the highest Citizenship Education learning outcome score was 80, while the lowest was 70. The calculated average was 75.35, and median 70.00, and mode 73. Following the use of the electronic module, the control class group's posttest findings showed that they had the highest Citizenship Education learning outcome score of 78 and the lowest score of 60. The computed results showed that the mode was 70, the median was 69.50, and the average was 68.80. The pretest and posttest data findings had to be considered normally distributed before the researcher could test the data for the efficacy of the product. The following are the findings of the normality test performed on the pretest and posttest data for the experimental class and the control class:

**Table 7.** Descriptive Statistical Analysis

		Tests of Normality					
		Kolmogorov-Smirnova			Shapiro-Wilk		
CLASS		Statistics	Df	Sig.	Statistics	df	Sig.
RESULTS	Pre-experiment	0.145	20	,200*	0.950	20	0.363
	Post-experiment	0.123	20	,200*	0.936	20	0.200
	Pre-control	0.116	20	,200*	0.979	20	0.917
	Post-control	0.117	20	,200*	0.973	20	0.824

Table 7 above indicates that all experimental and control group data, as well as pretest and posttest, have Shaviro Wilk and Kolmogorov Smirnov sig values greater than 0.05. Thus, a normal inference may be drawn from this distribution. In order for parametric analysis, that is, the paired sample t test, homogeneity test, and independent sample t test, to be used in subsequent research analysis.

The homogeneity of variance test was used in this study to determine homogeneity values. If the study's mean values and significance (sg)-based values are greater than 0.05, it is deemed homogeneous. The Mann Whitney test can be used to perform the next test if the data is not homogeneous (the requirements are not met). The following table displays the homogeneity test findings for the two research sample groups.

**Table 8.** Homogeneity Test

		Test of Homogeneity of Variance			
		Levene Statistics	df1	df2	Sig.
RESULTS	Based on Mean	2,035	1	38	0.162
	Based on Median	1,824	1	38	0.185
	Based on Median and with adjusted df	1,824	1	30,212	0.187
	Based on trimmed mean	2,048	1	38	0.161

It is possible to conclude that the variance of the experimental posttest and control posttest class data is the same or homogeneous based on the table above, where the sig value is based on mean  $0.162 > 0.05$ . Thus, it can be said that there is a difference between the typical learning outcomes of students in the conventional model and the blended learning flipped classroom learning model. The experimental posttest class had an average score of 75.35, while the control class had an average score of 68.80. Thus, it can be said that studying citizenship education using flipped classrooms and mixed learning models with electronic modules is successful.

#### D. Conclusion

This research and development uses the Borg and Gall model which is integrated with the Rowntree model. Based on the feasibility test carried out by material experts at 81%, instructional design experts at 94% and media experts at 88%, teacher users at 87% and student users at a large group of 83% overall obtained the "very feasible" category. As well as statistical analysis using the independent sample t test with a value of  $t_{count} > t_{table}$  or  $5.080 > 2.101$  at a significance level of 5% and  $df = 18$ , so  $H_0$  is rejected and  $H_a$  is accepted. So, it can be concluded that there is effectiveness in learning Citizenship Education using the blended learning flipped classroom model with electronic modules.

#### E. Acknowledgement

In particular, on this occasion the researcher would like to express his thanks to the Chancellor of Ibn Khaldun University Bogor, the Director of the Postgraduate School at Ibn Khaldun University Bogor, the Head of the Master of Educational Technology Study Program at Ibn Khaldun University Bogor, the first supervisor who has coached and guided the researcher well, the Supervisor two who always direct and develop researchers patiently and well, Material Test Experts, Media Experts, all lecturers and administrative staff, fellow postgraduate students of the Master of Educational Technology University of Ibn Khaldun Bogor, as well as the Sumarno Education Foundation SMK Tunas Bangsa Depok who have facilitated researchers various needs during the research.

#### References

'Azah, N., & Abror, S. (2023). The Influence of the Flipped Classroom Type Blended Learning Model on



- Student Learning Independence. *Cetta: Journal of Educational Sciences*, 6(1), 171–179. <https://doi.org/10.37329/cetta.v6i1.2187>
- Al-Samarraie, H., Shamsuddin, A., & Alzahrani, AI (2020). A flipped classroom model in higher education: a review of the evidence across disciplines. In *Educational Technology Research and Development* (Vol. 68, Issue 3). Springer US. <https://doi.org/10.1007/s11423-019-09718-8>
- Ali, B., Hidayanto, DN, Ali, S., & Sjamsir, H. (2021). Life Skill-Based Learning Management at State Vocational High School (SMKN) 3 Samarinda. *International Journal of Multidisciplinary Research and Analysis*, 04(11), 1513–1527. <https://doi.org/10.47191/ijmra/v4-i11-03>
- Bursa, S., & Kose, T. C. (2020). the Effect of Flipped Classroom Practices on Students' Academic Achievement and Responsibility Levels in Social Studies Course. *Turkish Online Journal of Distance Education*, 21(4), 143–159. <https://doi.org/10.17718/TOJDE.803390>
- Fitriananda, S., Sumual, SDM, & Lengkong, JSJ (2024). Management of field work practices in the computer and network engineering skills program at Prima Sejahtera Vocational School, Kotamobagu. *Academy of Education Journal*, 15(1), 959–968. <https://doi.org/10.47200/aoej.v15i1.2346>
- Harnety, ML, & Almasdi, A. (2022). The Influence of Field Work Practices, Production Units and Family Support on Students' Work Readiness at SMK Negeri 2 Bukittinggi. *Journal of Management Economics and Business* (JEMB), 1(1), 26–36. <https://doi.org/10.47233/jemb.v1i1.171>
- Ibrahim, N. (2019). Distance Open Education Perspectives (First). *Academy Media*.
- Kumar, A., Krishnamurthi, R., Bhatia, S., Kaushik, K., Ahuja, N.J., Nayyar, A., & Masud, M. (2021). Blended Learning Tools and Practices: A Comprehensive Analysis. *IEEE Access*, 9, 85151–85197. <https://doi.org/10.1109/ACCESS.2021.3085844>
- Lestari, S. (2018). The Role of Technology in Education in the Era of Globalization. *Edureligia; Journal of Islamic Religious Education*, 2(2), 94–100. <https://doi.org/10.33650/edureligia.v2i2.459>
- Mojtahedi, M., Kamardeen, I., Rahmat, H., & Ryan, C. (2020). Flipped Classroom Model for Enhancing Student Learning in Construction Education. *Journal of Civil Engineering Education*, 146(2), 1–13. [https://doi.org/10.1061/\(asce\)ei.2643-9115.0000004](https://doi.org/10.1061/(asce)ei.2643-9115.0000004)
- Rahmadhani, S., Ahyanuardi, & Suryati, L. (2022). Vocational High School Students' Competency Needs for the World of Work. *Pulpit Science*, 27(2), 349–355. <https://doi.org/10.23887/mi.v27i1.42161>
- Rahman, M., & Mo'tasim. (2020). Model of Online and Blended Learning's Strategy of Classic Book and Foreign Language in Islamic Boarding Schools. In *International Conference on Online and Blended Learning 2019 (ICOBL 2019) Model* (Vol. 440, pp. 80–84). Atlantis Press. <https://doi.org/10.2991/assehr.k.200521.017>
- Riska, M., Khairuddin, K., & Usman, N. (2023). Training and Development of Productive Teachers in Improving Work Skills for Vocational High School (SMK) Level Students in Sigli. *International Journal of Engineering Business and Social Science*, 1(06), 616–628. <https://doi.org/10.58451/ijebss.v1i06.74>
- Sari, SP, Siregar, EFS, & Lubis, BS (2021). Development of Blended Learning Based on the Flipped Learning Model to Improve 6C For HOTS for UMSU PGSD Students. *Basicedu Journal*, 5(5), 3460–3471. <https://doi.org/10.31004/basicedu.v5i5.1334>
- Wulandari, Y., Halim, A., Nasrullah, N., Syukri, M., & Elisa, E. (2023). Implementation of the Flipped Classroom Type Blended Learning Model to Increase Students' Interest in Learning. *Tatar Pasundan: Journal of Religious Education and Training*, 17(2), 155–169. <https://doi.org/10.38075/tp.v17i2.332>
- Zymovets, O., & Kulak, V. (2023). Distance and Blended Learning As Effective Foreign Language Teaching Technologies Under Martial Law. *Zhytomyr Ivan Franko State University Journal. Pedagogical Sciences*, 3(114), 190–197. [https://doi.org/10.35433/pedagogy.3\(114\).2023.190-197](https://doi.org/10.35433/pedagogy.3(114).2023.190-197)

**Copyright Holder**

© Sori, U. S., Ibrahim, N., &amp; Hartono, R.

**First publication right:**

Indonesian Journal of Elearning and Multimedia (IJOEM)

This article is licensed under:

