



Implementation of TaRL Approach by Utilizing Canva Media to Improve Students' Collaboration Skills and Learning Outcomes in Science

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ABSTRACT

Objective: This study aims to improve collaborative skills and student learning outcomes in science subjects by using the teaching at the right level (TaRL) learning approach by utilizing Canva media in the learning process. **Method:** The research method used was classroom action research involving 32 students of class 8B at Junior High School 3 Madiun. The research stage uses the Kemmis & Mc. Taggar model. The survey was conducted in two cycles. Each cycle consists of two meetings including the stages of planning, implementation of actions, observation and reflection. The data sources used in the study are observations during learning, tests, and learning evaluation results. **Results:** Showing a positive impact of learning using the TaRL approach by using Canva learning media, especially on collaborative skills and student learning outcomes. The results of observation and evaluation showed an improvement in collaboration skills and learning outcomes after implementing the TaRL approach through Canva's learning media. **Novelty:** This research has a novelty because the use of the TaRL approach with Canva media will bring out students' creativity so that cohesiveness with the team is established, design learning that allows students to obtain learning concepts, and make it easier for teachers to apply this approach in science learning.

INTRODUCTION

The education system in Indonesia has undergone changes in recent decades. One of the essential reasons for curriculum changes in Indonesia is the student and technology aspects, therefore the Independent curriculum was created. The independent curriculum is a curriculum that focuses on diverse learning with essential materials to support the learning experience of students. The main goal of the independent curriculum is to use technology as much as possible to develop every unique ability possessed by students (Zidan, 2023).

One of the interesting things about the discussion of the Independent Curriculum is the characteristics of flexibility, teachers are given the freedom to be able to differentiate learning according to the ability of students, especially in science learning. Through science learning provides students with the opportunity to construct their own concepts, providing hands-on experience to explore and understand the surrounding nature scientifically. The science learning process emphasizes providing direct experience to develop competencies to explore and understand the environment scientifically. Science includes knowledge materials, skills, and attitudes that need to be mastered by students (Arikunto, 2021). However, there are still many writers who encounter differences in understanding between students in the classroom. Teachers need knowledge about teaching methods because the success or failure of students in learning in the classroom depends on the right choice of method

(Pakaya, 2019). Choosing the right method can increase motivation, interest and increase student learning activities, one of which is discussion (Dwikoranto, 2021). Teachers have an important role in helping students learn new concepts and principles. Therefore, teachers need to find the right learning method for students to realize interesting and effective learning.

The development of science and technology requires students not only to attach importance to academics but also to have the skills to survive and thrive in an increasingly complex life. These skills that students must have are known as 21st century skills (Saphira et al., 2022; Zayyinah et al., 2022). According to the Partnership for 21 Century Skills (P21), the skills required in the 21st century include "The 4Cs" 21st-century skills include problem-solving skills (Arzak & Prahani, 2023; Pristianti & Prahani, 2022), critical thinking (Neswary & Prahani, 2022; Saphira & Prahani, 2022), communication, collaboration and creativity (Zubaidah, 2019). These 21st century skills can help students to more easily adapt to every change that exists now and in the future. In this case, digital media and technology have an essential role in helping students develop 21st century skills through innovative and interactive learning approaches (Dewi et al., 2021). This statement is supported by the Directorate General of Teachers and Education Personnel. The Ministry of Education and Culture said that there are 4 competencies that must be instilled in students in the 21st century.

The learning process at junior high school 3 Madiun has been facilitated with laptops as a learning medium to support the learning process. So that it is hoped that they will become quality, superior, IT literate, digital literate students so that in the future all students at Junior High School 3 Madiun can be competitive outside. Learning media is important to foster motivation and learning outcomes in accordance with the development of Information and Communication Technology (ICT). In addition, based on the observations made by the author, teachers at Junior High School 3 Madiun have also participated in training on the use of Chromebooks which aims to support learning in schools and knowledge can also be conveyed to students.

By learning using laptop media, students will easily access any information they want to know. However, it is still found based on observation that students' ability to collaborate is still relatively lacking. Based on observations during teaching practice at Junior High School 3 Madiun, the author found that most students in class did not understand the assignments given by the teacher in groups, only one or two students actively collaborated. Meanwhile, reliable and quality human resources can be obtained if the learning is also of high quality (Sugianti, 2023). In addition, collaboration is a component of 21st century skills that need to be developed. Furthermore, according to Sugianti et al. (2023) need to use appropriate and balanced media and technology to provide great benefits in supporting the improvement of students' knowledge and skills in the 21st century era.

Collaboration skills are the ability to participate in any activity to foster social relationships with others, respect each other and be able to work together to achieve common goal. Having collaboration skills will make the work or problem at hand more accessible to solve (Safaruddin et al., 2020). The ability to collaborate is carried out together to compensate for differences in views, knowledge, and play a role in discussions by providing advice, listening, and supporting each other. The ability of students to collaborate or discuss is important to be trained from an early age so that students become proficient in carrying out collaborative activities and interacting socially with others (Astutik et al., 2019; Setyowidodo et al., 2020). Working in a group

can make students interact with other students and exchange opinions to find solutions to problems from discussions. Students can also compare their work with other group members. Group learning activities will be easier if students remember what they have learned better compared to studying alone.

So collaboration between teachers and students is needed to make learning meaningful. Improving the quality of education according to Hayati and Dwikurnaningsih (2019) can be done by preparing learning materials that are better designed to go through challenges that make it easier for students to collaborate and create solutions to solve problems in the learning materials they are learning. The statement is by one of the 21st-century skills to be achieved, namely collaborative skills, the 21st century skills are expected to strengthen social skills for the younger generation to prepare to face the challenges of the times, these 21st century skills need to be developed in students through the learning process in the classroom.

Learning media is needed by teachers to support and support learning activities, especially collaborative activities for students. Learning media is a tool used by teachers in teaching activities, in addition to using books or lecture methods (Syafrianti, 2022). Teachers can take advantage of technology-based learning media, one of which is the Canva application. Canva is an online-based application that provides attractive designs in the form of templates, features, and categories. Based on the problems encountered, to optimize the flexibility of teaching in the Merdeka curriculum, one of the solutions is to apply the Teaching at the Right Level (TaRL) approach. This approach is an alternative to solving the problem that has been explained is using learning with the TaRL approach with the help of woorksheed in the Canva application. This learning approach refers to the level of students' abilities (Banerji & Chavan, 2020). With the TaRL approach, it will be a complement to materials and innovations. The learning process is divided into several groups with the goal of building confidence to have a solid foundation to proceed to the next level (Muammar et al., 2023). The same research discusses the TaRL approach, one of the practical approaches that can be used to determine students' basic abilities in arithmetic, reading, and writing (Ningrum, 2023). This research has a novelty through the use of the TaRL approach assisted by Canva media will bring out the creativity of students so that cohesiveness with the team is established. The same research conducted by Irmayanti et al. (2023) that the application of TaRL-based cooperative learning can improve students' collaborative attitudes.

RESEARCH METHOD

This research was conducted at Junior High School 3 Madiun class 8B with a total of 32 students. Action research is carried out on science subjects for two cycles.

The type of research used is classroom action research. The data obtained was collected through observation notes during learning and the results of evaluations carried out in cycle I and cycle II with peers. Classroom action research is carried out in two cycles with four stages, namely planning, implementation of actions, observation, and reflection. The steps of the research are illustrated as in Figure 1.

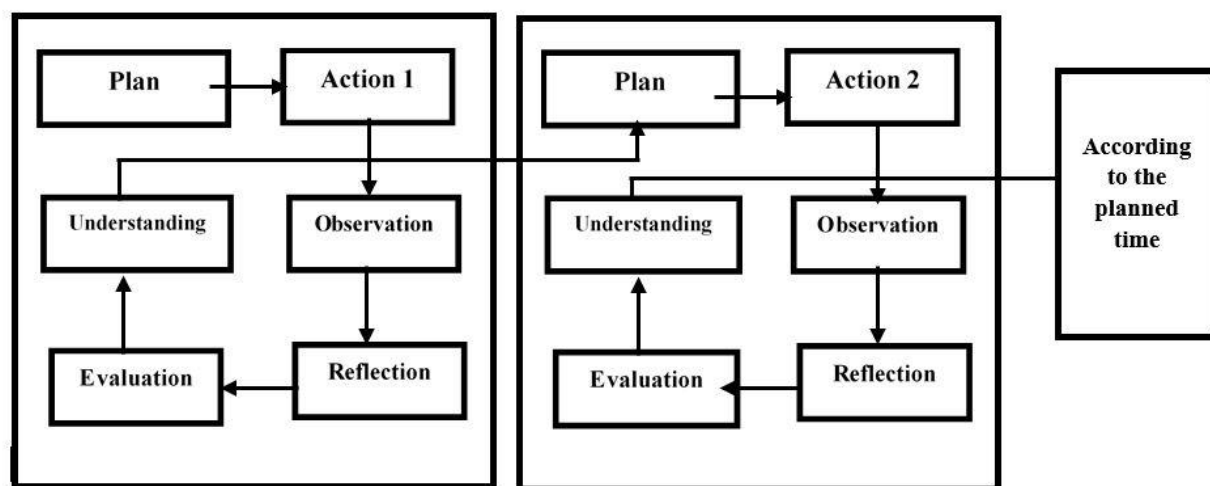


Figure 1. Steps of research (Modified from Kemmis & Mc. Taggar, 1998).

The observation results were used as material to determine the improvement of student activities and bring out students' collaboration skills. In contrast, the evaluation results were used to measure the progress of students' learning achievement. In the reflection stage, data analysis was carried out about the processes, problems, and obstacles encountered and then continued with reflection on the impact of the implementation of the actions implemented. An important aspect of this reflection activity is the evaluation of the success and achievement of the goal. Classroom action research is a self-reflection conducted by researchers to improve the learning process carried out (Djajadi, 2019). The indicators of students' collaboration skills towards learning carried out in two cycles are as in Table 1.

Table 1. Indicators of collaboration skills.

Indicator	Description
Actively contribute	Able to actively participate and contribute to presenting ideas/results of thoughts, unifying the results of discussions, and seeking solutions to problems.
Work productively	Actively conduct discussions, complete tasks effectively and efficiently, focus on discussing in finding solutions, actively engage in communication, and evaluate the results of work with the group.
Demonstrate an attitude of responsibility	Responsible for completing assigned tasks, completing tasks on time, and complying with given instructions.
Demonstrate flexibility and compromise	Accept criticism and suggestions, discuss disagreements, accept assignments, and feel comfortable working with members of their group.
Show mutual respect	Respect and respect the opinions of friends in forum discussions, do not impose the opinions of others, help friends who are having difficulties, and accept mutual decisions in solving problems

RESULTS AND DISCUSSION

Results

The study sample comprised 32 students. To answer this questions, Table 2 dan Table 3 Table 3 shows the planning of each learning cycle, Classroom Action Research is carried

out with a flow or stage (planning, action, observation, and reflection) presented in the Table 2 and 3.

Table 2. Cycle I of classroom action research.

Planning	Action	Observation	Reflection
• Compile Learning Outcomes • Preparing diagnostic tests • Setting up learning tools • Prepare Student worksheets in the form of problems in Canva • Prepare observation sheets • Prepare evaluation sheets	• Explain the learning objectives • Provision of diagnostic assessments • Group formation (4-5 children) according to the ability of students from the results of diagnostic tests • Provide some problems in Student worksheets on Canva • Each group discusses and works together • Teachers help each group adequately • Conduct class discussions • Draw conclusions	• Observing the behavior of students toward the TaRL approach • Monitoring cooperation between students • Observe the understanding of each group	• Record observation results • Evaluate observation results

Table 3. Cycle II of classroom action research.

Planning	Action	Observation	Reflection
• Develop a repair plan • Optimize time • Combining the results of reflection 1 to make it more effective in phase II. • Prepare observation sheets, questionnaires, and evaluations	• Explain the learning objectives and information of the stage 1 cycle • Formation of groups (4-5 children) according to the ability of students • Provide some problems in Student worksheets on Canva • Group discussions • Provide adequate assistance to each group • Class discussions • Draw conclusions	• Observing students' behavior toward the TaRL approach • Monitoring discussions/cooperation between students in groups • Observing the notes and understanding of each student	• Record observation results • Evaluate observation results • Analyze learning outcomes • Compile reports

Data on the results of student collaboration skills were obtained from the results of observation. Summative assessments are given after the action or at the end of each cycle. The following is the data on the results of the collaboration skills test in cycle I and cycle II which will be described in Table 4.

Table 4. Percentage of collaborative skills indicators.

No	Indicator	Percentase (%)	
		Cycle I	Cycle II

1	Actively contribute	57.12	77.60
2	Work productively	55.80	83.00
3	Demonstrate an attitude of responsibility	62.30	88.00
4	Demonstrate flexibility and compromise	49.50	84.30
5	Show mutual respect	61.00	91.00
	Average indicator	57.14	84.78

Student learning outcome data was obtained from summative assessment. Summative assessments are given after the action or at the end of each cycle. The following is the data from the summative assessment of learning outcomes in cycle I and cycle II, which will be described in Table 5.

Table 5. Learning outcomes.

Description	Cycle I	Cycle II
Average value	67.90	82.15
Completed student	17.00	28.00
Complete presentation	53.00	87.50

In the first cycle, the average score of students was 67.90% after being given action by doing the TaRL approach assisted by Student worksheets in Canva, obtained in the second cycle with an average score of 82.15%. The percentage of completion in Cycle I was 53.00%, and in Cycle II was 87.50%. So with the increase in the percentage, it can be concluded that the learning ability of students has increased with the minimum score completeness limit that has been set by Junior High School 3 Madiun is 75.

Discussion

Classroom action research is a way to solve problems in learning by studying the situation in the problem and then finding solutions to problems that aim to improve and improve the quality of learning (Viyayanti, & Dwikoranto, 2021). Classroom action research is used in real situations because the main focus is on solving real problems in the field (Setyosari, 2012; Rusdi, 2020).

Based on the problems obtained when the initial data was taken, it was found that students' collaboration skills were still relatively low and resulted in low student learning outcomes. When observing in the classroom during learning and completing tasks, it can be seen that students still like to work alone and have difficulty expressing their opinions when working in groups. Collaboration skills among students are needed in learning. Collaboration involves continuous interaction of several people (Purnamasari et al., 2022), so learning to practice collaboration skills needs to continue to be used, especially to motivate and improve learning outcomes. With these conditions, shortcomings in collaborative learning can be analyzed to enhance learning shortcomings in the classroom.

Therefore, a learning approach is needed that can allow students to actively collaborate according to the abilities possessed by students. One of these approaches is the TaRL approach. So a class action research using 2 cycles was prepared with learning using the TaRL approach through student worksheets on the Canva application. TaRL is a learning method that emphasizes the abilities of each individual rather than the

grade level. With this approach, this method allows teachers to design a learning process that is tailored to each student's developmental stage, especially in improving literacy and collaboration skills.

Learning using Canva application media has the advantage of being a more exciting learning material. To support creativity in managing materials and tasks can be designed as attractively as possible. The use of Canva application has a variety of file format options that are saved, for example, files in the form of JPG, PNG, PDF, and mp4, so there are many file storage options that teachers need to use to share with students (Hanifah, 2022). So that students can adjust the choice of the desired file form according to their needs. Student worksheets through the Canva application also provide a variety of animations so that students can design group collaborative tasks as enjoyable as possible and these innovations can make learning more enjoyable through engaging learning media. According to Rahmatullah et al. (2020), using Canva-based audio-visual learning media can improve students' economic learning outcomes.

At the planning stage, the author prepares learning outcomes, diagnostic tests used for TaRL learning, learning tools, Student worksheets presented in Canva, prepares observation sheets, and evaluations. At the stage of learning actions, the steps are carried out with (1) explaining the learning objectives, (2) providing diagnostic assessments, (3) forming groups based on the results of diagnostic assessments, (4) providing materials. The results obtained from the diagnostic assessment are used by the author as the basis for learning TaRL based on the ability of students who are divided into developing groups and advanced groups. Learning is carried out in groups and during the activity observation of student activities is carried out.

The value before the initial action or diagnosis is used by the researcher as a reference in improving student learning outcomes and collaboration skills in the future in science lesson mates. Therefore, researchers need to take action to correct these shortcomings and then carry out stages in cycle I.

Cycle 1

When providing treatment to 8B students of Junior High School 3 Madiun with the TaRL approach with the help of the Canva application as a support for interactive learning media, it was found that the average achievement of collaboration skills indicators had a percentage of 57.14% Students had weaknesses in collaboration indicators in parts 1) actively contributing 57.12%, 2) working productively 55.80%, 3) showing an attitude of responsibility 62.30%, 4) showed flexibility and compromise 49.50%, 5) showed mutual respect 61.00%.

So from these indicators, it can be concluded that students tend not to do work and are suspected of relying on friends in one group. So that it causes less collaboration skills. In detail, in the indicator of actively contributing, the participation activities of students in the group have not shown actively in contributing to presenting ideas/results of thinking that can solve problems given by teachers through Student worksheets on the Canva application. Productive indicators, show that students are not actively involved in group discussions and do not do assignments effectively and efficiently. In the responsibility attitude indicator, students have actually carried out their duties and responsibilities by collecting assignments on time and complying with the instructions given, but these responsibilities are not obtained from themselves. Indicators show flexibility and compromise, they have not been able to provide skills in criticizing and giving advice. Furthermore, the indicator of mutual respect, actually

they have been able to appreciate and respect fellow group members and do not impose other people's opinions but what they do is still passive and accept it without seeing the impact or the truth.

Some students consider that group is a representative activity so that if their names are listed, students assume that they have been involved and received points/grades from the teacher. Collaboration activities that should occur are to help each other and cover each other's weaknesses so that the work/project problems can be adequately solved. According to Trilling (2009), a person is said to have collaboration skills if they meet three components of collaboration, namely: (1) showing the ability to work effectively and respecting the diversity of team members; (2) Demonstrating flexibility and willingness to accept the opinions of others in achieving a common goal, and (3) take on shared responsibility in working collaboratively and appreciating the contribution of each team member.

In the use of Student worksheets on the Canva application, teachers can find out and monitor directly which students are actively involved in working on the Student worksheets on the Canva application because for those who are actively involved, the name of the person concerned will appear in the Canva application. Some weaknesses obtained based on observations in cycle I are suspected that students are still shy in expressing their opinions and are not enthusiastic in participating in learning so that certain students when collaborating with group friends are more silent than actively involved in discussion and learning. In addition, students are still not used to using the Student worksheets in the Canva application, so they need to adapt to these learning activities. In addition, sometimes being constrained by an uncondusive internet signal is a factor in the success of learning using the Canva application.

Cycle II

In cycle II, after making improvements from the shortcomings that occurred in the previous cycle, maximum results were obtained. The percentage of activities increased by 27.63% so that the percentage of activity results became 84.78%. Thus, it can be said that overall, through learning with the TaRL approach assisted by the Canva application, teachers play the role of facilitators and teacher-centered learning, and students play an active role in finding solutions to the problems presented in the student worksheets on the Canva application (Vivi et al., 2021). The application of this learning approach can improve collaborative skills and learning outcomes. Students experience an increase in collaborative skills and learning outcomes. Collaborative skills have advantages, such as working independently or in groups. Previous research has proven the effectiveness of collaborative-based learning (Ansari & Khan, 2020). Collaboration supports the student learning process (Chen & Kuo, 2019; Laily & Rachmadiarti, 2019).

CONCLUSION

Fundamental Finding: TaRL approach has a positive impact on improving collaboration skills and learning outcomes. The use of Canva media in TaRL learning facilitates students to practice collaboration skills so that it improves learning outcomes.

Implication: Teachers can apply learning with the TaRL approach through Canva media to practice collaboration skills that are tailored to the level of students' abilities.

Limitation: The limitation of this study is that students must use laptops or mobile phones in the learning process. **Future Research:** This research is expected to be

further researched on the impact of the TaRL approach with Canva media to practice collaborative skills and the implementation of TaRL using other interactive media.

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