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Development of Problem-Based Learning Model for Corruption Prevention in Improving Anti-Corruption Attitude in Citizenship Learning Health Certificate

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Abstract---This study aims to develop a valid, practical, and effective Problem Based Learning Model for Preventing Corruption to improve students' anti-corruption attitudes in the Citizenship Education course at the Health College. The process of developing this model refers to the ADDIE development model. The results showed that the validity of the Problem Based Learning model for Preventing Corruption which was actualized in the form of model books, lecturer books, student books, and anti-corruption attitude instruments on the validity criteria was very high. The practicality of the Problem Based Learning model to prevent corruption is in the very effective category. The average anti-corruption attitude skills after the intervention in the experimental class in both health high schools showed an increase in anti-corruption attitudes compared to the control class with results of 88.65 and 86.81 with N-Gain 0.56 and 0.49. Based on the Independent T-Test test obtained sig (2-tailed) 0.000 <0.05. Based on these results, the Problem Based Learning to Prevent Corruption model meets the valid, practical, and effective criteria to improve students' anti-corruption attitudes and is expected to be an alternative reference to improve the quality of civics learning, especially in anti-corruption and corruption education.

Keywords---anti-corruption, citizenship education, corruption prevention, learning model, problem based learning.

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Introduction

Civic education in various countries is identical to education in shaping the character of students so that they can be accepted in their communities (Hahn, 2015; Isac et al., 2011; Nogueira & Moreira, 2012; Reichert & Torney-Purta, 2019; Siegel-Stechler, 2019; Sieriakova & Kokoza, 2019). Based on the results of a literature review (Lin, 2015). Citizenship Education is related to character education, political simulation, and service-learning. One of the characters that must be developed by civic education is the anti-corruption character (Montessori, 2021). Seeing from the high cases of corruption that occur in the world at this time, especially in Indonesia. Based on data from Transparency International Indonesia in 2020, Indonesia is ranked 102 out of 180 countries surveyed, this has increased the incidence of corruption in Indonesia during the COVID-19 pandemic. Looking at these data, the anti-corruption character needs to be a major concern in civic education (Dewantara et al., 2021; Indawati, 2015).

Many studies related to anti-corruption education have been carried out, especially in Indonesia, as noted in Sinta Indonesia, hundreds of researchers have conducted research related to anti-corruption education. However, the results of these studies have not provided optimal results, especially in learning Citizenship Education. Based on the literature study, the researcher concludes that there is no complete form of learning model. The use of learning models can optimize the process of developing student competencies by the goals that have been set (Novitra, 2021). Because it contains all the components needed in learning such as methods, teaching materials, media, and learning evaluation. Based on a literature study, it was found that articles related to anti-corruption learning in Indonesia have so far been dominated by the development of media and teaching materials (Komalasari & Saripudin, 2015; Subkhan, 2020). So that systematic learning cannot be implemented (Owusu et al., 2020; Nam, 2018).

The development of learning models in Civics learning has been widely developed by researchers with relatively positive results, such as the Think-Pair-Share Model Wuryandani & Herwin (2021), the Community Learning Model Guram et al. (2020), constructivism learning models Retnawati (2020), practice model Garcia & Longo (2017), cultural value model (Lopez & Bobroff, 2019). However, to accommodate the need to increase students' anti-corruption attitudes, it is not sufficient. The models developed have had a positive impact on the development of civic character and learning outcomes, but none have been accommodated in increasing students' anti-corruption attitudes. The Think-Pair-Share model and the constructivist learning model emphasize more on student learning outcomes. the practice model emphasizes more on citizenship skills in general, the cultural values model emphasizes more on inculcating community culture in students, and the learning community model focuses more on the results of learning reflection. As a result, these models are not able to accommodate optimally in increasing students' anti-corruption attitudes (Geboers et al., 2013; Goren & Yemini, 2017).

It is undeniable that the importance of inculcating an anti-corruption attitude in students through citizenship education is one of the main tasks of civic education itself (Indawati, 2015; Komalasari & Saripudin, 2015; Tabish & Jha, 2012). So

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there needs to be a model for civic education based on anti-corruption education that combines civic education with anti-corruption education. This Problem Based Learning to Prevent Corruption model has a basic Problem-based learning model. Where the reason for developing a problem-based learning model is because of the advantages possessed by problem-based learning, namely better and integrated retention from various relevant disciplines (Sipes, 2017). Problembased learning models are also effective in improving students' cognitive abilities Kirkman (2017), effectively improving students' communication and collaboration in learning (Cennamo et al., 2011).

Based on these gaps, one of the solutions to realize a learning model that can develop participants' anti-corruption attitudes is to combine the Problem Based Learning model with constructivist theory and the anti-corruption model with moral development theory. This solution can be actualized through the Problem Based Learning To Prevent Corruption model. The purpose of this study is to develop a valid, practical, and effective problem-based learning to Corruption model in improving students' anti-corruption attitudes. It is hoped that the problem-based learning to prevent corruption model will not only improve the quality of civic education learning but also have a positive impact on the character development of the young generation at this time. This article is also expected to be a reference for improving the quality of character learning and value education (Feoktistova, 2014; Hoskin, 2015).

Method

This research is a research and development research that aims to develop a valid, practical, and effective Problem Based Learning to Prevent Corruption learning model. The process of developing the ADDIE learning model. ADDIE consists of 5 stages which include analysis, design, development, implementation, and evaluation (Kurt, 2017). At this stage of analysis, it is carried out to see how important the Problem based Learning to Prevent corruption model is for learning Citizenship Education in Health Universities at this time. Needs analysis consists of an assessment of needs, problem analysis, student analysis, literature analysis, analysis of goals and objectives. The result of this analysis phase is to obtain a state-of-the-art model of problem-based learning to prevent corruption and to design a conceptual framework. At the design stage, a product design model for problem-based learning to prevent corruption was carried out which consisted of model books, lecturer books, student books, and an anti-corruption attitude assessment instrument. For the next stage, namely the development stage by validating the instruments that will be used to validate the development product. The instruments assessed were: validation instruments, practical instruments, and formative evaluation instruments. The calculation of the final value of the validation data analyzed on a scale (0-100) was carried out using the Aiken'V formula Handayani et al. (2019), namely:

$$V = \frac{\sum S}{[n(c-1)]}$$

The level of product validity developed is based on the following criteria:

Correlation	Description
0,801 - 1,00	Very high validity
0,601 – 0,800	High validity
0,401 - 0,600	Medium validity
0,001 - 0,400	Low validity
≤ 0,00	Invalid
Source: Arinkunto	2002

Table 1 Validity criteria

After the instrument was declared valid by the experts, a limited trial was carried out at the Implementation stage. A limited trial was carried out. This limited trial was carried out on 6 and 7 May 2021 in Nursing Class 1 A STIKES Syedza Saintika. At the pilot stage, the researcher asked the lecturer to run the model for the Citizenship Education Course and use the tools that had been prepared. Researchers follow the learning process and record events during the process. After a limited trial, a discussion was held with the lecturer to get input on the syntax of the model and the learning tools used. After a limited trial process, a Focus Group Discussion (FGD) was conducted. The last stage, namely Evaluation. At this stage, an expanded trial was carried out in the form of an experiment. At this stage is to determine whether the product to be produced meets the objectives of its performance (its performance objectives). The expanded trial was carried out in the form of an investigation (Hardyanto & Surjono, 2016). In this study, the field test was conducted using a quasi-experimental design in the form of a randomized control group pretest-posttest design (Jansen, 1998; MacWhinney & Leinbach, 1991).

Cohen's Kappa coefficient the following formula is used: *Momen Kappa:*

$$(K) = \frac{p^0 - pe}{1 - pe}$$

The decision category based on the Cohen's Kappa coefficient can be seen in Table 2 as follows:

Interval	Category
0.81 - 1.00	Very high
0.61 – 0.80	Tall
0.41 - 0.60	Currently
0.21 - 0.40	Low
0.01 - 0.20	Very low
≤ 0.000	Invalid

Table 2 Decision category based on kappa moment coefficient

To determine the level of consistency and stability between two observers in observing the implementation of the learning model from each meeting, percentages of agreements were used. The percentages of agreements between the two observers at each meeting used the formula proposed by Grinnell as follows:

 $Percentages og Agreements = \frac{Agreements(A)}{dISAGREEMENTS(D) + Agreements(A)} \ge 100$

Description:

- Frequency of match between data from two observers (A)
- Frequency mismatch between data from two observers (D)
- Instrument reliability coefficient ®

Determination of percentage of agreements is carried out by calculating based on the following provisions:

Percentage (%)	Conclusion	Category
81 - 100	Very effective	Very high
61 – 80	Effective	Tall
41 - 60	Effective enough	Enough
21 - 40	Less effective	Not enough
0 - 20	Ineffective	Low

Table 3 Percentage of agreements

The results of the normalized gain (n-gain) calculation are then interpreted using the classification as shown in the Table 4 below.

 $n - gain = rac{\% \ skor \ posttest - \% \ skor \ prettest}{100 - \% \ skor \ prettes}$

Table 4 Classification of normalized gain

The amount of Gain (g)	Classification
g ≥ 0,70	Tall
0,30 ≤ g < 0,70	Currently
g < 0,30	Low

The normality test used is Kolmogorov Smirnov on the data obtained from the results of the pre-test and post-test of anti-corruption attitudes. The homogeneity of variance test was carried out on the final test data to prove whether the two sample groups had the same variance or were homogeneous and whether the data were not homogeneously distributed. The data has a homogeneous variance if sig > 0.05. Analysis of this test can be done using the Levene test using SPSS 19. Analysis of the results of problem-solving skills and anti-corruption attitudes of students using independent sample t-test statistics using the SPSS 19 program (Yew & Goh, 2016; Dochy et al., 2003).

Results

Conceptual framework design problem-based learning model to prevent corruption

The conceptual design of the Problem Based Learning to Prevent Corruption model is based on the results of a literature review on constructivism learning theory, Theory of Planned Behavior, problem-based learning model theory, anti-corruption learning theory, and anti-corruption attitude theory. The results of the design are arranged into components of the learning model which can be seen in Fig 1.



Figure 1. Conceptual design of problem-based learning model to prevent corruption

Based on the conceptual design, the position of the Problem Based Learning to Prevent Corruption Model against other Problem Based Learning learning models and is a state of the art in this study can be seen in Table 5 below.

		Table 5			
Comparison	of phases	of problem	based	learning	model

Caswell et al., 2017	Xun & Reynolds,	Hmelo-Silver &	Problem Based Learning to
	2010	Barrows, 2006	Prevent Corruption
Foundations - Theory	Identify problem situation	Problem Scenario	Problem orientation: Facing a corruption case and its impact on people's
- methodology			lives

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Caswell et al., 2017	Xun & Reynolds, 2010	Hmelo-Silver & Barrows 2006	Problem Based Learning to
TPOV Creation - Brainstorming - Drafting	Define the problem	Identify Fact	Hypothesis: - Brainstorming - Questioning - Hypothesis
- Revising - Editing	List and evaluate alternative solutions	Generate Hypothesis	Testing Consequences - Literature Review - Data Analysis
Presenting and Debriefing - Presentation - Peer comments - Educator comments - Evaluation	Choose, justify, and implement a plan	Knowledge Deficiencies	 Character Exploration Read biographies Value Identification Presentation Presentation of problem solving results Making learning conclusions and problem solving results
	Evaluate the plan	Apply New Knowledge	Self-reflection Answering questions related to anti-corruption attitudes.

Based on the comparison shown in Table 5, it can be seen that the novelty of the syntax of the Problem Based Learning to Prevent Corruption model is the syntax in character exploration. The aim is to give students an example of the anticorruption attitude of Indonesian national figures. In addition, to instill an anticorruption attitude in students. In the first syntax (Problem orientation), students are faced with corruption cases that occur in Indonesia. In this syntax, a sense of caring or empathy can be developed in students. So when someone has empathy for another person, it will bring up a caring attitude towards that person. Empathy is an emotional feeling and perception that is triggered by an individual's attraction to external feelings (Cheng & Chan, 2019; Grosseman et al., 2014).

This feeling will create curiosity in students about the background, form, and violations of what was done by the perpetrators of corruption. From this curiosity, students will be motivated to be actively involved in solving problems. Based on the theory, curiosity will challenge students to solve problems (Oudeyer et al., 2016). According to Kidd & Hayden (2015) students to succeed in school, must feel the desire to learn or the willingness to be involved in studies, curiosity, drive / human motive for knowledge or information (Tang & Salmela-Aro, 2021). Another purpose of this first syntax is for students to know about the learning objectives that will be carried out. Knowing the learning objectives to be achieved will help students to do the tasks that have been given by the educator following the learning objectives (Mahajan & Singh, 2017).

This first stage is carried out by presenting interesting corruption cases and making students motivated to solve them. At this stage, students will be given

three questions that must be solved and answered in groups. Implementation of group work will help students to develop creativity and critical thinking (Novitra, 2021). In the second syntax (Hypothesis) students are asked to look for conjectures or temporary answers related to the answers to problems in syntax one. The purpose of this syntax is to help students focus their investigations and realize the limitations of their knowledge (Hmelo-Silver & Barrows, 2006). At this stage, the lecturer asks students to do group work to practice student collaboration. Learning by working together can improve student achievement, attitudes, motivation, peer relations, and well-being (Fernandez-Rio et al., 2017; Johnson et al., 2014; Kyndt et al., 2013). Students carry out questioning activities to create problem-solving hypotheses (Phillips et al., 2018).

The purpose of this syntax is also another purpose of this syntax, namely to train students to think critically, critical thinking skills are needed by students at the higher education level Bellaera et al. (2021) through stage 2 this can also develop students' critical thinking skills according to with one of the civic education competencies. In the third syntax (testing the consequences) students in groups look for supporting factors and inhibiting factors from the hypothesis that has been formulated by their group. By paying attention to the suitability of the solutions offered with applications in the community (Carson, 2007). At this stage, you can develop critical thinking skills and collaborative discourse documented at this stage (Cicchino, 2013).

Students are asked to do a literature study to find supporting factors and inhibiting factors for the hypothesis that has been made by their group. A literature review will be able to increase students' creativity and critical thinking (Chasanah, 2019; Cowden & Santiago, 2016; Thorndahl & Stentoft, 2020). Another purpose of this stage is to train students to be willing to work hard in analyzing problem-solving that has been discussed by the group. The hard work that students do during learning will be able to help instill student attitudes when participants are in the community (Bullock et al., 2014; Mendick et al., 2015). In the fourth syntax (Exploration Biography), the basis for developing this syntax sees that students as agents of change in society can have a good attitude not only by providing knowledge or education to students but also the role of a character who can be used as an example for students educate. According to Nowiński et al. (2019) a character is very effective in influencing the attitudes of students. Apart from that, the example is given by someone also makes others have the same behavior (Ottoni-Wilhelm et al., 2014).

At this stage, students are asked to read a biography of a character who has an anti-corruption attitude. Asking students to learn by using someone's example will make the learning meaningful for students (BarNir et al., 2011; Lunenberg et al., 2007). Another goal of this stage is that students can exercise self-control by learning from characters who have been explored (Baldwin et al., 2014; Sweet, 2019). The fifth stage (presentation) of this class presentation requires students to present the results of their group work in front of the class. Class presentations can be used by educators to unify students' concepts, refine, and strengthen students' concepts that have been built during group discussions. Class presentations can be led by educators (Holovkin et al., 2021; Topchii et al., 2021).

This stage aims that students can communicate in public, this can train students' confidence in expressing opinions. Based on research from Ihmeideh et al. (2010) students need to be allowed to communicate to be better prepared to face the job market after study (Ihmeideh et al., 2010). Another goal at this stage is to develop students' communication skills when students make presentations in front of the class. Develop students' communication skills to be accepted in society (Ihmeideh et al., 2010; Mossop et al., 2015). This stage also aims to increase students' independence, when participants are asked to conclude the results of problemsolving with an independent attitude will make students able to be accepted in society well (Radford et al., 2015). The sixth stage (self-reflection) this stage is developed so that students get meaningful learning. Meaningful learning can be obtained by students through reflection activities (Chan & Yeung, 2020). Reflection will bring students to be active and aware of the experiences, emotions, actions, and responses that are the core of learning itself (Grosseman et al., 2014).

At this stage, students are asked to write about self-reflection with questions given by the teacher, with the aim that students can learn from experience. Where based on research results, students tend not to do self-reflection (Power, 2012; Xie et al., 2008). So that there is a need for this self-reflection syntax to hone students' abilities to want to do self-reflection. Another goal of this stage is to develop an honest attitude to students, by being honest with yourself in answering the reflection questions given by the educator. Honesty is one of the things most needed by students to become successful people in life (Lee et al., 2014; Ma et al., 2018).

Based on the process cycle, it can be seen that the problem-based learning model has a systematic and comprehensive activity in discussing a learning material. There is a preliminary stage to build student motivation to want to learn and be challenged to be involved in learning activities. So that during the teaching and learning process students will become more active and student center learning will be able to run well. Coupled with the reflection process carried out at the end of the lesson, with the aim that the learning obtained by students becomes more meaningful. In addition, the problem-based learning model also involves optimal student abilities such as critical thinking skills (creative, critical, systematic, and logical), social skills (communication and cooperation), scientific skills (scientific attitudes and skills). Therefore, this problem-based cycle learning model can be a solution in developing students' anti-corruption attitudes (Arsawati, 2016; Peter, 2015).

Validity of learning model based on corruption prevention problem

Assessment includes the suitability of the content, construction, and language. Product validation was carried out by 7 experts, carried out in written form, and discussions until conditions were reached where the experts agreed that the corruption prevention learning model developed was valid. The results of the validation that have been carried out can be seen in Table 6 below.

Droduot	Component	Validity		
Product		Score	Description	
Model Book	Construction	0.91	Very Valid	
	Content	0.81	Very Valid	
	Language	0.85	Very Valid	
Lecturer's Book	Construction	0.88	Very Valid	
	Content	0.82	Very Valid	
	Language	0.67	Valid	
Student's Book	Construction	0.83	Very Valid	
	Content	0.86	Very Valid	
	Language	0.76	Valid	
Instrument of	Construction	0.81	Very valid	
Anti-Corruption	Content	0.93	Very valid	
Attitude	Language	0.66	Valid	

Table 6 Product development validation results

The intervention products of the PBL_PC model development are model books, lecturer books, and student books. The results of the expert review show that the overall product prototype of the PBL_PC model has valid criteria. The model book is considered very valid with an average K value of 0.83. Model validation is done by looking at three aspects, namely Construction, Content and Language. All aspects that are assessed get a B, which can be used for minor revisions. Revisions are made according to expert advice. The expert's assessment shows that in general the model books that have been carried out have met the very valid category, especially in the social system section (Tanwete & Kombinda, 2020; Widana et al., 2020).

The social system designed in the PBL_PC model is student-centered learning which requires students to be active in learning activities. Lecturers in implementing the PBL_PC model act as facilitators Barthlow & Watson (2014); Craig & Marshall (2019); Hsu et al. (2012); Mikeska & Howell (2020); Tekkumru-Kisa et al. (2018), mentors Sinha et al. (2015), Reflector (Kumar & Natarajan, 2007; Novitra, 2021). As a facilitator, the lecturer functions as a person who facilitates learning and facilitates learning. Lecturers also accommodate the creation of a constructive learning environment. This is by the activities of lecturers in implementing the PBL_PC model at the consequence testing stage where the lecturer facilitates students to explore information in analyzing learning materials.

As a motivator, lecturers must generate student learning motivation because students will study diligently and seriously if they have high motivation. Lecturers must also encourage students' positive feelings in terms of their curiosity about the subject matter (Barrett & Toma, 2013). This is by the activities of lecturers in implementing the Problem Based Learning to Prevent Corruption model at the problem orientation stage where the lecturer provides interesting corruption cases and can motivate students in solving problems. Feedback from lecturers in the roles of facilitator, motivator, reflector, and mentor is a reaction that arises when applying the Problem-Based Learning model to Prevent Corruption.

Practical problem based learning model to prevent corruption

According to Plomp (2013), the practicality of the products developed is seen from the ease of use. The practicality of the problem-based corruption prevention learning model is shown by the consistency between the typology of expectations with assessments and expectations with operations. The practicality of the model is determined by an expert judgment which states that the developed product can be applied. Problem-based learning model to prove corruption at the time of testing can be applied. Based on the results of the validity test according to the validator, the problem-based learning model can be implemented with the average V value of 0.86, 0.79, 0.82, respectively. Then these results are compared with the responses of lecturers and students regarding the practicality of problembased learning models to prevent corruption. The results of the practicum according to the lecturer can be seen in Table 7 below.

Table 7	
The practicality of PBL-PC Model according to lectu	rers

Aspect assessed		Criteria
Ease of Implementation of the PBL-PC Model	0.78	Practical
Benefits of PBL-PC Model	0.76	Practical
Use of Student's Books, LKM, and Lecturer's Books		Very Practical
Time Allocation	0.80	Very Practical
Language	1	Very Practical
Average K	0.86	Very Practical

Table 7 shows that the Problem Based learning to Prevent Corruption model which is actualized into lecturer books and practical student books is used and makes it easier for lecturers to deliver material on national identity, national integration, constitution, rights, and obligations of citizens. The average percentage of 0.86 with an interval of 80-100 is categorized as very practical. Respondents considered that the problem-based learning to prevent corruption model could make Civic Education learning activities more practical both in terms of educators and in terms of students. Furthermore, the results of the practicality of the model according to students can be seen in Table 8 below.

Table 8Practicality of the PBL-PC model according to students

Aspect assessed		Criteria
Ease of Implementation of the PBL-PC Model	0.83	Very Practical
Benefits of PBL-PC Model	0.81	Very Practical
Use of Student's Books, LKM, and Lecturer's Books	0.81	Very Practical
Lecturers' Role in Learning	0.84	Very Practical
Language	0,89	Very Practical
Average K	0.84	-

Table 8 shows that the problem-based corruption prevention learning model which is actualized in the form of student books can help and facilitate the learning process. The average percentage is 80-100 with a very practical category.

And the problem-based corruption prevention learning model has an average of 0.84. Respondents assessed that the problem-based corruption prevention learning model could make learning more practical. A model will be said to be practical if the model is easy to use (Plomp, 2013). Therefore, based on the results of the practicality test on five aspects as shown in the table of ease of implementation, benefits, the usability of books, time allocation, role of lecturers, and linguistics of the PBL-PC model, it turns out that the PBL-PC model is practical to apply. The results of this study are the same as those produced by Adem et al. (2020) that the problem-based model provides satisfaction in learning for students.

Effectiveness of problem based corruption prevention learning model

The effectiveness of the model depends on the achievement of the expected goals. This means that the Problem-Based Learning model of Corruption Prevention is declared effective if it can improve students' problem-solving abilities and anticorruption attitudes. The results obtained are based on the scores during the pretest and post-test. The analysis of the increase in the two health colleges can be seen in Table 9 below.

College	Class	Average Pre-test	Average Post-test	N-Gain (Δ)
STIKES Syedza	Experiment	66.47	88.65	0.56
Saintika	Control	67.25	74.94	0.20
STIKES Indonesia	Experiment	69.25	86.61	0.49
	Control	69.84	71.20	0.04

Table 9 Results of the anti-corruption attitude assessment

At the first meeting, the researchers conducted a pre-test for all classes with the results of the pre-test at STIKES Syedza Saintika 66.47 and 67.25. While the pre-test scores for STIKES Indonesia were 69.25 and 69.84. Based on the results of the pre-test, it can be seen that there are similarities in the attitudes of students in STIKES Syedza Saintika and STIKES Indonesia, both in the control class and in the experimental class. Based on the pre-test scores, it can be concluded that the students' anti-corruption attitudes, both in the control class and in the experimental class, are in a low category.

The low attitude results are caused by the lack of skilled educators in instilling attitudes in students (Valeriu, 2014). Citizenship Education as one of the social studies education in its curriculum not only prioritizes assessment on cognitive aspects but also affective and psychomotor aspects (Koc, 2020). By the purpose of civic education itself, namely developing individual potentials to become Indonesian citizens who are noble, intelligent, participative, and responsible Nogueira & Moreira (2012); Galston (2004) civics education is a curriculum designed as a subject, which includes attitudes spiritual and social (Hahn, 2015). However, the reality that researchers encountered in the field in the early stages of research, where educators in implementing Civics learning only made cognitive aspects as the main assessment of learning success. This is in line with

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Montessori (2021) that the implementation of anti-corruption education in civic education is still in the stage of developing students' cognitive abilities. Whereas what is needed in anti-corruption education is the development of attitudes and psychomotor.

The stages after the pre-test were carried out, the intervention was carried out in the experimental class by implementing Civic Education learning using a problem-based learning model to prevent corruption, and while for the control class civic education learning was carried out using a conventional model. The intervention activities were carried out for four meetings with different learning materials for each meeting. At the last meeting, a posttest was conducted for the experimental class and the control class with the score of anti-corruption attitude in the experimental class at STIKES Syedza Saintika was 88.65. And the value of the control class is 74.94. The N-gain value in the experimental class is 0.56 in the sufficient category, while for the control class at STIKES Indonesia, based on the posttest score, the score was 86.61 and for the control class, the posttest score was 71.20.

Based on the results obtained from four meetings at the two universities, anticorruption attitudes have increased quite well in the experimental class, this can be seen from the increase in anti-corruption attitudes scores during the post-test. Because the overall syntax of the problem-based learning model accommodates increasing anti-corruption attitudes. Especially in character exploration syntax, According to Nowinski & Haddoud (2019), characters are very effective in influencing students' attitudes. In addition, the example is given by someone also makes others have the same behavior (Ottoni-Wilhelm et al., 2014). Overall, the students' anti-corruption attitude experienced a significant increase with the N-Gain score. The anti-corruption attitude in the experimental class is above 0.30 in both universities. The average N-Gain scores of anti-corruption attitudes at STIKES Syedza Saintika and STIKES Indonesia are 0.56 and 0.49, respectively. The score is included in the sufficient category. These results indicate that the problem-based learning model of Prevention of Corruption can increase anticorruption attitudes. Therefore, it can be stated that the problem-based corruption prevention learning model meets the third intervention quality criteria, namely the effective learning model.

Class	Results	Kolmogorov Smirnov ^a	Shapiro- Wilk	Comparison with α	Info
Control	Pre-test	0.074	0.285	> 0.05	Normal
	Post-test	0.200	0.440	> 0.05	Normal
Experiment	Pre-test	0.200	0.457	> 0.05	Normal
	Post-test	0.200	0.465	> 0.05	Normal

Table 5 Normality test of anti-corruption attitude

College	Score	Comparison	Info
	Significance	with a	
STIKES Syedza Saintika	0.257	> 0.05	Homogen
STIKES Indonesia	0.589	> 0.05	Homogen

	Table 6	
Homogeneity test	of anti-corruption	attitude

Table 7 T-test results

College	Class	Mean	Std. Error Mean	Std. Deviation	Sig. (2-tailed)
STIKES Syedza	Experiment	88.65	0.88	5.14	0.000
Saintika	Control	74.94	1.14	6.45	0.000
STIKES	Experiment	86.61	0.95	5.06	0.000
Indonesia	Control	71.20	0.98	4.92	0.000

The test of the effectiveness of the problem-based learning model on preventing corruption is the result of learning about anti-corruption attitudes. Table 4 shows the increase in learning outcomes in the aspect of student anti-corruption attitudes with the PBL-PC Model for learning that is commonly used by lecturers. The results of the pretest of anti-corruption attitudes in the experimental class were 66.47 and 69.25, while in the control class was 67.25 and 69.84 after learning with a problem-based learning model to prevent corruption in the experimental class, the post-test results were respectively 88.65 and 86.61. while the control class used a conventional model with posttest results of 74.94 and 71.20. Based on the observations, it can be concluded that the use of anti-corruption-based models can foster anti-corruption attitudes in students. Anti-corruption education is education that can develop aspects of students' attitudes and character.

Conclusion

The results of the study concluded that the Problem Based Learning to Prevent Corruption learning model had a high quality from the aspects of validity, practicality, and effectiveness. The results of the validity of model books, lecturer books, student books, and assessment instruments for anti-corruption attitudes are in very high validity criteria, both in terms of content, construct, and language. This means that the Problem Based Learning to Prevent Corruption model has met the criteria of relevance and consistency. The use of the Problem Based Learning To Prevent Corruption model according to lecturers and students meets the criteria of convenience, usefulness, and usability. In the aspect of effectiveness, the Problem Based Learning to Prevent Corruption model can improve students' anti-corruption attitudes. Therefore, the Problem Based Learning to Prevent Corruption model can be used by lecturers or in other social circles as an option in improving the quality of learning and developing anticorruption attitudes.

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