

CULTIVATING CRITICAL THINKING SKILL IN INDUSTRY REVOLUTION 4.0 THROUGH DEBATING STRATEGY: AN ACTION RESEARCH BASED ON REFLECTIVE RESEARCH

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Abstract. The gap in this research is that students are never stimulated with contrastive activities using debate, so the solution is to apply debate activities in the speaking class. This type of research is Classroom Action Research. This study uses purposive sampling with a homogenous sampling method. Data were collected using debate techniques as test results and observation and interview techniques as process results. The findings of this study are that the results of the critical thinking skills test have increased to 88.5%. The test result data is supported by observation results and field notes. students can create solutions to these problems. Students listen to their opponents' ideas and are able to refute every issue that is debated. In addition, the results of field records support the results of the critical thinking test. The majority, students can actively participate during debates. They can speak and criticize their opponents' opinions. They actively refute the ideas conveyed by the opponents. The global implications of this study are the impact of debate strategies on critical thinking, language skills, psychology, learning and time management.

Keywords: Critical Thinking, Revolution Industry 4.0, Debate Strategy

Abstrak. Kesenjangan penelitian ini adalah siswa tidak pernah distimulasi dengan aktivitas kontradiktif menggunakan debat sehingga solusinya adalah menerapkan aktivitas debat di kelas berbicara. Jenis penelitian ini adalah Penelitian Tindakan Kelas (PTK). Penelitian ini menggunakan *purposive sampling* dengan metode *homogenous sampling*. Data dikumpulkan dengan menggunakan teknik debat sebagai hasil tes dan teknik observasi dan wawancara sebagai hasil proses. Temuan penelitian ini yaitu hasil tes keterampilan berpikir kritis mengalami peningkatan menjadi 88,5%. Data hasil tes didukung dengan hasil observasi dan catatan lapangan. siswa dapat menciptakan solusi terhadap masalah tersebut. Siswa mendengarkan gagasan lawannya dan mampu membantah setiap persoalan yang diperdebatkan. Selain itu, hasil catatan lapangan mendukung hasil tes berpikir kritis. Mayoritas, siswa dapat berpartisipasi aktif selama debat. Mereka bisa berbicara dan mengkritik pendapat lawannya. Mereka turut aktif menyanggah gagasan-gagasan yang disampaikan pihak lawan. Implikasi global dari penelitian ini adalah dampak strategi debat terhadap pemikiran kritis, keterampilan berbahasa, psikologi, cara belajar dan manajemen waktu.

Kata Kunci: Berpikir Kritis, Revolusi Industri 4.0, Strategi Debat

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INTRODUCTION

Learning English in this industry revolution of 4.0 is quite important. This is the way to acquire all literacy which is written down in English. As stated by Christinawati (2019) industry revolution of 4.0 places English as an International language which can connect the transaction in global market among all countries in Southeast Asia. It helps the users easily access distribution of stuff and digital transaction. All needs in various fields of life requires the ability to interact with others. The biggest change in the development of technology demands people to be skillful in expressing ideas and delivering opinion and thoughts (Bajari, 2017). According to Philominraj et al., (2018) mastering English can be expected to reach the requirements of having good communication skill globally.

In addition, industry revolution demands Indonesian people to enter the international trade and face the radical changes on existing technologies to move forward through learning English as an International communication. As stated by Suherdi (2019) that industrial revolution always brings the biggest changes and effects on the existing technologies. These biggest changes spread quickly to various fields and require an adaptation that can be done through learning English. Ngatu (2018) argues that recently, English is determined as common language which can be used by people who have different native language, it can be used as demands of the times to build up communication among each other (Poedjiastutie et al., 2018) and ability to adapt in the world changes nowadays (Hariyanto et al., 2022). In addition, as stated by Hua (2019) English is treated as a tool of learning in higher institution and mastering English becomes the recent issue of global learning nowadays.

On the other hand, students as generation of industry revolution of 4.0 must be provided with creative thinking, critical thinking, innovation, and competence. As stated by Widyawati et al., (2021) that revolution of industry 4.0 demands students be able to analyze, evaluate, create ideas and work with partner. They should adapt to this condition as a requirement of living in recent decades. Creative and critical thinking skills impact on a wider competence and great changes on current life. Critical thinking can be defined as the way to break the materials into some parts and try to judge, critic and create them into new pattern which has the meaningful concept. It allows students to understand the content presented and apply it in their daily lives (Indriani in Saputri et al., 2022).

The competence and changes can be cultivated through positioning students' skill of thinking in the high order. Three last skills of deconstructing, evaluating, and producing are categorized as higher order thinking skills (Moore & Stanley in Gradini, 2019). Analyzing refers to map the materials to some pieces of ideas and connect and arrange it each other to get

the meaning, evaluating is gathering and arranging information to decide which is better and worse based on a requirement or a standard. Maulana (2022) says that creating refers to the ability to rearrange incorrect ideas and construct them to be a new pattern or creates them to be original.

Speaking activity to enlarge the ability to criticize is debating since it contains contrasting issue to argue the opponents' ideas (Zhou, & Yang, 2018; Wahyuni, et.al, 2019; Tao & Griffith, 2020; Tiasadi in Daniswara & Cahyono, 2023). Implementing debating activity to increase the way to criticize plays a significant role. Beyond the significant role of debate stated above, some issues can be introduced as the problems of teaching critical thinking skill on speaking ability. The fourth semester students at Nusa Nipa University were never stimulated by the contrastive thinking activities in the form of debating. Thus, they had never practiced how to argue the opponent's ideas. They had a problem with critical thinking. It is caused by them were not challenged with a critical speaking activity in the form of debate. Debate activity in this context refers to argue the opponent's idea related to debatable issue. They need to rebut other's opinion related to certain topics.

Students have some activities in speaking classes. In basic speaking class, students were asked to make a dialogue with their friends dealing with some topics. In intermediate speaking class, students were given the materials of asking and giving opinion, greetings and opening and closing a dialogue. After that they found a topic related to those materials and they presented it using power point in front of the class. In advanced speaking class, mostly they were asked to interview the native speakers dealing with the way of greeting people, and how to give thanks then they presented the results of interview in the form of power point presentation. All those activities are only talking about asking and giving opinion and transmitting information that they got. They never argue with the opponents about a controversial issue. They did not have contrasting ideas. Therefore, their critical thinking on speaking ability is never being practiced.

Students who are not trained to have critical thinking on speaking ability will get some risks, such as first, they cannot argue with the opponents about a controversial issue. They will choose to be silent along the discussion section. Second, they cannot respond the others' points of view and cannot participate actively during the class. They must always rely on the others. Third, when they get a complex and difficult situation and must immediately decide or problem solving, they need to wait for someone who is good at those things. Fourth, they cannot make a judgment even a conclusion because they are not accustomed to critical thinking. They never

practiced debating to each other related to the certain issues. Therefore, this research is very useful for the students to solve the problems.

As results of the problems above, the strategy was applied to cultivate the students' progress in critical thinking skill on speaking ability namely discussion debate. Then, debate is known as rebutting the ideas of opponents, arguing certain topics to defend opinion, and delivering minds to argue for the topics (Wulandari & Ena, 2018). A debater needs to know how to use levels of thinking in delivering the speech through some formal procedures for example constructive, discussion and rebuttal sections. The first and second affirmative and negative speakers need to know how to build up their case in constructive section, how to discuss in discussion section and how to rebut in rebuttal time.

The research aims at cultivating the students' progress in critical thinking on speaking ability. The significance of this research is this research can be used to allow the students to master the issue, respond and rebut opponent's argument, deliver, and assess other's reason. In addition, students can use debate to cultivate critical thinking skill, allow to master some course topics, increases speed of learning, enhance their social skills, and lead to be creative in learning.

The novelty of this research is discussion debate strategy cultivates the students' critical thinking, language skill, psychology, the way of learning and time management. It does not only affect on critical thinking; it increases speaking skill in which students try to defend the argument and rebut other's own opinion which require the way to deliver the opinion. In addition, students who are debating the topic need to catch the sound produced by the opponents thus debate practices them to have a good listening. On the other hand, debate significantly affect on the students' psychology in which self-regulated emotion is examined under the pressure by each defending argument. Students feel strong emotions such as anger, frustration and anxiety. Debate leads them to increased heart rate, blood pressure, temperature, and breathing rate. The students need to have a good mental health in which they need to defend their arguments and rebut all the time without limited by the time.

METHOD

This subsection deals with providing the preparation before conducting the research. The preparation consists of research design, research subjects, research instruments and research procedures. Data refer to the improvement of critical thinking also were collected and analyzed in this section using certain techniques. All preparations above are described in the following sections: Research design is the whole plan or structure of the research. This research used

Classroom Action Research (CAR) design. CAR includes a design of implementing the best practice of teaching in the class so it can solve the students' learning problem (Mettetal in Oktaviani et al., 2020). The objective of this design is to fix the teacher's best teaching practice and solve the students' learning issues. This research was conducted by the researcher who taught speaking class and collaborated with collaborator researcher. This research aimed at changing the speaking atmosphere to become a critical activity. This research is reflective research to stimulate the students to be ready in speaking and being a critical student. Each cycle in CAR design comprises of preparing the plan, implementing the actions, observing the process, and reflecting the strength and weakness of the research.

Data were collected within one semester in which comprises of 28 students. A purposive sampling technique is used to support representative data which can be used to answer the research problem (Merriam & Tisdell in Syaiful, 2023). The method of purposive sampling data used is homogenous sampling. It aims to reduce the various characteristics to the similar character in this research namely academic ability. Thus, the 8 students from 28 students from third grade students of English department of Nusa Nipa University were chosen as a purposive sampling. Data were collected purposively based on the level of academic ability namely affirmative group consists of four students and negative group does too. From each group, one student was taken from high academic ability, two students from moderate academic ability and the last one from low academic ability.

Data were collected using observation sheet, field notes sheet, test items. The research has been implemented in three cycles. Each cycle consists of one meeting. The researcher gave a different topic in each cycle which is explained in the following research procedures. The research procedures were conducted in the four stages based on the procedures of CAR designed by Elliot (in Nashir & Laili, 2018) namely planning, acting, observing, and reflecting. Planning is the initial stage before implementing the strategy. In this stage, the researcher chose teaching materials based on the syllabus, designed lesson plans, prepared teaching tools which could back up the instruction, chose themes and topics of debate, and designed tests.

Implementing discusses the steps and activities taken by the researcher. In this stage, researcher opened class by greetings the students with smiling, asking students' conditions, and checking students' attendance. He started asking the students' experiences in debate practice. This brainstorming is essential to guide students' knowledge of the debate. Afterward, the researcher explained debate strategy. Then, the researcher asked students to sit into two teams (affirmative team and negative team). Everyone had to think about the topics. For cycle one, the topic is "DBD and Corona Virus Diseases, which one should be overcome by the regional

government". For the second cycle, the topic is "The Implementation of Independent Learning in Nusa Nipa University". For the third cycle, the topic is "Independent Campus". By dividing the students into two teams, the class atmosphere changed. Some students were concentrating on the topics of debate, they discussed about the topics, and the learning environment was interactive and engaging. There were first speakers and second speakers of both teams who had the capability in speaking.

In observing stage, there were four indicators were observed to be triangulated with the data from the test. The four indicators are students who could analyze and evaluate the topics of debate, students who could find the solution toward the problems being debated and the ability to rebut all the time toward the issue being debated. The reflection stage aims to evaluate the success criteria or targets that have been achieved, which criteria have not been achieved, and what are the solutions that were used to reach these targets. At this stage, students' abilities in critical thinking were evaluated based on their test results. In addition, the results of observation and field notes were analyzed to determine the criteria of success whether have been achieved or not. Scope of this method is classroom research. Limitations of the methodology used are this research cannot be generalized to other places and it does not have any approach to ensure validity and reliability.

RESULT

Planning stage is stage in which the researcher prepared the materials in doing action research. The researcher provided materials used in the research process such as first, the teaching material needed in the learning process. Second, the researcher prepared the topic of debate. The debate topics chosen were adjusted to the topics that were trending at the time in the local area namely "between DBD and Covid 19, which one should the Sikka Local Governance address first?" There were 2 topics discussed in one meeting, namely DBD and Covid 19. The two teams had to choose one of the two topics and then trying to defend their choices by giving reasons supported by clear sources or references.

Action session discusses implementation of the actions of the research. It begins with the researcher opened class by greetings his students with smiling, asking students' conditions, and checking students' attendance. Afterward, he explained the techniques of debate. By explaining that, the researcher hoped that students were able to do their debates especially improve their critical thinking. The students paid attention to his explanation. This activity is important because the students could reflect on what they knew or experienced. Then, he asked students to sit into two teams (affirmative team and negative team).

Everyone had to think about the topic (DBD and Corona Virus Diseases, which one should be overcome by the regional government). By dividing his students into two teams, the class atmosphere was changed. Some students were concentrating on the topic of debate, they discussed about the topic. There were first speakers and second speakers of both teams who had the capability in speaking. They had good progress during the debate process. Before leaving the class, the researcher thanked the students for their attention and participation, encouraged them to learn more. Observation was conducted during the implementation of the debate. It was conducted by collaborator researcher as the second researcher. There were some indicators were observed to be triangulated with the data from the test. From the four indicators, only 28% or 7 students who could analyze and evaluate the issue, 17, 24% or 4 students who could create the solution toward the contrasting issue. In addition, the ability to rebut all the time the issue being debated was only 27, 58% or 7 students. Thus, the average of students' activities related to the critical thinking is 25,18%.

Table 1. The results of observation in cycle 1

No	Indicators	Number of the Students	Percentages
1	Students can analyze, evaluate, the issue being debated	8	27%
2	Students can create a solution for the contrasting issue	4	17,24%
3	Students listen to the opponent's idea	7	28%
4	Students can rebut all the time issue being debated	6	27,58%
Average		6	25,18%

Some issues occurred related to the critical thinking activities. From 29 students who joined the debate, only 8 students or 27% who could analyze the issue being debated well. In addition, there were only 5 students or 24,13% students who could analyze and evaluate issue being debated. In addition, there were only 17,24% or 4 students who could give the solution about the issue being debated. Thus, the total percentage of the three categories is 68,37%. Average of the categories is 22,79%. It means only 6 students from 29 students who have a good progress of critical thinking. It was categorized as few.

Table 2. The results of test in cycle 1

No	Indicators	Number of the Students	Scores	Percentages
1	Analyzing category	8	80.5	27%
2	Evaluating Category	5	89.6	24,13%
3	Creating Category	4	92	17,24
	Average	6	87.33	22,97%

In addition, the results of the field notes present several obstacles such as first, debaters did not master the procedures of debate. They were confused to take their role in the problem-building section. Second, debaters were not sitting closed to one another thus they were quite difficult to discuss. Third, debaters still had incorrect pronunciations. Both speakers of both teams pronounce incorrectly during the implementation of the strategy. Fourth, they were not active in debating. Only both speakers from the two teams too part actively during the debate. The speakers dominated the discussion. Fifth, debaters required additional time to discuss before delivering opinions. Each team spent only 1 minute to discuss in their groups. Speakers required time to construct the issues and ask for the clarification. Sixth, debaters addressed a lot of questions in discussion section.

Reflection stage contains evaluation towards the achievement of critical thinking on speaking ability in the debate. It was done by the researcher and the collaborator researcher. Reflection was needed to cultivate the students' progress on critical thinking in the debate. In this cycle, students were still confused with the rules of debate, only first speakers and second speakers of both teams who were participating actively during the debate, students had difficulty in managing time, and students did not have enough time to discuss and were not ready to give opinions. The students were still poor in speaking ability and critical thinking. They got a medium score in those aspects of speaking. Thus, the researcher decided to give more exercise in the next cycle to improve the students' speaking ability.

Cycle two was conducted to cultivate the students' critical thinking on speaking abilities especially the problems that existed. Thus, some effective actions were implemented using the procedures. In planning stage, the researcher provided lesson plan, observation sheet, and assessment rubrics. The lesson plan prepared was different with the previous lesson plan. It has certain design which was used to solve the problems stated above. The researcher also used different topic of debate. The topic chosen was different with the topic of cycle one, but it was popular at that time. Topic which was chosen as the issue being debated is "The Implementation

of Online Learning during Pandemic Covid 19". The topic chosen was different with the previous cycle to avoid the repetition which causes an invalid score achievement.

The acting stage was conducted in three activities namely opening activities, main activities, and closing activities. In the opening activities, the researcher opened the class by delivering the material which was debated in this meeting. The topic which was determined to be debated is "The Implementation of Online Learning during Pandemic Covid 19". Then, to solve the confusing rule of debate, thus, during debate section, the researcher always explained about section, procedures, and rules of debate. The researcher always approached each group, explained what were meant in each section and rules of debate related to what must be debated from the section of construction the issue, discussion, and rebuttal section from first and second speakers of each group. In main activities, the researcher grouped the students into two teams which are affirmative team and negative team. Division of the teams based on the heterogeneity of academic achievement. To solve the problems of lack of ability to analyze issue being debated, evaluate, and create solution toward the issue, lack of ability to rebut the issue, thus, the researcher conducted three actions as the following; first, the researcher reduced the members of the group and took the sample from the representative of each level of academic achievements from the members of the groups.

Second, the researcher took the sample systematically by taking the representative from the level of academic achievement namely low group consists of 37,5%, moderate group consists of 25% and high group consists of 37,5%. The researcher reduced the chance for the members who have participated actively and there was no dependence between the members because each of them got time to speak and rebut. Third, the researcher divided groups based on the representative from each level of academic achievement into two groups in which each level consists of 4 members.

In addition, the involvement of the members in cycle two got a challenge namely the members who participated actively were only 8 students from 29 students. Thus, the researcher divided them depends on the academic ability proportionally. Through representative of the research sample, it certainly convinced that this strategy could cultivate the students' critical thinking on speaking ability. Furthermore, through the little members, each member could participate actively to speak and analyze the issue, evaluate the issue and give the solution toward the issue being debated.

The main activities of this debate were divided into three sections namely construction, discussion, and rebuttal sections. In constructive section, the researcher delivered the chance to both teams to construct the plan of the issue. In this chance, affirmative team decided the

direction of debate related to the topic and terms which were meant in the topic namely “Online Learning”. Otherwise, the negative team also did the same thing. This was used to reduce the topic in debate. Then, the researcher gave the chance to the first speaker of affirmative team to introduce the plan related to the topic of debate.

Then, negative team rebutted the opinion and delivered the negative effects. The researcher gave the chance to the negative team to rebut the opponent. The researcher gave the chance to the second speaker of affirmative team to present rest plan to implement online learning during pandemic period and showed the function of the planning of the implementation. The second speaker from the negative team was given the chance to rebut the planning by asking the functions, the effects, and giving solutions or the other ways to overcome. In discussion section, the researcher gave the chance to both teams to ask the topic which has been debated but it was not allowed to present new ideas as basic consideration. Then, in the last section namely rebuttal section, the researcher gave a wider chance to both teams to rebut freely without limited by the time.

Based on the results of observation, 4 students were still difficult in constructing critical ideas. It was caused by the lack of doing the critical activities through debate. There were 75% or 6 students could analyze, evaluate, the issue being debated. There were only 50% or 4 students could create a solution for the contrasting issue. In addition, there were 50% or 4 students were able to rebut all the time issue being debated.

Table 3. The results of observation in cycle

No	Indicators	Number of the Students	Percentages
1	Students can analyze, evaluate, the issue being debated	6	75%
2	Students can create a solution for the contrasting issue	4	50%
3	Students listen to the opponent’s idea	7	87,5%
4	Students can rebut all the time issue being debated	4	50%
Average		5	65,62%

In addition, from the results of test, there was a little progress related to the critical thinking skill on speaking ability. From 8 members who joined the debate, there was 7 members or 87,5% who could analyze the issue being debated. The problems faced were only 5 members or 63% who could evaluate the issue. There were 3 members or 37,5% whose ability of creating the problems were still below the low level. Nevertheless, the ability of critical thinking

throughout got the improvement from the previous cycle which was only 22,79% becomes 62,66% or categorized in moderate level.

Table 4. The results of test in cycle 2

No	Indicators	Number of the Students	Scores	Percentages
1	Analyzing category	8	72	87,5%
2	Evaluating Category	5	80	63%
3	Creating Category	3	88	37,5%
	Average	5	80	62,66%

Furthermore, the findings of field notes revealed two issues: first little students struggled to form critical viewpoints. They found it difficult to critique the situation due to a limited vocabulary. They comprehended the issue, but they struggled with how to express their view and refute the opposing points. Second, it required time to transfer recordings from the camera to the laptop. The video recording memory was overloaded and transferring data to other tools took some time.

The results of reflection reveal issues that students experienced despite making some development in critical skills and speaking ability. For example, only 50%, or four students were able to offer solutions to rebuttal issue. Second, just half of the members, or four, were able to refute throughout the argument. Third, it required time to transfer recording files from the camera to the laptop. Fourth, there were some little students who had difficulty developing critical opinions. Dealing with the challenges, the researcher and collaborator researcher agreed to go to the following cycle with a different design in the form of some effective actions.

The implementation in cycle 3 has some effective actions which have been planned by the researcher. The actions were conducted to solve the problems that occurred in the previous cycle. Thus, the students had some progresses in creating solution, rebutting the issue along the time, and building critical opinion. Those effective actions were portrayed in the following sections: in planning stage, the researcher used different topic. Then, the researcher provided some instruments of the researcher such as a lesson plan, an observation sheet, field notes and a sufficient storage memory card to record the data of teaching and learning process.

The actions were divided into three activities: initial activity, core activity, and closure activity. In initial activity, the researcher opened the class, gave the topic of debate which was "The Implementation of Independent Learning in UNIPA". For the discussion and rebuttal sections, the researcher gave direction related to what they had to discuss and rebut. This was the way to give the understanding of discussion debate strategy thus debate could be

implemented based on the steps and rules. In the core activity, the researcher separated the students into two groups: the affirmative group and the negative groups. This division was based on the heterogeneity of academic achievement. Then, to solve the problems of creating solution toward the rebuttal issue and could make the members rebut toward the topic being debated along the time, thus, the researcher gave the chance to the first and second speakers who did not speak yet to rebut. Besides that, it encourages debate participants who have good academic ability to guide the members who have low academic ability and provide opportunities for them to speak up more than the participants who have good academic ability during the discussion and rebuttal sections.

Then, the researcher divided the members based on the representation of each level of academic proficiency into two groups where each group consists of four members. The researcher found problems that the involvement of participants on third cycle, where from the total 29 participants, there were only 8 participants who joint this activity. Thus, the researcher divided them based on the level of academic proficiency in a balanced manner such as 50% or 4 students who have good academic ability, 12,5% or 1 student who has moderate academic ability and 37.5% or 3 students who have low academic ability. The research sample's representativeness is believed to enhance students' critical thinking skills. With a small group, each member can actively engage in problem analysis, evaluation, and providing solutions for the topic of debate. The core activities of this debate are divided into three sections namely creating the issue, building discussion, and rebutting section. In creating the issue section, the researcher gave the opportunity to the two teams to develop a plan for their case. In this case, the affirmative team determined the direction of debate regarding the topic and terms referred to their topic that is "Independent Campus". Otherwise, the negative team also did the same thing. This was to narrow down two topics in debate. On the other side, the researcher also gave the opportunity to the first speaker to introduce their plans for the implementation of an independent campus at UNIPA.

Negative team agreed the direction of the debate from affirmative team and vice versa. Then, negative team rebutted what they were debating and delivered the negative effects. The researcher gave the chance to negative team to rebut what was talked by the affirmative team first speaker. In addition, the researcher also gave the second speaker of affirmative team to present their rest of the plan to implement independent campus in UNIPA and showed the benefits of the plan. The second speaker of negative team was given the chance to rebut the plan by asking the benefits and effects and giving the solution to solve it. In discussion section, the researcher gave the chance to both teams to ask about the topic being debated but were not

allowed to deliver new ideas. In rebuttal section, the researcher gave the broader chance to both teams to rebut freely without limited by the time.

Observation of this cycle was conducted as a part of the research process. The observation aimed to uncover the participants' activities during the debate activities in this cycle. From the 4 indicators used in the observation, there has been some progress. Specifically, 89% (7 students) were able to analyze and evaluate the issue being debate, 88% (7 students) were able to rebut the issue being debate all the time.

Table 5. The results of observation in cycle 3

No	Indicators	Number of the Students	Percentages
1	Students can analyze, evaluate, the issue being debated	7	89%
2	Students can create a solution for the contrasting issue	7	88%
3	Students listen to the opponent's idea	7	87,5%
4	Students are able to rebut all the time issue being debated	7	84%
Average		7	87,14%

There was good progress from the students' results of the test in cycle 3 dealing with critical thinking skill. There were 8 students who joined the class and 7 students or 90% could analyze the issue. There were 88% or 7 students who could evaluate the issue being debated and 87% or 7 students could create the solution toward the issue. Thus, the ability to think critically as a whole has increased from the previous cycle to 88, 33%.

Table 6. The results of test in cycle 3

No	Indicators	Number of the Students	Scores	Percentages
1	Analyzing category	7	80	90%
2	Evaluating Category	7	92	88%
3	Creating Category	7	96	87%
Average		7	89,33	88,33%

Furthermore, based on the field notes, most students actively participated in the debate. They could speak and criticize the opponent's opinion. They took part actively to rebut the ideas delivered by the opponents related to the independent learning. The reflection stage depicts the average results of test from the cycle 1, cycle 2 and cycle 3. The results have increased from the first cycle 22,97% into 62,66% in cycle 2. It has also increased into 88,33% in cycle 3. Based on the results, the researchers decided to stop the research, deeming it successful.

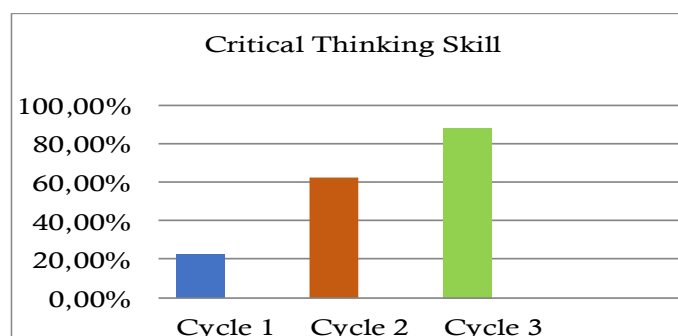
Table 7. The average results of test in cycle 1, 2 and 3

No	Indicators	Cycle 1	Cycle 2	Cycle 3
1	Average Score	87.33	80	89,33
2	Average Percentage	22,97%	62,66%	88,33%

DISCUSSION

Discussion is a part of discussing what was found in collecting data of research. The research findings have been presented and subsequently review to address the research problem. The issue is under investigation in the research pertains to critical thinking skills. Following the initial test cycle, several challenges associated with critical thinking skills were identified. There were 29 students who took part in the debate, only 8 students or 27% of the students could analyze the problem properly, 7 students or 24,13% were able to evaluate the problems well, and 5 students or 17,24% students were able to provide solutions to the problems being debated. Thus, the overall total of these three categories is 68,37% or the average of the students' critical thinking skill is 22,79% namely analyzing, evaluating, and creating. This class presentation is included in the low category.

In the second cycle, there has been some progresses related to critical thinking skill. There were 8 students who took part in the debate, 7 students or 87, 5% of the students could analyze the issue. The problems faced were only 5 students or 63% students could evaluate the issue being debated and 3 students or 37, 5% who could create the solution. Nevertheless, student's critical thinking skill has increased from the previous cycle of only 22, 79% to 62, 66% or it can be said that in the middle category. In the third cycle, there were 8 students who joined the debate, 7 students or 90% students could analyze the issue. In addition, 88% or 7 students could evaluate the problems and 87, 5% or 7 students who could create the solutions toward the issue. This condition can be concluded that students' critical thinking skill has increased from the previous cycle to be 88, 5%. This description can be seen on figure below.

**Figure 2.** Critical thinking skill

Based on the first cycle's observation, four indicators triangulated and consistently matched the test data. The four indicators are only 28% or 7 students who could analyze and evaluate the issue being debated, 17,24% or 4 students who could create the solution toward the contrasting issue. In addition, the ability to rebut all the time the issue being debated is only 27,58% or 8 students. Thus, the average student's progress in critical thinking is 25,18%. In addition, the students' activities of critical thinking in cycle 2 were also taken from the results of observation. In cycle 2, 4 students were still difficult in constructing critical ideas. It was caused by the lack of critical activities through debate. There were 75% or 6 students who could analyze and evaluate the issue being debated. There were only 50% or 4 students could create a solution for the contrasting issue. In addition, there were 50% or 4 students were able to rebut all the time issues being debated.

On the other hand, the results of observation in cycle three show that, among the 4 indicators used in the observation, there has been some progress. Specifically, 89% or 7 students were able to analyze and evaluate the debated issue, 88% or 7 students could create a detailed solution for the opposing issue, 87,5% or 7 students listened to the opponents' idea, and 84% or 7 students were able to consistently rebut the debated issue. The field notes from cycle one show that there were several obstacles. First, both teams did not understand the rules of the debate. Second, the members of the negative team were sitting far apart from each other, making it difficult for them to discuss. Third, there were still a few incorrect pronunciations from both teams. Fourth, there was a lack of participation from members of both teams, during the debate. Only the first and second speakers from the two teams were actively involved. Fifth, there wasn't enough time for discussion before presenting arguments. Sixth, there were too many questions during the discussion section.

In addition, the result of field notes in cycle two, two main problems were identified. Firstly, many students struggled to develop critical opinions. They were quite difficult to criticize the issue because of the limited vocabulary. They understood the issue, but they had a problem with how to deliver the opinion and rebut the other's arguments. Second, it acquired time to transfer recording files from the camera to the laptop. The results of field notes in cycle 3 show that most students could participate actively during the debate. They could speak and criticize the opponent's opinion. They took part actively to rebut the ideas delivered by the opponents related to independent learning. The research novelty of the original research work is this research used a discussion debate strategy which has never been used in any previous research.

The higher order of thinking skills is highly recommended to be elaborated in Revolution 4.0. the effectiveness of various methods in shaping students' critical thinking skills in language education" "Critical thinking is an essential skill that all students need to face the challenges of the Industrial Revolution 4.0. As a result, numerous studies have been carried out to examine the effectiveness of different approaches in developing students' critical thinking skills in language education." (Dehghayedi & Bagheri, 2018; Iman, 2017; Nodoushan, 2012, 2017; Nodoushan & Daftarifard, 2011; Nodoushan & Pashapour in Wahyuni et al., 2020). "In Indonesia, there is a growing awareness of the importance of critical thinking. The government has emphasized the need to focus on High Order thinking Skills (HOTS) in learning materials." (Tiasadi, 2020). Ghaemi & Boroushaki (2022) have highlighted the continuous exploration and implementation of higher-order thinking skills. Additionally, Shamsudin et al., (2017) proposed that debate encourages high-order thinking in learners, requiring teachers to facilitate through provoking activities and promote problem-solving, active listening, and decision-making skills.

HOTS involves analyzing and inferencing from a fact rather than simply restating the facts. "HOTS encompasses the ability to analyse, synthesize, evaluate, develop skills, estimate, generalize, and create thinking, make decisions, set up objectives, and engage in critical and systemic thinking." (Zohar & Dori in Kwangmuang et al., 2021). Camp & Snader (in Tiasadi, 2020) note a significant improvement in students' critical thinking skills after engaging in debating activities, which requires higher-order thinking to build logical arguments. Furthermore, Mumtaz & Latif (2017) demonstrate that "debating facilitates students' experience of higher order thinking encouraging them to consider different perspectives and think quickly and wisely. Healey (in Chikeleze et al., 2018) suggests that using debate as an instructional tool in university settings, such as accounting, economics, education, marketing, medicines, pharmacy, and social work, can also help develop critical thinking skills.

In class, effective debate helps to develop students' skills as it targets their thinking abilities, contemplation, and reflection. Ultimately, it stimulates their productive, receptive, analytical, and critical thinking skills (Gulnaz, 2020). Additionally, Iman (2017) discovered that "there was a significant improvement in critical thinking and speaking skill with aspects of critical thinking achievement influenced by debate such as context, issue, implication, and assumption". Wahyuni et al., (2020) says that the "British Parliamentary Debate System can increase students' critical thinking. The challenges comprise institutional challenges, procedural challenges, and intellectual challenges". Debate not only enhances students to

present their understanding of a topic, question others' opinion, argue others' arguments, reason and clarify their arguments, and evaluate others" (Handayani, 2016).

The argument that using classroom debate strategy can enhance students' critical thinking skills in argumentative writing is both conceptually and practically correct. To support this argument, the researcher utilized two principles of analysis for consideration (i.e. classroom debate ballot result) and analysis for final justification (i.e. subjects' scoring transcript and analysis) (Rozi, 2021). Using debating as a systematic teaching technique offers numerous advantages for EFL learners. These benefits include promoting higher-order thinking skills, mastering course topics, increasing the speed of learning, improving social skills, promoting evaluation power, promoting mental health, and leading to creative learning (Dipta et al., 2023). Critical thinking is measurable, and one method of measurement is by conducting a debate to observe their argumentation model (Daniswara & Cahyono, 2023b).

The nature and format of a debate provide opportunities to teach and help students practice critical thinking skills. Using debate as an instructional strategy and practicing argument analysis can lead to improved critical thinking skills in all students, particularly those with high cognitive ability (Walker & Kettler, 2020). Incorporating debate instruction in university English teaching can significance, relevance, completeness, logicalness, fairness, breadth, and depth (Li et al., 2020). Based on the results and some previous supporting research, it is suggested that future researchers utilize this debate to enhance critical thinking by using a larger sample and conducting validity and reliability tests. These results are valuable and warrant further exploration. It is critical to acknowledge the limitations of this study, as it has restricted data source that affects the validity and reliability of the research results.

CONCLUSION

The research results can be concluded from the triangulated data of tests, observations, and field notes. The results of the test show that student's critical thinking skills have increased from the previous cycle to be 88, 5%. Data of test results above are proved by the results of observation. There has been some progress, namely 89% or 7 students could analyze and evaluate the issue being debated, 88% or 7 students could create a solution for the contrasting issue in more detail, 87,5% or 7 students listened to the opponent's idea, 84% or 7 students were able to rebut all the time issue being debated.

Furthermore, the field notes results show that majority of students could participate actively during the debate. They could speak and criticize the opponent's opinion. They took part actively to rebut the ideas delivered by the opponents related to independent learning.

Based on the test results, observation, and field notes above, it can be concluded that the discussion debate strategy can cultivate the students' progress in critical thinking. The findings of this research address the research namely the students were never stimulated with contrastive activities using debate thus the solution was given by the researcher is implementing debating activities in speaking class. The novelty of this research refers to the contributions of debate strategy which are not only for the critical thinking but also for the understanding the materials, practicing mental psychology and being fast and creative in learning the topic.

Contributions of this research are as follows: the nature and format of debate provide teaching opportunities and enable students to practice their critical thinking skills. Debating allows students to demonstrate their understanding of a topic, challenge others' opinions, argue against others' arguments, reason and clarify their arguments, and evaluate the arguments of others. Debate offers numerous benefits to EFL learners, including the promotion of higher-order thinking skills, mastery of course topics, accelerated learning, improved social skills, enhanced evaluative abilities, better mental health, and fostering creative learning

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