

Development of Mind Mapping-Based Jigsaw Model to Improve Students' Understanding of Democracy and Political Participation Students' Political Participation

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Abstract

This study aims to obtain empirical data on the Development of Mind Mapping Based Jigsaw Model to Increase Students' Understanding of Democracy and Political Participation. The method used is Research and Development (R&D), which is development research. The subjects of this research were class X students of SMK PGRI I Cibinong Bogor with a total of 28 students as informants, and as key informants were peers. The data collection techniques used in this study were test techniques and non-test techniques, before being used the instrument was tested on respondents outside the sample to determine the validity and reliability of the instrument items. The next instrument is a questionnaire to find out the needs of teachers and students on the Development of Mind Mapping Based Jigsaw Model. The results of this study indicate that (1) After being revised, a trial use of the Mind Mapping-Based Jigsaw Model Development to Improve Understanding of Democracy and Political Participation of Students was carried out on 28 students, can improve Civics learning outcomes on democracy and political participation. (2) Feasibility assessment by material validators obtained an average percentage of 93.18% which is included in the very feasible category, while the feasibility assessment by media validators obtained an average percentage of 91.67% which is included in the very feasible category. (3) The development of this Mind Mapping Based Jigsaw Model to Increase Understanding of Democracy and Political Participation of Class X Students of SMK PGRI I Cibinong Bogor.

Keywords: Jigsaw, Mind mapping, Political participation

1 INTRODUCTION

The Preamble of the 1945 Constitution, the fourth paragraph of which is quoted as follows! "...establish the independence of the Indonesian nation in a Constitution of the State of Indonesia, which is formed in the structure of the Republic of Indonesia, which has the sovereignty of the people..." (Arafat; 2014) Thus, it is clear that the form of the Indonesian State is a democracy. The practice of democracy can be seen as a way of life and the order of society. One of the characteristics of a democratic society is to recognize and consider the existence of diversity. However, the diversity remains within the framework of national unity and the state guarantees the upholding of justice (Mendikbud; 2014) Although the culture of democracy in our beloved country is still like a toddler who learns to walk hobbled, the government and our nation continue to learn democracy. Article 6-A paragraph (1) of the 1945 Constitution which reads "The President and Vice President are elected in one pair directly by the people." (Arafat; 2014)

This article of the 1945 Constitution is a concrete manifestation of the culture of democracy in the constitution as an actualization of the culture of democracy for the

Indonesian people which involves its citizens directly in electing the president and vice president in article 18 paragraph (4) "Governors, regents, and mayors respectively as heads of provincial, district and city local governments are elected democratically." (Arafat; 2014) Although it is now starting to become a hot political issue and polemic in the DPR and in the community, but basically the election of regional heads has also been determined to be held democratically in the constitution through elections. In democratization, all people participate in government through their representatives, there is open competition so that people not only have the right to vote but also the right to be elected. Universally, the basic principles of democracy affirm that a democratic government is one in which the ultimate authority rests with the people, government power must be limited and individual rights must be protected. Democracy has become an option for nations around the world and Indonesia is no exception.

Democracy is believed to be something that absolutely must exist to be able to create the aspired social order, it is hoped that democracy can be ingrained and become a culture for every citizen in the life of society, nation and state. The word democracy is certainly familiar to all of us, we often find it in our lives. Democracy is an ideal condition desired by all parties, but to realize an ideal democratic system is not easy and requires a long process. The process towards democracy is called democratization. Democratization will pave the way to get out of authoritarianism, because this process will restore the rights of the people.

There are stages in the democratization process as follows: (1) The stage of decay of the authoritarian regime system, where the old regime is bankrupt due to various practices of irregularities (corruption, collusion and nepotism) within the regime itself. (2) The transition stage, which is a period of high political uncertainty with the risk of reversal back to the old regime pattern, although accompanied by the seeds of the development of a new regime. (3) The consolidation stage, which is the stage where democratic institutions begin to form (4) The stage of maturity of the democratic political order marked by a democratic political culture. One of the most basic elements and indicators of the success and quality of the implementation of democratic elections is the active involvement of the community in the process of running the stages of elections, especially in terms of supervising or monitoring the electoral process. The role and participation of civil society in supervising or monitoring the process of democratic contestation is very important. Participation aims to actively encourage democratic activities for all electoral processes. The importance of focusing on participation is an indicator of improving the quality of democracy and the nation's political life.

In principle, democracy is the participation of all people in making political decisions and running the government. The political decision in question is an agreement that is determined to be a rule that will govern the lives of all the people themselves. The involvement or participation of the people is very basic in democracy, because democracy is not only related to the purpose of a decree produced by a government, but also related to the whole process of making the decree itself. Democracy provides broad opportunities for people to participate effectively in the decision-making process concerning public policy as well as equality for all adult citizens to determine the agenda and control the implementation of the agenda that has been decided together. Public participation during elections is not only seen from the high number of voters who attend to exercise their voting rights at the polling stations. However, it is measured by the level of public awareness and active involvement in all stages of organizing elections.

Lack of political learning is one of the factors causing low political participation (Saryono et al., 2022) and attitudes towards the implementation of elections in the community, the government should periodically provide an understanding of political culture to the grassroots through related parties by involving such as extension workers, community leaders, religious leaders so that people really understand the political scene that they will experience in the area where they live. This is very important to be implemented immediately considering the fertile Money Politics and political culture in the community. Due to the limited personnel appointed by the government to provide an understanding of political culture to the community, this is where the role of extension workers, community leaders, religious leaders is time to go down to the field to provide guidance that can lead them towards the right and good politics.

Thus we can prepare the next generation who are intelligent and aware of their rights and obligations as citizens. Become citizens who are able to solve the problems they face in their environment. With the readiness of this good mentality, the community will think clearly and high self-maturity so that it does not rule out the possibility that someday Money Politics will be erased from their minds, so that even without money politics, the level of community participation remains high. Our country is a democratic country that has its own advantages, because in every policy making refers to the aspirations of the community. The community as the main figure in a democratic country has a very important role. One of the roles of the community in a democratic country is community participation in politics. The community has a very strong role in the process of determining the executive and legislative both in the central and local governments. General elections are a government program held every five years in all regions of our country. Elections are the implementation of one of the characteristics of democracy where the people are directly involved, included in determining the direction and political policies of the State for the next five years.

In the political system of Indonesia, elections are one of the political processes carried out every five years, both to elect members of the legislature, and to elect members of the executive. The legislative members elected in the five-year elections consist of members of the central legislature/parliament, which in Indonesian constitution is usually referred to as the DPR-RI, then the Provincial DPRD, and Regency/City DPRD. Meanwhile, in the context of elections for executive elections, the people have been given the opportunity to elect the President, Governor and Regent/Mayor. The magnitude of the people's right to determine the leaders in the executive and legislative bodies at this time is inseparable from the political changes and reforms that have been rolling in this country since 1998, where in previous times the political rights of the people were often discriminated against and used for the political interests of the rulers only by means of mobilization, but the people themselves were not given full political rights to select leaders, criticize policies, and critical dialogical processes, so that the community can channel their aspirations and interests.

Changes to the Constitution of the Republic of Indonesia through the first to third amendments in 2002, have given the people the political right to elect the president directly, whereas previously the president was only elected by the MPR as the country's highest institution. However, changes to the constitution have also changed the country's political institutions. The changes that occurred following the constitution also occurred in the election of regional heads. With the birth of Law No. 32/2004, the law has given the people the political right to elect their governors and regents/mayors directly. Thus, the

political rights of the community to conduct conventional political participation are wide open.

Political participation, which is a manifestation of people's sovereignty, is a very fundamental thing in the democratic process. It has a very important meaning in the movement of the wheels and the democratic system. If the community has a high level of participation, then the process of political development will run well, so that it will also mean a lot to the development of this nation and state. Conversely, political participation will also be meaningless and meaningless if it does not meet the qualitative and quantitative requirements. Therefore, the level of public political participation in general elections, including regional head elections, is a very important thing to look at, because low or high participation is an important signal and indicator of the course of the democratization process and the embodiment of popular sovereignty. In addition, the level of community participation cannot be separated from the role of local stick holders, especially in parochial communities where their involvement in the political arena must have role models who can mobilize. The mindset of the community about legislative elections must be straightened out, because they do not understand what legislative elections mean, what they know and obey is only, if the community leaders they make role models say for example "vote for candidate A or candidate B", then they vote according to the character's recommendation.

Participation aims to encourage active democratic activities for all electoral processes.(B Waluto et al;2021) The importance of focusing on participation is an indicator of improving the quality of democracy and the nation's political life. Therefore, community political participation, both in formal and extra-formal forms in participating in supervising or monitoring the course of organizing elections, should not be underestimated. Because, its existence can prevent counter-democratic actions that can tear and degrade people's loyalty to the democratic system in Indonesia.

Furthermore, according to Sanjaya (2009), the problems faced by the world of education in the form of the learning process that takes place are still weak. In line with Sanjaya's opinion, Trianto (2007) states that empirically based on the results of research analysis of the low learning outcomes of students caused by learning that is dominated by traditional learning. The analysis conducted by Trianto is supported by Freire who believes that traditional education is unable to produce individuals or educational communities that have a critical attitude towards the reality of the world and nature. Traditional education only narrowly views the meaning of the educational process itself, namely as a process of transferring knowledge. Learners are used as objects, not as subjects Another case with Sagala (2009) who argues that learning that takes place in schools tends to show (1) teachers lecture more, (2) the media has not been utilized, (3) learning management tends to be classical and learning activities are less varied, (4) teachers' demands for learning outcomes and productivity are low; (5) there is no display of students' work, (6) teachers and books as a source of learning, (7) all students are considered the same, (8) assessment in the form of tests, as well as exercises and tasks given are lacking and not challenging, (9) unidirectional learning interactions. The implemented learning does not show anything about the efforts of the teacher, only spending time and budget without significant progress. For this reason, a solution is needed to implement cooperative learning, cooperative learning is a useful learning model by grouping students with different ability levels in small groups.

However, the groups should be described as heterogeneous both in terms of learning ability and gender. This is so that the groups are not one-sided (there are good groups and

poor groups) (Sujana; 2009). During group work, the task of group members is to achieve material mastery and help each other achieve mastery (Slavin, 2005). Group members are responsible for the success of their group and the completeness of the material learned and can convey it to their group (Shoimin; 2014). Jigsaw type cooperative learning is one of the learning methods where in this model a field of knowledge is "broken down" into several parts (sections) discussed and then the fragments are "put together" again in a plenary discussion (Prasetya; 2006). Jigsaw learning is a widely used technique that has similarities to the "group-to-group exchange" technique with an important difference: each learner teaches something. The Jigsaw method builds on the method developed by Aronson. Learning groups are divided into two categories, the expert group and the home group. The teacher gives problems to the home group, then the learners are split into expert groups. (Ridwan; 2013)

Jigsaw-type cooperative learning is appropriate when applied to materials that do not contain many formulas or equations but more theories. Such materials make it easier for students to read on their own before the learning in class begins. So students are expected to already have basic knowledge before learning is done. This is in accordance with the principle of Jigsaw-type learning which prioritizes student experience and in its implementation students must share experiences or opinions with other students. Facing the learning situation above, there must be efforts to improve. One way is to change the learning model that is centered on active teachers, while students are less given the opportunity to be active, which has been applied with the jigsaw type cooperative learning model. Through jigsaw cooperative learning, students are formed into small groups to work together. The students are not only responsible for the material taught, but they also have to teach their group members. In the cooperative model, students are directed to be able to also work, develop themselves, and be individually responsible. In the jigsaw type cooperative learning model, it is expected to minimize the existing obstacles. With peer tutorials and cooperation in groups, students discuss and help each other in understanding the material being studied. So that students can complete it well and responsibly.

An alternative creative note-taking technique that can be developed is 'mind mapping'. Mind maps are the best technique in helping the brain's thinking process in an organized manner because it uses graphic techniques derived from human thinking that are useful for providing universal keys so as to unlock the potential of the brain (Buzan; 2004). So that the summarized subject matter becomes visually and graphically patterned which ultimately can help record, strengthen, and recall information that has been learned (Dimiati & Mujiono, 2002).

Tony Buzan (2007) defines mind map as the easiest way to put information into the brain and take information out of the brain. Pudjiastuti et al (2019) also reveals that mind maps help learn, organize, and store as much information as possible, and classify the information reasonably so that it is possible to get instant access (perfect memory) to everything you want. According to DePorter and Readon (2002), mind mapping is a whole-brain utilization technique using visual imagery and other graphic infrastructure to form impressions. Mind mapping is a whole-brain utilization technique using visual imagery and other graphics to form an impression between the left and right brain that is involved so that it makes it easier to enter information into the brain (Bobby; 2003). Mind mapping is a creative, effective, and literal way of recording thoughts (Buzan; 2008). In its implementation, mind mapping trains students' habits to develop their creative activities, so that students can create a creative product that can be useful (SR Pudjiastuti; 2018). Creating this kind of learning condition also involves students' inner emotions. Emotions

are needed to create high learning responsibility. And high responsibility can increase student confidence, so that students do not hesitate and embarrassed and want to develop the potential for creativity and mastery of the concept of teaching material.

Responsibility is a situation where one is obliged to bear everything, so that one is obliged to bear, bear responsibility, bear everything or give responsibility and bear the consequences. Basically, each individual can be responsible only for what he or she does. Only those who act are obliged to bear the consequences of their actions. However, Friedrich August von Hayek emphasized that people can be said to be responsible for their actions when they consciously make decisions and actions without any pressure from any party (Lieberman; 2001).

In fact, during the learning process, they still mocked and laughed at each other if there were students who could not answer questions from the teacher. This certainly does not reflect a good attitude of student responsibility as the next generation of the nation. All of these cases not only have a negative effect on student attitudes but also reflect students' understanding of democracy is not meaningful, the learning process that occurs is only dominantly theoretical and only covers cognitive factors, the learning process is not applicable.

Based on the phenomena and realities that occur in the school environment, the researcher hopes that the mind mapping-based jigsaw model can increase understanding of democracy and political participation, and teachers pay more attention and provide positive directions to students to develop students' political participation.

2 RESEARCH METHODS

The research method used is development research (R&D). SR Pudjiastuti et al (2023) states that research and development methods are research methods used to produce certain products and test the effectiveness of these products. In simple terms, R&D is defined as a research method that is deliberate, systematic, aimed/directed to find, formulate, improve, develop, produce, test the effectiveness of certain products, models, methods/strategies/ways, services, procedures that are superior, new, effective, efficient, productive, and meaningful. (Pudjiastuti, SR, et al.; 2023). Researchers conducted interviews, and identified existing problems in class X SMK PGRI 1 Cibinong Bogor.

If students learn in a meaningful way, the concept of the lesson they get is not easily forgotten. An alternative creative note-taking technique that can be developed is 'mind mapping'. Collecting data that can be used as reference material or complementary data through test data on understanding of democracy and observations and interviews with teachers related to problems in class X SMK PGRI 1 Cibinong Bogor, as well as plans to design a cooperative learning model type jigsaw based on mind mapping. In addition, a literature review was conducted from various existing literature. Data collection, also analyzed the feasibility according to teachers and students so that the jigsaw learning model developed is in accordance with the needs of teachers and students. The feasibility analysis according to teachers and students was carried out using a questionnaire or questionnaire filled out by teachers and students.

Product validation is designed using an assessment sheet instrument in the form of a questionnaire or questionnaire according to modified criteria. Material validation in this study was carried out by Civics lecturers from the Civics Master Program. Validation of the jigsaw learning model was carried out by expert lecturers of learning models by Civics

lecturers from the Civics Master Program. Along with the design validation conducted by the validator, a product trial was also conducted to 6 students of class X SMK PGRI 1 Cibinong Bogor. The product trial aims to determine the use of the mind mapping-based jigsaw learning model in learning. The product trial was conducted on 6 students through purposive sampling technique, which is a sampling technique with certain considerations (Sugiyono, 2015: 124).

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3 RESULT AND DISCUSSION

3.1. Development Design of Mind Mapping-Based Jigsaw Model to Increase Understanding of Democracy and Political Participation of Class X Students of SMK PGRI I Cibinong Bogor

Design validation was carried out by experts, namely Mr. Dr. Moh. Dr. Moh. Abduh, MM. He is a lecturer at STKIP Arrahmaniyah in the Civics Master Study Program. The following is a table of scores for each aspect in the evaluation sheet questionnaire by media experts:

Table 1 Recapitulation of Calculation Results of Media Design Expert Assessment Revised Results of Product Trial

No	Indicator	Total score	percent	Desc
1	Attractiveness of cover design	2	50%	Good enough
2	The accuracy of the font used in the cover	3	75%	Good
3	Accuracy of typing layout	3	75%	Good
4	Consistency of spacing, titles, and typing of materials	2	50%	Good enough
5	Clarity of writing or typing	3	75%	Good
6	Accuracy of image placement	3	75%	Good
7	Appropriateness of using various types, sizes and shapes of letters for themes and sub-themes	3	75%	Good
8	Appropriateness of using blank columns	2	50%	Good enough

No	Indicator	Total score	percent	Desc
9	Appropriateness of the use of illustrations	3	75%	Good
10	Consistency in the use of numbering	3	75%	Good
11	The suitability of organizing the content of the textbook with	2	50%	Good enough
12	multimedia	3	75%	Good
13	Appropriateness of learning objective placement	3	75%	Good
14	Consistent use of typeface, font size	3	75%	Good
15	used for subtheme learning objectives	3	75%	Good
16	Accuracy of text formulation of learning objectives	3	75%	Good
17	Appropriateness of paragraph arrangement of learning descriptions	3	75%	Good
	Appropriateness of the content with the Mind Map approach			
18	Suitability of material in teaching materials	3	75%	Good
19	Appropriateness of font for summary title	3	75%	Good
20	Appropriateness of the typeface used for the material	2	50%	Good enough
Total		55		
Maximum Score		80	69%	Good

Based on the table above, the total score is 55 out of a maximum score of 80. If it is percented, the percentage value of the media in product trial 1 is 69% with good criteria, so that a slight revision is needed to achieve a percentage value with very good criteria. In addition to media assessments by material and media experts, researchers also provided a questionnaire assessment sheet for Civics teachers about learning media mind mapping-based teaching materials as follows:

Table 2 Recapitulation of Civics Subject Teacher Assessment of Revised Product Trial Results

No	Indicator	Total score	percent	Desc.
1	Does this teaching material make it easier for you to teach	3	75%	Good
2	Whether this teaching material can make students active in learning	3	75%	Good
3	Is this teaching material appropriate for use	3	75%	Good
4	Is the size and type of font used in teaching materials easy to read?	2	50%	Good enough
5	How clear are the learning objectives	3	75%	Good
6	How is the clarity of material exposure in each unit in teaching materials	3	75%	Good
7	What is the level of conformity between images and material in teaching materials	3	75%	Good
8	Do the examples provided help you understand the material?	3	75%	Good
9	How is the clarity of the material with this Mind Mapping Media	3	75%	Good
10	Does Mind Mapping Media in teaching materials help improve your understanding of the material	3	75%	Good
11	What is the level of clarity of the summary at the end of the unit	2	50%	Good enough
12	How is the clarity of the order of presentation of material in each unit of teaching materials	3	75%	Good
13	Can this teaching material be understood easily	3	75%	Good
Total		37	71%	Good
Maximum Score		52		

Based on the table above, the total score is 37 out of a maximum score of 52. If it is percented, the percentage value is 71% with good criteria, so that a slight revision is needed to achieve a percentage value with very good criteria.

3.2. Feasibility of Mind Mapping-Based Jigsaw Model to Increase Understanding of Democracy and Political Participation of Class X Students of SMK PGRI I Cibinong Bogor.

Based on the results of the material aspect validation, the quality of the learning media developed can be known. The validation carried out aims to determine the feasibility of the material needed for students. Material validation was carried out by a material expert, namely Dr. Mohamad Sutisna, M.Pd. He is a lecturer at STKIP Arrahaniyah Master of Civics Study Program. Aspects of material validation include presentation of Indonesian Political System material, curriculum suitability, learning evaluation, language. The following is the data on the results of the material feasibility assessment of the revised trial 1:

Table 3 Recapitulation of the Results of the Calculation of Content / Material Expert Assessment of Product Trial Revision

No	Indicator	Total score	percent	Desc.
1	The concept of relevance to an independent curriculum	3	75%	Worth
2	The concepts/materials in Mind Map teaching materials make it easier for students to understand the content of the material	2	50%	Decent Enough
3	The concept of teaching materials is scientifically written	3	75%	Worth
4	Appropriateness of types and forms of assessment of aspects of knowledge, attitudes and performance in textbooks	3	75%	Worth
5	Suitability between material content and learning objectives	3	75%	Worth
6	Appropriateness of feedback content to learning objectives	2	50%	Decent Enough
7	Whether the existing components are sufficient as Mind Map teaching materials	2	50%	Decent Enough
8	The suitability of the content of the learning description with the characteristics of scientific learning	3	75%	Worth
9	Accuracy of the formulation of scientific learning objectives	2	50%	Decent Enough
10	Clarity of material description with learning approach saintifik	3	75%	Worth
11	The material presented in Multimedia-based Mind Map teaching materials is able to add insight into student knowledge	3	75%	Worth
12	The material presented in Mind Map teaching materials is able to	3	75%	Worth

No	Indicator	Total score	percent	Desc.
	stimulate student curiosity and critical thinking.			
13	The display of material in teaching materials is interesting	3	75%	Worth
14	Appropriateness and accuracy of Multimedia	2	50%	Decent Enough
15	Accuracy of learning support materials	3	75%	Worth
16	Suitability of references used in accordance with the field of science	3	75%	Worth
17	Breadth and depth of content of teaching materials	3	75%	Worth
18	The orderly presentation of the material	3	75%	Worth
19	Consistency of teaching material format	2	50%	Decent Enough
20	Digestibility of material description	3	75%	Worth
	Total	54	68%	Worth
	Maximum Score	80		

From the table above, it can be seen that the maximum total score is 80, while the total score obtained is 54. If the percentage of material feasibility is 68%. Where 68% is included in the feasible criteria. However, the material expert gave advice to slightly revise the content of the material. After validating the feasibility of the material then the next stage is media validation carried out by media experts, namely Mr. Dr. Mohamad Abduh, MM. Dr. Mohamad Abduh, MM. He is a lecturer at STKIP Arrahmaniyah Master of Civics Study Program. The following is a table of scores for each aspect in the evaluation sheet questionnaire by media experts:

Table 4 Recapitulation of Calculation Results of Content / Material Expert Assessment Revised Product Trial

No	Indikator	Total score	percent	Desc.
1	The concept of relevance to the Merdeka curriculum	3	75%	Worth
2	The concepts/materials in Mind Map teaching materials make it easier for students to understand the content of the material	2	50%	Decent Enough
3	The concept of teaching materials is scientifically written	3	75%	Worth

No	Indikator	Total score	percent	Desc.
4	Appropriateness of types and forms of assessment of aspects of knowledge, attitudes and performance in textbooks	3	75%	Worth
5	Suitability between material content and learning objectives	3	75%	Worth
6	Appropriateness of feedback content to learning objectives	2	50%	Decent Enough
7	Whether the existing components are sufficient as Mind Map teaching materials	2	50%	Decent Enough
8	The suitability of the content of the learning description with the characteristics of scientific learning	3	75%	Worth
9	Accuracy of the formulation of scientific learning objectives	2	50%	Decent Enough
10	Clarity of material description with scientific learning approach	3	75%	Worth
11	The material presented in Mind Map teaching materials is able to add insight into student knowledge	3	75%	Worth
12	The material presented in Mind Map teaching materials is able to stimulate student curiosity and critical thinking.	3	75%	Worth
13	The display of material in teaching materials is interesting	3	75%	Worth
14	Appropriateness and accuracy of Multimedia	2	50%	Decent Enough
15	Accuracy of learning support materials	3	75%	Worth
16	Suitability of references used in accordance with the field of science	3	75%	Worth
17	Breadth and depth of content of teaching materials	3	75%	Worth
18	The orderly presentation of the material	3	75%	Worth
19	Consistency of teaching material format	2	50%	Decent Enough
20	Digestibility of material description	3	75%	Worth
	Total	54	68%	Worth

No	Indikator	Total score	percent	Desc.
	Maximum Score	80		

From the table above, it can be seen that the maximum total score is 80, while the total score obtained is 54. If the percentage of material feasibility is 68%. Where 68% is included in the feasible criteria. However, the material expert gave advice to slightly revise the content of the material.

3.3. Effectiveness of Mind Mapping-Based Jigsaw Model to Increase Understanding of Democracy and Political Participation of Class X Students of SMK PGRI I Cibinong Bogor

To analyze the initial data obtained, researchers tested the normality of pretest and posttest learning outcomes. The pretest and posttest data were tested for normality to determine whether the data were normally distributed or not.

Tabel 5 Normality Test of Pretest Values

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Pre Test	.120	28	.200 [*]	.980	28	.846

a. Lilliefors Significance Correction.

^{*}. This is a lower bound of the true significance.

From the normality test output with Shapiro-Wilk assisted by the SPSS program, it is known that Sig = 0.846. From the criteria determined by Sig > 0.05, namely 0.846 > 0.05, then the pretest value data is declared normally distributed.

Table 6 Normality Test of Posttest Score

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Post Test	.176	28	.027	.941	28	.117

a. Lilliefors Significance Correction

After being tested for normality, it is known that the posttest results on the trial use with the Shapiro-Wilk test assisted by the SPSS program resulted in a Sig output of 0.117. Because Sig > 0.05, namely 0.117 > 0.05, the data is declared normally distributed.

Student learning outcomes in the product trial were obtained from the pretest and posttest results conducted in the product trial of the Jigsaw model based on mind mapping in

increasing the understanding of democracy and political participation of class X students of SMK PGRI I Cibinong Bogor. The following are student learning outcomes in the product trial.

Table 7 Learning Outcomes of Product Trial

No	Description	Product Trial Class	
		Pretest	Posttest
1	Number of students	6	6
2	Average Value	79,17	88,33
3	Lowest Score	50	70
4	Highest Score	90	95
5	Number of Students Completed	5	6
6	Number of Incomplete Students	1	0
	Average Classical KKM (%)	83%	100%
	Improved (%)	17%	

From the data, it is depicted with the following graph.

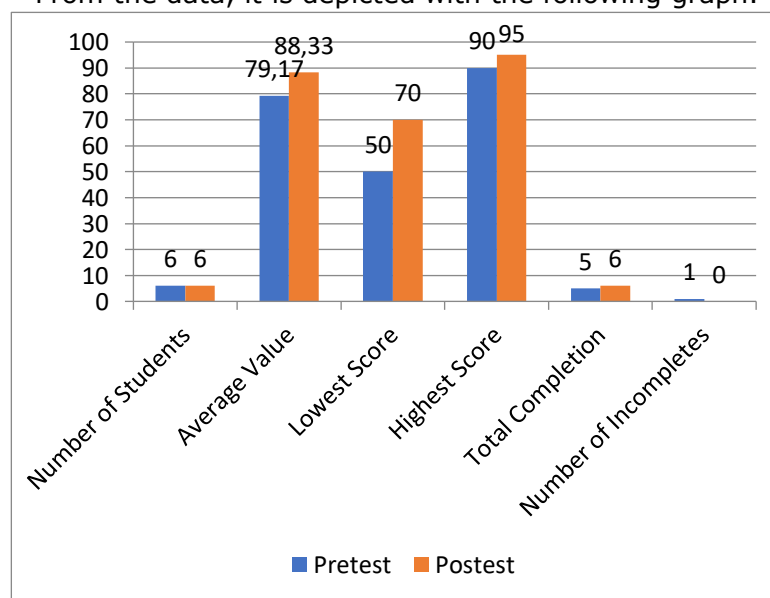


Figure 1 Graph of Product Trial Learning Outcomes

From the graph, it is known that there is an increase in the average learning outcomes of product trial students after learning using the Jigsaw model based on mind mapping in increasing students' understanding of democracy and political participation. While the average percentage of classical completeness increased by 17% which is illustrated by the following graph.

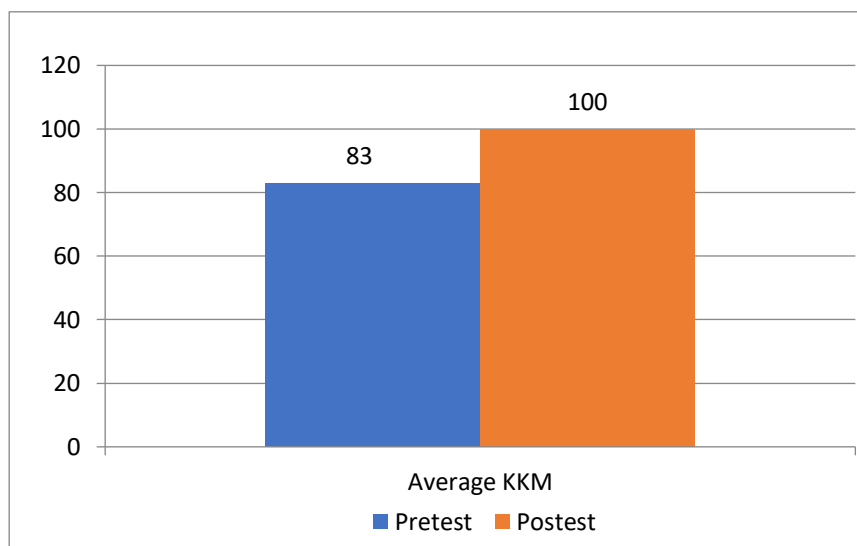


Figure 2 Graph of Average Classical KKM Product Trial

In the usage trial conducted on 28 students of class X SMK PGRI I Cibinong Bogor, the learning results were obtained after the pretest and posttest. The following are the results of the trial use of the Jigsaw model based on mind mapping in increasing students' understanding of democracy and political participation.

Table 8 Learning Outcomes of the Usage Trial

No	Description	Product Trial Class	
		Pretest	Posttest
1	Number of students	28	28
2	Average Value	65.89	78,75
3	Lowest Score	40	60
4	Highest Score	90	95
5	Number of Students Completed	16	27
6	Number of Incomplete Students	12	1
	Average Classical KKM (%)	57%	96%
	Improved (%)	39%	

From the data, it is depicted with the following graph.

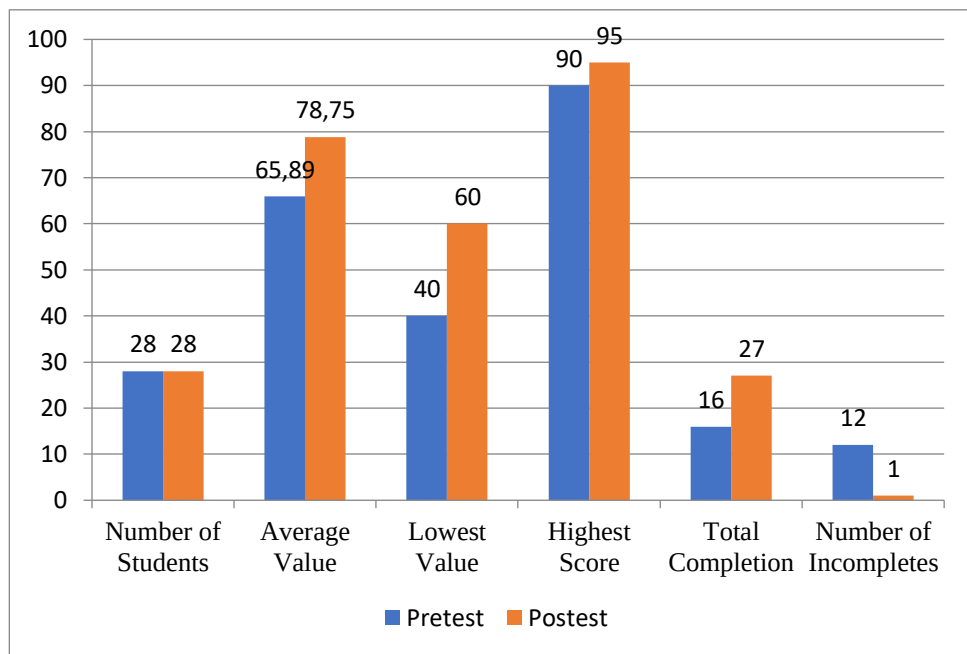


Figure 3 Graph of Learning Outcomes of the Usage Test

From the graph, it can be seen that there is an increase in the average learning outcomes in the product usage test results after learning using the Jigsaw model based on mind mapping in increasing students' understanding of democracy and political participation. While the average percentage of classical completeness increased by 39% which is illustrated by the following graph.

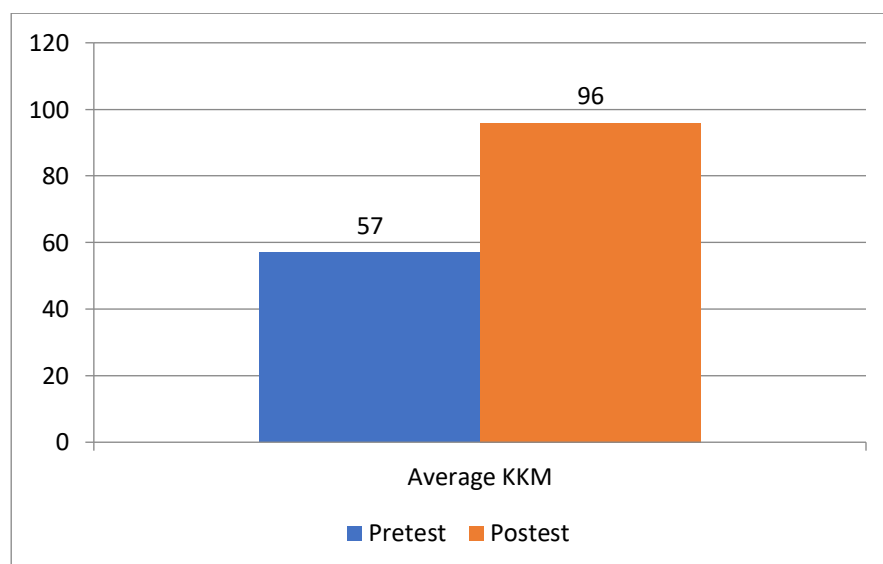


Figure 4 Graph of Average Classical KKM for the Usage Trial

The N-gain test was conducted in the product trial to determine the increase in learning outcomes after using the mind mapping-based Jigsaw model in increasing students' understanding of democracy and political participation. The following are the results of the N-gain product trial.

Table 9 N-gain of Product Trial

Pretest Average	Average Posttest	Maximum Score	N-gain
79.17	88,33	100	0.44

Based on the results of the data obtained after the research, it is known that with the Mind Mapping-based Jigsaw model there is an increase in results of 0.44 which is categorized as moderate. Not only in the product trial, in the usage trial students were also given a pretest and posttest whose results were calculated with the N-gain test. The following are the results of the N-gain test for students in the usage trial.

Table 10 N-gain of the Usage Trial

Pretest Average	Posttest Average	Maximum Score	N-gain
65,89	78,75	100	0,38

100

From the results of the data that has been processed, it is known that by using the Jigsaw model based on mind mapping in increasing students' understanding of democracy and political participation, the learning outcomes of class X students of SMK PGRI I Cibinong Bogor have increased by 0.38 which is categorized as moderate.

Pretest scores and posttest scores can be calculated t-test, using the help of the SPSS program. The t-test is used to measure the effectiveness of the mind mapping-based Jigsaw model in increasing students' understanding of democracy and political participation. The results of the Paired Sample Test t-test.

Table 11 Paired Samples Test of Pretest and Posttest Values
Paired Samples Test

	Paired Differences				
	95% Confidence Interval of the Difference				
	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1 Sebelum - Sesudah	-15.122	-10.592	-11.646	27	.000

In the paired sample test output with SPSS version 22, the Sig (2-tailed) value is 0.000. Sig (2-tailed) value of $0.000 < 0.05$, then according to the basis for decision making in the paired sample test it can be concluded that H_0 is rejected and H_a is accepted, which means that there is a significant difference between the learning outcomes of Civics Civics material

on democracy before using the Jigsaw model based on mind mapping in increasing students' understanding of democracy and political participation and after using the Jigsaw learning model based on mind mapping.

3 CONCLUSION

Based on the results of development research and discussion, it can be concluded that; (1) The Jigsaw model based on mind mapping in increasing students' understanding of democracy and political participation is designed through several stages, namely finding problems and potential by conducting interviews with Civics teachers of class X SMK PGRI I Cibinong Bogor. Based on the problem, then conducted a literature review from various literatures, material collection, curriculum analysis, teacher and student needs analysis. Furthermore, researchers designed prototypes by compiling material according to SK, KD, and indicators, making a mind mapping-based Jigsaw model design in increasing students' understanding of democracy and political participation, compiling evaluation questions, ending with the preparation of a mind mapping-based Jigsaw model in increasing students' understanding of democracy and political participation as a whole. the mind mapping-based Jigsaw model in increasing students' understanding of democracy and political participation was validated for feasibility to obtain an assessment and validation of feasibility by material and media validators. The Jigsaw model based on mind mapping in increasing students' understanding of democracy and political participation was tested. Based on the validators' comments and suggestions, improvements were made to the mind mapping-based Jigsaw model in increasing students' understanding of democracy and political participation according to the suggestions from the material and media validators, and on the responses from students. After revision, a trial use of the Jigsaw model based on mind mapping in increasing students' understanding of democracy and political participation was carried out on 28 class X students of SMK PGRI I Cibinong Bogor to improve Civics learning outcomes on democracy.

(2) The feasibility level of the Jigsaw model based on mind mapping in increasing students' understanding of democracy and political participation is known based on the assessment of material validators and media validators on the aspects of content feasibility, language, presentation, and graphics. a) Feasibility assessment by material validators obtained an average percentage of 93.18% which is included in the very feasible category. b) Feasibility assessment by media validators obtained an average percentage of 91.67% which is included in the very feasible category.

(3) Teacher and student responses to the mind mapping-based Jigsaw model in increasing students' understanding of democracy and political participation, namely: a) The response of the Civics teacher of class X SMK PGRI I Cibinong Bogor to the mind mapping-based Jigsaw model in increasing students' understanding of democracy and political participation obtained an average percentage of 98.15% with a very feasible category. b) The response of class X students of SMK PGRI I Cibinong Bogor to the product trial of the mind mapping-based Jigsaw model in increasing students' understanding of democracy and political participation showed an average percentage of 95% with a very feasible category. c) The response of class X students of SMK PGRI I Cibinong Bogor to the trial use of the Jigsaw model based on mind mapping in increasing students' understanding of democracy and political participation shows an average percentage of 95% with a very feasible category.

(4) Jigsaw model based on mind mapping in increasing students' understanding of democracy and political participation can improve Civics learning outcomes on anti-corruption behavior material in class X SMK PGRI I Cibinong Bogor by 38% with a moderate category. The results of the t test (Paired Sample Test) paired sample test output with SPSS IBM version 22, obtained a Sig (2-tailed) value of 0.000. Sig (2-tailed) value of 0.000 < 0.05, it is concluded that H_0 is rejected and H_a is accepted, which means that there is a significant difference between the learning outcomes of Civics learning material on democracy before using the Jigsaw model based on mind mapping in increasing students' understanding of democracy and political participation and after using the Jigsaw model based on mind mapping in increasing students' understanding of democracy and political participation. From these results, it is known that the Jigsaw model based on mind mapping in increasing students' understanding of democracy and political participation in shaping anti-corruption behavior is feasible and effective in improving Civics learning outcomes in class X SMK PGRI I Cibinong Bogor.

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