APPLICATION OF THE MARKET PLACE ACTIVITY (MPA) MODEL TO IMPROVE STUDENTS 'SKILLS AND LEARNING OUTCOMES PDTM SUBJECTS IN CLASS X TPM SMK NEGERI 1 KALITENGAH LAMONGAN

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Abstract

As an educational institution, school have a responsibility in the effort to prepare graduates who are able to compete in this 21st century era. However, in reality there are still some weakness that certainly need to be addressed in order to realize these expectations. Based on observations conducted at Kalitengah Vocation High School 1 was found that one of the weakness in learning at the school was the inaccurate application selection of the learning model. These problems affec the lack of critical thinking skills and communication skills of students, so that it also had an impact on student learning outcomes. Therefore, the MPA model is implemented as an effort to overcome these problems. This research uses the Classroom Action Research method, with data collection using observations, questionnaires, and tests. Research results indicate an increase in the quality of the learning process, this is indicated by an increase in ctritical thinking skills, communication skills, and student learning outcomes. In fact, from the percentage of classical learning completeness of students from before applying the MPA model which only stood at 28,60% at the end of 3rd cycle showed a significant increase by 77,77% result.
Keywords: Market Place Activity Model, Ctritical Thinking Skills, Communication Skills.

INTRODUCTION

Background

Education is one of the most important aspects that need to be continuously improved in facing the increasingly complex challenges of the 21st century. For this reason, it is necessary to have education that can truly improve human resources in order to compete in the current era. One of the ways taken to answer these challenges is to improve the quality of learning. With the creation of quality learning, it is hoped that it can produce competence in accordance with the demands of the 21st century. Regarding this, the National Education Association (NEA, 2015) has explained that there are four groups of learning skills that are included in 21st century skills, including the first critical thinking skills, second communication skills, the third collaboration skills, and the fourth is creativity. The NEA also emphasized that educators need to complete all subject matter with these four skills in order to prepare future generations who can become good citizens and have the ability to face intense competition in the global community.

As educational institutions, schools have a big responsibility in preparing graduates who are able to compete in this globalization era. Producing qualified graduates who are able to compete in the job market has certainly become the main goal of all vocational schools in Indonesia. So, to achieve this goal, it is necessary to carry out continuous evaluation so that it can be seen which aspects still need to be addressed.

Based on the results of observations during implementing PLP activities at SMK Negeri 1 Kalitengah, several problems were found. One of them is the inaccuracy of the learning model and method that the teacher applies to the PDTM subjects. This turned out to have an effect on the lack of critical thinking skills and students' communication skills, which also had an impact on learning outcomes. According to the students' daily test scores, it was found that students who could achieve the KKM score were only 28.6%.

One solution that is deemed appropriate in an effort to overcome this problem is to apply the Market Place Activity (MPA) model. This model is a learning model similar to market activities, where students carry out activities of buying and selling knowledge information in the form of concepts or works of something. This model is considered effective in encouraging students to be more skilled and active. Based on previous research by Munji Jakfar in 2018 entitled "Efforts to Increase the Activeness of Students in Jurisprudence Learning through the Market Place Activity Model in MAN 3 Kulon Progo" it has been proven that the MPA model can increase student activity. Meanwhile, Suharto's 2018 research entitled "Efforts to Improve Student Achievement Through the Market Place Aktivity Learning Model in Class VI Semester 1 Students of SD Negeri Kertaharja 03" and Asmuni's 2018 research entitled "Application of the Market Place Aktivity Learning Model to Increase Learning Activities and Results. Islamic Religious Education and Student

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Characteristics Class XI MS-1 SMA Negeri 1 Selong "It has also been proven that the MPA model can improve student learning outcomes.

Formulation of the problem

The formulation of the problem in this study is as follows:

- What are the results of the validation of learning tools on the application of the Market Place Activity (MPA) model?
- How are students' critical thinking skills during learning activities through the application of the Market Place Activity (MPA) model?
- How are students' communication skills during learning activities through the application of the Market Place Activity (MPA) model?
- How are student learning outcomes after implementing the Market Place Activity (MPA) model?

Research purposes

The objectives of this study are as follows:

- To find out the results of validation of learning tools on the application of the Market Place Activity (MPA) model
- To describe how the implementation of learning uses the Market Place Activity (MPA) model.
- To describe students' critical thinking skills during learning activities that have increased (better) through the application of the Market Place Activity (MPA) model.
- To describe students' communication skills during learning activities that have increased (better) through the application of the Market Place Activity (MPA) model.
- To describe how student learning outcomes after applying the Market Place Activity (MPA) model.

METHOD

Types of research

This research is a Classroom Action Research (CAR).

Place and time of research

This research will be conducted at SMK Negeri 1 Kalitengah Lamongan in the even semester of the 2019/2020 academic year.

Research design

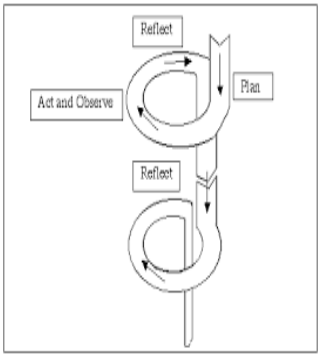


Figure 1. Classroom Action Research Cycle

Data collection technique

- Expert Validation Sheet for Learning Devices and Instruments
- Model Implementation Observation Shee
- Observation Sheet of Students' Critical Thinking Skills and Communication Skills
- Questionnaire sheet for students' critical thinking skills and communication skills
- Problem Evaluation of Student Learning Outcomes

Feasibility Analysis Techniques for Devices and Instruments

Expert Validation Analysis of Tools and Instruments

According to Arikunto (2014: 211) Validity is a measure that shows the level of validity or validity of an instrument. Therefore, the tools and instruments can be said to be valid if they show a high validity value. Then the equipment and instruments can be said to be good if at least they reach a percentage of 66% when calculated by the following formula**:**

$$\%\,\boldsymbol{Validity} = \frac{\sum\ \boldsymbol{validation\ score}}{\sum \boldsymbol{maximum\ score}}\ \boldsymbol{x}\ \mathbf{100\%} \quad (1)$$

Feasibility Analysis of Evaluation Question Instruments

Level of difficulty

According to (Arikunto, 2013: 222) a good question is one that is not too easy but also not too difficult or difficult. Then the difficulty index (P) of the evaluation items can be calculated by the following formula:

$$\boldsymbol{P} = \frac{\boldsymbol{B}}{\boldsymbol{Js}} \quad (2)$$

Discernment

According to Arikunto (2013: 226) the distinguishing power of a question is the power of an item in distinguishing the level of the respondent's ability to answer, between those who are smart and those who are less. So to find out the index of distinguishing power (D) the evaluation items can be calculated using the following formula: (3)

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$$D = \frac{B_A}{J_A} - \frac{B_B}{J_B} = P_A - P_B$$

Feasibility Analysis of the Student Skills Questionnaire Instrument

Validity

The validity is calculated using the moment product correlation, then the calculation result is written as rcount. The results obtained from the rcount were then compared with the rtable. From this comparison, if the value rcount> rtable, the question item can be said to be valid, but if the opposite is true, the statement item can be said to be invalid. So to find out the calculated rhitung above, it can be calculated with the following formula:

$$\mathbf{r_{xy}} \frac{\mathbf{N}\sum \mathbf{XY} - (\sum \boldsymbol{X})(\sum \boldsymbol{Y})}{\sqrt{\{\boldsymbol{N}\sum \boldsymbol{X^2} - (\sum \boldsymbol{X})^2\}\{\boldsymbol{N}\sum \boldsymbol{Y^2} - (\sum \boldsymbol{Y})^2\}}} \quad (4)$$

Reliability

According to Arikunto (2013: 100) reliability is related to the level of trust. A test can be categorized as having a high level of confidence if the test can show consistent results. So a test instrument that can be said to be good is an instrument that can provide data in accordance with the facts in the field continuously. So to find out the reliability of the student skills questionnaire instrument, it can be calculated using the following formula:

$$r_{11} = \left\{\frac{n}{(n-1)}\right\}\left\{1 - \frac{\sum \sigma_i^2}{\sigma_t^2}\right\} \quad (5)$$

Learning Implementation Data Analysis Techniques

The results of the assessment of the implementation of the learning model obtained from the observation sheet filling data by an observer are analyzed by adding up the observed values obtained from each aspect, then calculating the average value obtained at each meeting. Furthermore, the results of these calculations are analyzed using the following formula:

(1)

$$\boldsymbol{Learning\ Implementation} = \frac{\sum \boldsymbol{Score\ obtained}}{\sum \boldsymbol{maximum\ score}} \quad (6)$$

Data Analysis Techniques for Students' Critical Thinking Skills and Communication Skills

Skills Data Analysis Based on Observations

Students' critical thinking and communication skills are measured using an observation sheet that contains indicators of each of these skills. In this case the observer will provide an assessment of the two skills of these students while learning is taking place. Furthermore, the assessment data is calculated using the following formula:

$$P = \frac{F}{N}\ x\ 100\%$$

Analysis of Skills Data Based on a Questionnaire

Students' critical thinking and communication skills were measured using a questionnaire that was filled in closed. In selecting answers, students are asked to adjust it to their respective circumstances. Then analyzed using a percentage calculation with the following formula:

$$\%\boldsymbol{Result} = \frac{\sum \boldsymbol{Respondents'\ Answer\ Score}}{\sum \boldsymbol{all\ score}}\ \boldsymbol{x}\ \mathbf{100\%} \quad (8)$$

Data Analysis Techniques of Student Learning Outcomes

This data is analyzed in order to measure students' learning completeness individually and classically after the learning process is carried out. Regarding this, the guidelines at SMKN 1 Kalitengah explain that students can be said to be complete if they are able to achieve a score of ≥75 from the questions that have been given. While classical completeness is said to be achieved if in the class there are ≥75% of students complete.

So to find out classical and individual completeness it can be calculated using the following formula:

$$\boldsymbol{Classical\ completeness} = \frac{\boldsymbol{\Sigma\ Students\ Completed}}{\boldsymbol{\Xi\ Students\ Number}}\ \boldsymbol{x}\ \mathbf{100\%} \quad (9)$$

$$\boldsymbol{Individual\ completeness} = \frac{\boldsymbol{Score\ Obtained\ by\ Students}}{\boldsymbol{Maximum\ Score}}\ \boldsymbol{x}\ \mathbf{100\%} \quad (10)$$

RESULTS AND DISCUSSION

Result

Results of the Validation Analysis of Learning Devices and Instruments

Results of Expert Validation Analysis of Tools and Instruments

- The validation of the syllabus showed a percentage result of 90.47%.
- RPP validation shows the percentage result of 91.25%.
- Validation of Cycle1, Cycle2, and Cycle3 Evaluation Questions showed the percentage results of 86.7%, 91.7%, and 86.7%, respectively.
- The validation of the Observation Sheet for Critical Thinking Skills and Communication Skills both showed a percentage of 100%.
- The validation of the Questionnaire Sheet for Critical Thinking Skills and Communication Skills showed the percentage results of 94.54% and 99.72%, respectively.
- The validation of the Learning Implementation Observation Sheet shows the percentage result is 100%.

Results of the Feasibility Analysis of the Evaluation Question Instruments

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- Results of the Analysis Problem Evaluation Difficulty Level

From the test results on 20 respondents, the results of the analysis of the level of success of the items were as follows:

Table 1. Results of Analysis of Problem Cycle Difficulty Level 1

20 Respondents		Difficulty Index (*P*)	Explanation
Cycle Question Items 1	1	0,76	Easy
	2	0,56	Medium
	3	0,56	Medium
	4	0,28	Difficult
	5	0,52	Medium

Table 2. Results of Analysis of Problem Cycle Difficulty Level 2

20 Respondents		Difficulty Index (*P*)	Explanation
Cycle Question Items 2	1	0,30	Difficult
	2	0,56	Medium
	3	0,71	Easy
	4	0,46	Medium
	5	0,53	Medium

Table 3. Results of Analysis of Problem Cycle Difficulty Level 3

20 Respondents		Difficulty Index (*P*)	Explanation
Cycle Question Items 3	1	0,45	Medium
	2	0,71	Easy
	3	0,30	Difficult
	4	0,46	Medium
	5	0,53	Medium

- Results of Distinguishing Power Analysis of Evaluation Questions

From the test results on 20 respondents, the results of the distinguishing power analysis of the evaluation questions were obtained as follows:

Table 4. Results of the Analysis of Distinguishing Power Cycle 1

20 Respondents		Discriminant Value (D)	Explanation
Cycle Question Items 1	1	0,47	Good
	2	0,72	Excellent
	3	0,72	Excellent
	4	0,57	Good
	5	0,75	Excellent

Table 5. Results of the Analysis of Distinguishing Power Cycle 2

20 Respondents		Discriminant Value (D)	Explanation
Cycle Question Items 2	1	0,60	Good
	2	0,77	Very Good
	3	0,65	Good
	4	0,87	Very Good
	5	0,82	Very Good

Table 6. Results of the Analysis of Distinguishing Power Cycle 3

20 Respondents		Discriminant Value (D)	Explanation
Cycle Question Items 3	1	0,90	Very Good
	2	0,52	Good
	3	0,60	Good
	4	0,87	Very Good
	5	0,82	Very Good

Results of the Feasibility Analysis of the Questionnaire Instrument for Critical Thinking and Communication Skills.

- Results of the Analysis of Reliability and Validity of Questionnaire Items for Critical Thinking Skills

Table 7. Results of the Analysis of Reliability and Validity of Questionnaire Items for Critical Thinking Skills

Item	Valid	invalid
Total	25	5
Reliability Questionnaire	**0,831**	
Explanation	**Very high**	

- Hasil Analisis Reliabilitas dan Validitas Butir Angket Keterampilan Berkomunikasi

Table 8. Results of the Reliability Analysis and Validity of the Questionnaire Items for Communication Skills

Item	Valid	Invalid
Total	25	5
Reliability Questionnaire	**0,944**	
Explanation	**Very high**	

Results of Learning Implementation Data Analysis

The implementation of the learning model is assessed through the results of filling out the observation sheet by an observer who is a teaching teacher for the PDTM subject, so that the following results are obtained:

Table 9. Results of Learning Implementation Analysis

Aspects Observed	Implementation Score			Average	Criteria
	S1	S2	S3		
Phase 1:	3,00	3,50	3,67	3,39	Excellent
Phase 2:	3,67	3,33	3,33	3,44	Excellent
Phase 3:	3,33	3,67	3,67	3,55	Excellent
Phase 4:	3,33	3,67	3,83	3,61	Excellent
Phase 5:	3,75	3,75	3,75	3,75	Excellent
Phase 6:	3,33	3,66	4	3,66	Excellent

Results of Data Analysis of Students' Critical Thinking Skills

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- Results of Data Analysis on Critical Thinking Skills Based on Observations

  From the assessment of 3 observers, the cumulative results of students' critical thinking skills were obtained as follows:

  Table 10. Results of Analysis of Critical Thinking Skills Based on Cycle Observation 1

No	Percentage of Critical Thinking Skills Criteria				
	KS	K	C	B	BS
1. Total	-	4	12	18	2
2. Percentage	-	11%	33,3%	50%	5,5%
3. Cumulative Average	67,45 (Good)				

  Table 11. Results of Analysis of Critical Thinking Skills Based on Cycle Observation 2

No	Percentage of Critical Thinking Skills Criteria				
	KS	K	C	B	BS
1. Total	-	1	2	17	16
2. Percentage	-	3%	55,5%	47%	44,4%
3. Cumulative Average	76,18 (Good)				

  Tabel 12 Results of Analysis of Critical Thinking Skills Based on Cycle Observation 3

No	Percentage of Critical Thinking Skills Criteria				
	KS	K	C	B	BS
1. Total	-	-	1	16	19
2. Percentage	-	-	3%	44,4%	52,7%
3. Cumulative Average	78,95 (Good)				

- Results of Data Analysis of Critical Thinking Skills Based on a Questionnaire

  Based on the results of the questionnaire assessment, the following results of critical thinking skills were obtained:

  Table 13. Results of Cycle 1 Critical Thinking Skills Questionnaire Assessment Results

No	Percentage of Critical Thinking Skills Criteria				
	KS	K	C	B	BS
1. Total	1	15	9	11	-
2. Percentage	3%	41,6%	25%	30,5%	-
3. Cumulative Average	59,36 (Cukup)				

  Table 14. Results of Cycle 2 Critical Thinking Skills Questionnaire Assessment Results

No	Percentage of Critical Thinking Skills Criteria				
	KS	K	C	B	BS
1. Total	1	3	6	20	6
2. Percentage	3%	8%	17%	55,5%	17%
3. Cumulative Average	69,25 (Good)				

  Table 15. Results of Cycle 1 Critical Thinking Skills Questionnaire Assessment Results

No	Percentage of Critical Thinking Skills Criteria			Percentage of Critical Thinking Skills Criteria	
	KS	K	C	B	BS
1. Total	-	-	3	19	14
2. Percentage	-	-	8%	52,7%	38,8%
3. Cumulative Average	75,53 (Good)				

Results of Data Analysis of Student Communication Skills

- Results of Data Analysis of Communication Skills Based on Observations

  Table 16. Results of Communication Skills Analysis Based on Cycle Observations 1

No	Percentage of Communication Skills Criteria				
	KS	K	C	B	BS
1. Total	-	-	8	21	7
2. Percentage	-	-	22,2%	58,3%	19,4%
3. Cumulative Average	72,66 (Good)				

  Table 17. Results of Communication Skills Analysis Based on Cycle Observations 2

No	Percentage of Communication Skills Criteria				
	KS	K	C	B	BS
1. Total	-	-	1	16	19
2. Percentage	-	-	3%	44,4%	52,7%
3. Cumulative Average	78,57 (Good)				

  Table 18. Results of Communication Skills Analysis Based on Cycle Observations 3

No	Percentage of Communication Skills Criteria				
	KS	K	C	B	BS
1. Total	-	-	-	17	19
2. Percentage	-	-	-	47,2%	52,7%
3. Cumulative Average	79,95 (Good)				

- Data Analysis of Communication Skills Based on a Questionnaire

  Based on the results of the questionnaire assessment, communication skills were obtained as follows:

  Table 19. Communication Skills Questionnaire Assessment Results Cycle 1

No	Percentage of Communication Skills Criteria				
	KS	K	C	B	BS
1. Total	1	16	11	7	1
2. Percentage	3%	44%	30,5%	19%	3%
3. Cumulative Average	57,39 (Enough)				

  Table 20. Communication Skills Questionnaire Assessment Results Cycle 2

No	Percentage of Communication Skills Criteria

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	KS	K	C	B	BS
1. Total	1	4	5	23	3
2. Percentage	3%	11%	13,8%	63,8%	8%
3. Cumulative Average	66,86 (Good)				

Table 21. Communication Skills Questionnaire Assessment Results Cycle 1

No	Percentage of Communication Skills Criteria				
	KS	K	C	B	BS
1. Total	-	1	1	22	12
2. Percentage	-	3%	3%	61%	33%
3. Cumulative Average	75,92 (Good)				

Results of Data Analysis of Student Learning Outcomes

Based on the results of the assessment of aspects of knowledge through evaluation questions that have been done by students independently at the end of each lesson or cycle, the following results were obtained:

Table 22. Analysis of Student Learning Outcomes in Cycle 1

No	Pass (≥75)	Not Pass (<75)
1. Total	21	15
2. Average Value	50,83	
3. Classical completeness	58,33%	

Table 23. Analysis of Student Learning Outcomes in Cycle 2

No	Pass (≥75)	Not Pass (<75)
1. Total	26	10
2. Average Value	61,80	
3. Classical completeness	72,22%	

Table 24. Analysis of Student Learning Outcomes in Cycle 3

No	Pass (≥75)	Not Pass (<75)
1. Total	28	8
2. Average Value	67,50	
3. Classical completeness	77,77%	

Discussion

Discussion on the Validation Results of Learning Devices and Instruments

Discussion on the Results of Expert Validation on Tools and Instruments

In order to determine the feasibility level of the instrument that has been compiled, the researcher appointed three validators who were considered competent in their fields. Researchers also involved validators from UNESA Faculty of Engineering lecturers and teachers of PDTM subjects at SMK Negeri 1 Kalitengah.

- The validation of the syllabus shows a percentage of 90.47% which falls into the "Very Good" criteria. So, for the syllabus that the researcher has compiled "Proper" to use.
- RPP validation shows a percentage of 91.25% which falls into the "Very Good" criteria. So, for the RPP that researchers have compiled "Proper" to use.
- Validation of Cycle 1, Cycle2, and Cycle 3 Evaluation Questions showed a percentage of 86.7%, Cycle2 Evaluation Questions showed a percentage of 91.7%, and Cycle 3 Evaluation Questions showed a percentage of 86.7%. All three are included in the "Very Good" criteria. So, for the Cycle1, Cycle2, and Cycle3 Evaluation Questions that the researcher has compiled "Proper" to use.
- The validation of the Observation Sheet for Critical Thinking Skills and Communication Skills Students both showed a percentage of 100% which was included in the "Very Good" criteria. So, for the Skills Observation Sheet instrument that the researcher has compiled "Proper" to use.
- Validation of the Questionnaire Sheet for Critical Thinking Skills and Communication Skills Students respectively showed the percentage results of 94.54%, and 99.72%. Both fall into the "Very Good" criteria. So, for the Questionnaire Sheet instrument that the researcher has compiled " Proper " to use.
- The validation of the Learning Implementation Observation Sheet shows the percentage results of 100 which fall into the "Very Good" criteria. So, for the Learning Implementation Observation Sheet that researchers have compiled " Proper " to use.

Discussion on the Results of the Feasibility Analysis of the Evaluation Question Instruments

- Discussion on the Results of Problem Level Difficulty Analysis

One of the instruments that can be used to measure students' abilities is a test instrument or evaluation questions. A question can be categorized as good if it has a varied level of difficulty, in other words it is not too easy but also not too difficult. Instruments with questions that are too easy will make the research results less measurable, while instruments that are too difficult will make it difficult for students to answer so that the learning objectives will not be achieved.

The researcher conducted a difficulty analysis on the items in cycle1, cycle2, and cycle3 before being used in the research that was tested on 20 respondents.

From the results of the test data of the respondents in Table 1, Table 2, and Table 3, it shows that the questions from cycle 1 to cycle 3 each show a different level of difficulty. The data shows that the items have an even weight percentage, namely items in the easy

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category of 20%, 60% in the moderate category and 20% of the items in the difficult category. So, of the 5 questions compiled by the researcher are still in accordance with the criteria for the percentage of weight in one question.

- Discussion on the Results of the Discriminatory Power Analysis Problem
  From the results of the test data of respondents in Table 4, Table 5, and Table 6, it can be seen that the questions in cycle1, cycle2, and cycle3 each have different discriminant values and there are no items that have a bad category. So the evaluation questions cycle1, cycle2, and cycle3 that the researcher has compiled are feasible to use.

Discussion on the Results of the Feasibility Analysis of the Students' Critical Thinking and Communication Skills Questionnaire Instruments

- Discussion on the Results of Analysis of Reliability and Validity of Questionnaire Items for Critical Thinking Skills
  In Table 7 above shows that the results of the validity of the questionnaire items for critical thinking skills that have been tested on 20 respondents are 5 invalid questionnaire items. The researcher analyzed 25 valid statements and ensured that each statement represented all indicators of critical thinking skills. So, from the 30 statement items that the researcher has compiled, there are 25 valid statement items so that they are ready to be used for research questionnaire instruments.
- Results of Reliability Analysis and Validity of the Questionnaire Items for Communication Skills
  In Table 8 above, it shows that the results of the validity of the communication skills questionnaire that have been tested on 20 respondents are 5 invalid questionnaire items. The researcher analyzed 25 valid statements and ensured that each statement represented all indicators of communication skills. So, from the 30 statement items that the researcher has compiled, there are 25 valid statement items so that they are ready to be used for research questionnaire instruments.

Discussion on the Results of Learning Implementation Data Analysis

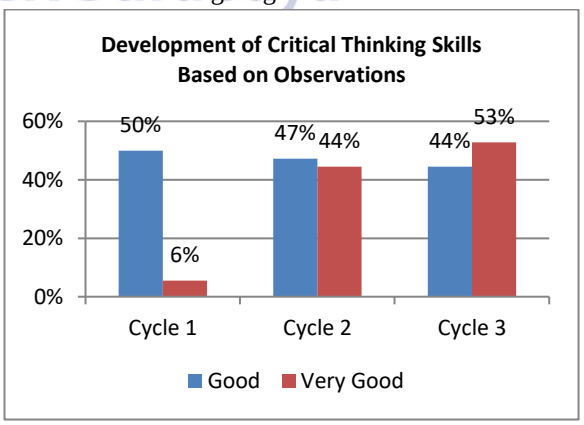
The implementation of the Market Place Activity (MPA) learning model is measured through an observation sheet on the implementation of the learning model by an observer, namely the PDTM teaching teacher at SMKN 1 Kalitengah. Observations are carried out while teaching and learning activities are in progress. The results of the assessment based on these observations will be averaged over each cycle, then the numbers will be interpreted in the assessment criteria. Implementation can be categorized as good if the score has reached 2.5.

Table 9 shows that in all phases from meeting 1 to meeting 3 all of them have shown a score exceeding 2.5 or in other words, in good criteria. So it can be said that the researcher has implemented the MPA model properly and is in accordance with the learning model's syntax.

Discussion of Data Analysis Results for Students' Critical Thinking Skills

The target of this research can be said to be achieved if ≥75% of students in one class are able to achieve critical thinking skills assessment with predicate ≥ Good.

- Discussion of Data Analysis Results for Critical Thinking Skills Based on Observations
  Based on the results of the observation of students' critical thinking skills in cycle 1 which is in Table 10, it was found that as many as 2 students had achieved the predicate "Very Good" and as many as 18 students had achieved the predicate "Good". This means that only 55.55% of students were able to achieve the predicate ≥ Good, so it can be said that the target in cycle 1 has not been achieved. Then proceed to the cycles in Table 11, the results showed that as many as 16 students had achieved the predicate "Very Good" and as many as 17 students had achieved the predicate "Good". This means that 91.66% of students have reached the predicate ≥ Good, so it can be said that the target in cycles has been achieved. Then it was continued again in cycle 3 in Table 12, the results showed that as many as 19 students had achieved the predicate "Very Good" and as many as 16 students had achieved the predicate "Good". This means that as many as 97.21% of students have achieved the predicate ≥ Good, so it can be said that the target in cycle 3 has been achieved again and has increased from cycle2. The improvement of students' critical thinking skills based on the results of observations from cycle 1 to cycle 2 to cycle 3 can be seen in the following diagram:



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Figure 2. Development of Critical Thinking Skills Based on Observations

- Discussion of Data Analysis Results for Critical Thinking Skills Based on a Questionnaire

  Based on the results of the questionnaire assessment that was distributed to students, the results of the assessment of students' critical thinking skills in cycle 1 which are in Table 13 showed that as many as 11 students had achieved the predicate "Good". This means that only 30.55% of students were able to achieve the predicate ≥ Good, so it can be said that the target in cycle 1 has not been achieved. Then proceed to the cycles in Table 14, the results show that as many as 6 students have achieved the predicate "Very Good and as many as 20 students have achieved the predicate" Good ". This means that only 72.21% of students were able to achieve the predicate ≥ Good, so it can be said that the target in cycles has not been achieved. Then it was continued again in cycle 3 in Table 15, the results showed that as many as 14 students had achieved the predicate "Very Good" and as many as 19 students had achieved the predicate "Good", meaning that as many as 91.65% of students had achieved the predicate ≥ Good, so that they could It is said that the target in cycle3 has been achieved and has increased from cycle2. The improvement of students' critical thinking skills based on the questionnaire assessment from cycle 1 to cycle 2 to cycle 3 can be seen in the following diagram:

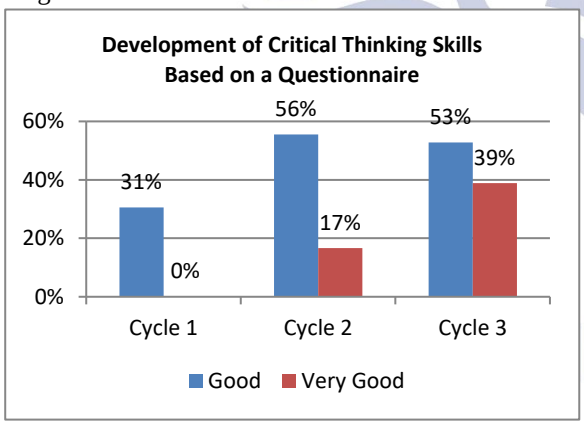


Figure 3. Development of Critical Thinking Skills Based on a Questionnaire

Discussion on the results of data analysis on student communication skills

The target of this research can be said to be achieved if ≥75% of students in one class are able to achieve the assessment of communication skills with the predicate ≥ Good.

- Discussion on the results of data analysis on communication skills based on observations

Based on the results of the observation of students' communication skills in cycle 1 which is in Table 16, it was found that as many as 7 students had achieved the predicate "Very Good" and as many as 21 students had achieved the predicate "Good". This means that 77.77% have reached the predicate ≥ Good, so it can be said that the target in cycle 1 has been achieved. Then proceed to the cycles in Table 17, the results show that 19 students have achieved the predicate "Very Good" and as many as 16 students have achieved the predicate "Good". This means that as many as 97.21% of students have achieved the predicate ≥ Good, so it can be said that the target in cycles has returned and has increased from cycle1. Then it was continued again in cycle 3 in Table 18, the results showed that as many as 19 students had achieved the predicate "Very Good" and as many as 17 students had achieved the predicate "Good". This means that 100% of students have been able to achieve the predicate ≥ Good, so it can be said that the target in cycle 3 has been achieved again and has increased from cycle2. The improvement in communication skills based on the results of observations from cycle 1 to cycle 2 to cycle 3 can be seen in the following diagram:

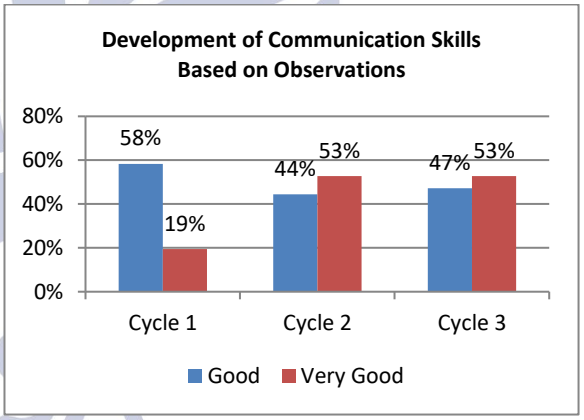


Figure 4. Development of Communication Skills Based on Observations

- Discussion on the results of data analysis on student communication skills based on a questionnaire

Based on the results of the questionnaire assessment distributed to students, the results of students' communication skills in cycle 1 which are in Table 19 showed that as many as 1 student had achieved the predicate "Very Good" and as many as 7 students had achieved the predicate "Good". This means that only 22.21% of students were able to achieve the predicate ≥ Good, so it can be said that the target in cycle 1 has not been achieved. Continued in the cycles in Table 20, the results showed that as many as 3 students had achieved the predicate "Very Good" and as many as 23 students had achieved the predicate "Good". This

means that only 72.21% of students were able to achieve the predicate ≥ Good, so it can be said that the target in cycles has not been achieved. Then it was continued again in cycle 3 in Table 21, the results showed that as many as 12 students had achieved the predicate "Very Good" and as many as 22 students had achieved the predicate "Good". This means that as many as 94.44% of students have achieved the predicate ≥ Good, so it can be said that the target in cycle 3 has been achieved and has increased from cycle2. The improvement of students' communication skills based on the assessment of the questionnaire from cycle 1 to cycle 2 to cycle 3 can be seen in the following diagram:

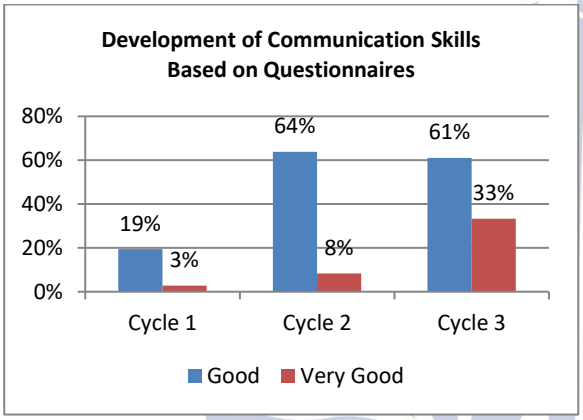


Figure 5. Development of Communication Skills Based on Questionnaire

Discussion on the Results of Data Analysis on Student Learning Outcomes

Based on the assessment results data in Table 22, Table 23, and Table 24 it has been shown that student learning outcomes continue to progress or increase from each cycle. Based on the guidelines at SMKN 1 Kalitengah which explains that classical completeness is said to be achieved if in one class ≥75% can reach the KKM value, then classical completeness has been achieved in cycle 3. The increase in the percentage of classical completeness can be seen in the following diagram:

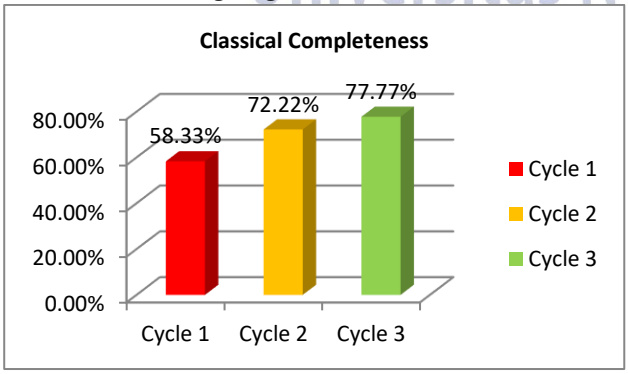


Figure 6. Classical completeness of student learning outcomes

Likewise with the class average value which also continues to increase, the increase in the class average value can be seen in the following diagram:

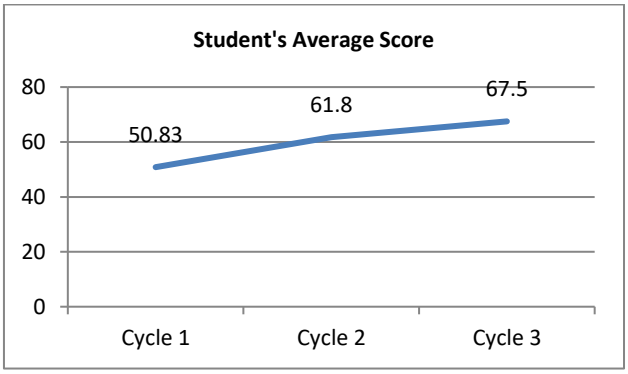


Figure 7. Student's Average Score

CLOSURE

Conclusion

Based on the results of data analysis and discussion of this study, the following conclusions are obtained:

- The learning tools that the researcher arranged on the application of the Market Place Activity (MPA) model have been declared valid. This is evidenced by the results of the validation: 1) RPP: 91.25%, 2) Syllabus 90.47%, 3) Cycle 1 Evaluation Questions, Cycle 2, Cycle 3: 86.7%, 91.7%, 86.7 %.
- Learning with the Market Place Activity (MPA) model has been carried out well and is in accordance with the learning steps. This is evidenced by the results of the percentage of observations of the implementation of learning in Cycle1 by 85%, Cycle2 by 90%, and Cycle3 by 93%.
- The application of the Market Place Activity (MPA) model can improve students' critical thinking skills in the basic competency of metal casting PDTM subjects. This is evidenced by the results of the average value of the observation of critical thinking skills in Cycle1 of 67.45, Cycle2 of 76.18, and Cycle3 of 78.95, and from the average score of the questionnaire critical thinking skills in Cycle1 of 59.36, Cycles of 69.25, and Cycle3 of 75.53.
- The application of the Market Place Activity (MPA) model can improve students' communication skills in the PDTM subject of metal casting basic competencies. This is evidenced by the results of the average observation score of communication skills in Cycle1 of 72.66, Cycle2 of 78.57, and Cycle3 of 79.95, and from the average score of the questionnaire communication skills in Cycle1 of 57.39, Cycle2 of 66.72, and Siklus3 for 75.92.
- The application of the Market Place Activity (MPA) model can improve student learning outcomes in the PDTM subjects basic competency in metal casting. This is evidenced by the average value of student

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learning outcomes in Cycle1 of 50.83, Cycle2 of 61.80, and Cycle3 of 67.50.

Suggestion

Based on the research results and conclusions above as well as the facts obtained in the field during the implementation of the Market Place Activity (MPA) model at SMK Negeri 1 Kalitengah, researchers can provide suggestions for several parties as follows:

- For vocational students; expected to have more awareness of the importance of developing soft skills properly. Given that in the era of the 21st century, labor market competition is increasingly competitive, it is not enough just to rely on hard skills.
- For teachers; In addition to training vocational students to develop hard skills through practicum learning, teachers should also continue to train their students to develop their soft skills. Given that in this study the MPA model was proven to improve students' critical thinking skills and communication skills, this model could be an option to apply.
- For further researchers; SMK students tend to be more motivated by learning that can train their hard skills. So if the researcher plans to develop student soft skills by applying the MPA model it is suggested to first provide reinforcement and an approach to students so that the class is easier to be conditioned.

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