VideoScribe's Sparkol-Based Learning to Improve Learning Outcomes: A Classroom Action Research

Bambang Saptono*, Herwin Herwin, and Shakila Che Dahalan

***Abstract*—This study aims to improve student learning outcomes by applying VideoScribe's Sparkol media. This study uses a type of classroom action research. This classroom action research went through two cycles in which the researcher acted as an observer. Each cycle consists of planning, implementing, observing and reflecting. The research subjects were Grade IV students. Data collection techniques are carried out by observation and learning achievement tests. Data were analyzed using descriptive analysis. The findings obtained in Cycle I indicate that the actions taken have not been successful. This is evidenced by the absorption of students who have not reached the expected completeness criteria. After reflection and implementation of Cycle II, the action shows an increase. This can be seen after the learning outcomes test shows that students' absorption has reached the expected minimum mastery. Based on these findings it can be concluded that VideoScribe's Sparkol media can improve student learning outcomes in elementary schools and it is recommended to be applied on an ongoing basis in learning activities to hone students' cognitive intelligence so as to obtain maximum learning outcomes.**

***Index Terms*—VideoScribe's Sparkol, learning outcomes, classroom action research**

I. Introduction

Teachers have a very important role in determining the success of the learning program [1–4]. Teachers are required to be able to plan, implement and evaluate their learning activities in order to achieve the expected curriculum goals [5–8]. As a facilitator in learning activities the teacher must be able to adjust the learning methods used, learning media, the characteristics of the development of students, the competence of the material to be taught and other aspects related to the success of the learning program [9–11].

One of the important components of professional skills that must be possessed by a teacher is the ability in classroom management. This is one of the basic teaching skills that aims to create and maintain an optimal learning atmosphere, meaning that this ability is very relevant to the professional ability of teachers to create favorable learning conditions, delight students and create a learning climate that can achieve goals effectively.

Learning is categorized as effective if the teaching and learning process is not only focused on the results achieved by students, but how an effective learning process is able to provide good understanding, intelligence, perseverance, opportunity and quality and can provide changes in behavior and apply it in their lives. Effective learning can also create a pleasant learning atmosphere so as to provide students' creativity to be able to learn with the potential they already have, namely by giving them the freedom to carry out learning in their own way [12].

The problem faced by students after the pandemic is the problem of interest in learning and enthusiasm to return to study in normal situations [13–16]. Students seem not yet fully able to adjust the transition period after distance learning and then move to face-to-face meetings in class [17]. This has an impact on learning outcomes that have not been satisfactory and have not met expectations. The learning outcomes so far are still relatively low. This is evidenced in the material on the diversity of Indonesian culture, student learning outcomes are still not satisfactory. The average class learning result is only 68 (out of a maximum of 100). Furthermore, only about 40% of students can achieve the expected mastery (75). The remaining 60% still don't understand the topic well.

Based on the preliminary study, it can be described the identification of the problem of this study as follows. 1) Post-pandemic face-to-face learning for students has not run optimally; 2) students' interest in learning is still low to be involved in learning activities; 3) Student learning outcomes and understanding of concepts are still low in learning activities; 4) The ideal innovation has not yet been found to make learning more effective.

Based on the problems in the field, researchers are encouraged to carry out invasions in learning activities. This is done to improve student learning outcomes in learning activities. This study applies VideoScribe's learning media to increase learning effectiveness. This is based on various findings that report the superiority of this media. One of the basics is that VideoScribe's media is very suitable to be applied to sharpen students' understanding of concepts in learning. In addition, this media is very attractive to students and quite easy to apply in learning activities [18].

Other relevant studies that underlie the application of VideoScribe's Sparkol-Based have reported that in addition to being useful for variations in learning activities, this media can make a positive contribution to students' learning motivation [19]. This is very relevant to the problems faced by students in the field. This is very relevant to the problems faced by students in the field, moreover, this media is based on the use of information technology. These characteristics are suitable for current learning, where several studies have supported the integration of technology in learning activities that have a positive impact on student learning development [20–23]. Based on the previous description, this study aims to improve student learning outcomes by applying VideoScribe's Sparkol media.

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II. Literature Review

A. Learning Media

Media is an important component in learning activities. Learning media refers to tools that can help the learning process and can arouse students' thoughts, feelings, attention [24]. Media are all the tools used to convey information [25]. Media is anything that is used to connect educators with students who have the goal of providing stimulus for students so that they get motivated and are able to follow the learning process in a complete and meaningful way [26].

Learning media are tools in the teaching and learning process that can stimulate the thoughts, feelings, attention of students [24]. Learning media are all tools that can be used to convey information (in the form of subject matter) effectively so that it can foster students' learning motivation. students and learning objectives can be achieved [27]. Learning media is a tool that can help the teaching and learning process so that the meaning of the message conveyed becomes clearer and learning objectives can be achieved effectively and efficiently [28].

Based on some of these views, it can be concluded that learning media are tools or objects that can help teachers in the teaching and learning process so that students can easily understand learning material so that learning objectives can be achieved optimally. In the learning process, the media also increases the motivation and curiosity of students in participating in learning. In this study, the media used was Sparkol videoscribe-based learning media. The existence of this learning media can assist teachers in conveying learning material and can help facilitate students who have various learning style characteristics (audio, visual, audiovisual).

B. VideoScribe's Sparkol

VideoScribe's Sparkol is a software that we can use to make animated white background designs very easily. This software was developed in 2012 by sparkol. Video Scribe is a unique way to create engaging video animations quickly and easily. It can be empowered to make your message impact without any knowledge, technique, or design [29].

VideoScribe's Sparkol is a medium that relies on the power of video and images in a complete collaboration [30]. VideoScribe's Sparkol is an alternative to making digital animations like whiteboards for students to observe learning material. This is very useful for developing students' understanding in following the subject matter [31]. Videoscribe is an audio-visual aid in learning activities that is mixed into an interesting animation to achieve learning effectiveness for students [32].

III. Method

This study uses a class action research design. The implementation of this classroom action research refers to a systematic review of the application of VideoScribe's Sparkol to improve student learning outcomes. As subjects in this study were grade IV students for the 2022/2023 school year, as well as grade IV teachers.

In accordance with the type of research chosen, namely action research, this research uses the action research model from Kemmis and McTaggart [33], which is in the form of a spiral from one cycle to the next. Each cycle includes planning, action, observation, and reflection. In this study, each cycle was conducted in two face-to-face learning meetings. The steps in the next cycle are revised planning, action, observation, and reflection. Before entering Cycle I, a preliminary action is carried out in the form of problem identification. The following in Fig. 1 is presented the cycle diagram used in this study.

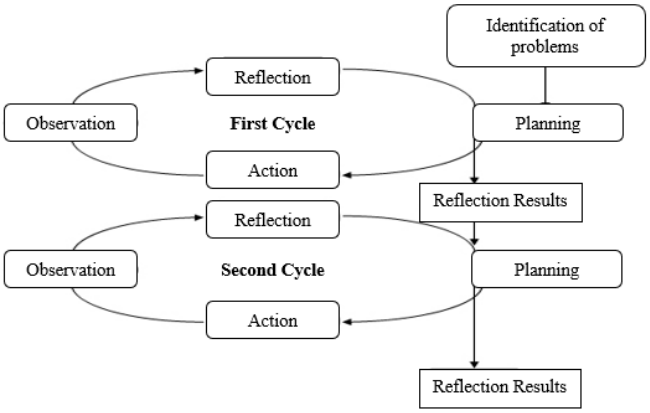

Fig. 1. Research cycle diagram.

Fig. 1 shows the cycle diagram used in this study. In the figure it can be observed that this study begins with the identification of class problems. These problems will be solved through classroom action research through four main steps starting with planning. After planning, proceed with the implementation of action and observation. These two things take place simultaneously. After the implementation of the action, a reflection is made on the findings of Cycle I. The results of Cycle II's reflection form the basis for planning in Cycle 2. The same pattern continues until the end of the cycle and achieves the planned study objectives.

This research has been carried out in two cycles. Each cycle is carried out according to the changes to be achieved, as designed in the investigated factors. Furthermore, the data collection techniques used were observation and learning outcomes tests. The data analysis technique used is descriptive analysis and qualitative analysis. Regarding the indicators of success in action, this classroom action research is successful if there is an increase in student learning outcomes with the application of VideoScribe's Sparkol. If there are 85% of students who achieve a minimum standard score of completeness (70), then the class is considered classically complete.

IV. Results

The research results are described in stages in the form of learning cycles carried out in the teaching and learning process in the classroom. The characteristics of videoscribe which are used as learning media in this study were made with the help of the Sparkol VideoScribe application. The material in the videoscribe media used is compiled according to the 2013 Indonesian Curriculum. The content of the material discussed in the learning media is social science in elementary schools. Each scene in the video is accompanied

by an audio explanation. Students are given access to learning through this media in learning activities that take place either through computers or through student smartphones. In accordance with the type of research used, each cycle consists of planning, implementation or action, observation and reflection activities. In this study, learning was carried out in two cycles as described below.

A. Description of Cycle I Results

The first cycle consists of two learning meetings. The first cycle consists of four stages, namely planning, implementation, observation and reflection, as stated below.

1) Planning

At the first meeting, the teacher conducts curriculum analysis to determine the basic competencies that will be conveyed to students by applying VideoScribe's Sparkol learning media, making lesson plans by referring to the steps for implementing VideoScribe's Sparkol media. In addition, the teacher also prepares media or tools and materials to be used in the learning process, then makes an observation format to see the teaching and learning conditions in the class during the implementation of the action and prepares a learning achievement test to measure student learning outcomes after the learning process.

Basically the second meeting for the Cycle I is still the same as the first meeting. The only difference is the content of the material being taught. All learning tools prepared at the first meeting were also prepared at the second meeting.

2) Action

Actions in the teaching and learning process Cycle I were carried out with reference to the planned stages of implementing VideoScribe's Sparkol media. As previously explained that this cycle consists of two meetings. At the first meeting of Cycle I, in the core learning phase, the teacher presents the material with the help of VideoScribe's Sparkol. At this first meeting, the material focused on Indonesia's cultural diversity in terms of local regional languages. After that the teacher gives the opportunity for students to observe the material displayed by the teacher. To facilitate coordination and interaction between students, the teacher groups students consisting of 4 to 5 students per group. This group will continue with the activity of collecting assignments according to the material and group division.

Fig. 2. Content in Sparkol's VideoScribe.

In the second meeting, the teacher still refers to the application of VideoScribe's Sparkol to the activities at the beginning of the main activities. After that students are asked to observe the material presented in the media content. At this second meeting, the learning process focused on material on Indonesian cultural divers ity in terms of traditional houses. Apart from that, in this core activity, students also split up in groups according to the direction of the teacher to discuss the learning material at that time. The following in Fig. 2 is a sample of VideoScribe Sparkol is presented which is shown during the lesson.

Fig. 2 presents an example of a situation where VideoScribe Sparkol is implemented in this study. In the picture it can be seen that the learning media has been run to be observed by users in learning activities. Fig. 2 shows the material of Indonesia's cultural diversity in terms of traditional houses which are characteristic of the various cultures in Indonesia. Apart from that, the VideoScribe Sparkol media is also equipped with English subtitles so that non-Indonesian users can also learn this media.

The next activity is data collection. Activities in this phase are students collecting various information in the form of group discussion activities that have taken place. The activity in this phase is processing the data that has been collected based on the results of group discussions on the material presented in the video. After the activity, each group presented the results of their group's work in front of the class and other groups.

As a continuation of data processing activities, students are also guided to verify data. In this activity students are asked to verify their findings by playing back the material on VideoScribe's Sparkol. This variation is carried out by connecting the findings of the groups that have been carried out. This is intended to strengthen the conclusions that will be drawn by students in groups. The last activity of students is to draw conclusions based on the results of data processing and data verification carried out regarding the subject matter.

3) Observation

Based on the results of observations made by observers of the teacher's activities in applying VideoScribe's Sparkol media to the learning process in Cycle I, several things can be stated, namely, in the early part the teacher has stimulated well through questions given related to relevant learning material. In addition, the teacher has also directed students to observe the material in VideoScribe's Sparkol content properly.

Another thing that was found in the core phase or the video watching phase showed that the teacher had not been optimal in organizing these activities. It seems that this activity took a very long time to almost spend time on the core learning activities. This has an impact on subsequent activities that are not going well because it took too long at the previous stage. The same thing was also found in the presentation and conclusion stages which showed that this activity was not optimal. This is evidenced by the group presentations and conclusions that were only dominated by certain groups and did not spread to others.

The results of observations obtained on student activities in the learning process with the discovery learning method Cycle I, namely, in the initial activities, students were enthusiastic in participating in the stimulating activities

presented by the teacher. However, in subsequent activities, it did not run optimally. This was found in the activity of watching videos, students showed preoccupation with doing this activity so that it took quite a long time and disrupted the course of activities in the next phase. In addition, it was also observed that some students were not serious in carrying out material discussion activities, this was due to the lack of directives from the teacher to be serious in carrying out experimental activities.

The phase of drawing conclusions on the material was running less optimally because of the limited time left. In addition, this problem arises because of the lack of equality in the distribution of groups. Impressed that some of the activities were only dominated by some groups so that other groups did not show their contribution in discussing the material. Because the time spent on watching videos is too long, there are only a few opportunities for students to be active in concluding activities, so that only a small proportion of students can participate in summarizing the subject matter, thus these activities still need to be increased.

In general, learning activities in Cycle I are still not optimal. Most of the students still had difficulty in answering the learning outcomes test items in the first cycle and indicated that the learning activities using VideoScribe's Sparkol media had not been carried out in accordance with the expected learning process. Based on the data on student learning outcomes, it shows that the average student learning outcomes in the first cycle reached 67.88, this has not shown the achievement of indicators of research success. In addition, students' classical learning completeness only reached 57% with the highest score of 80, while the other 14 students had not yet achieved learning completeness with the lowest score of 45.

4) Reflection

Based on the observations that have been obtained, a reflection is held on the actions that have been taken. In the first cycle of research, reflection results were obtained, namely the learning process was not in accordance with the proper VideoScribe's Sparkol media. This happens because the organization of time is less proportional. In addition, there are still students who have not been serious in carrying out material discussion activities. Therefore, in the next cycle the teacher must be more careful in organizing the available time and be more intensive in giving emphasis and direction to students to be more serious in each learning activity. Some students also did not dare to express their opinion in the discussion activities.

The learning process in watching video activities lasts a long time, so that student activity in material discussion activities and drawing conclusions cannot be carried out optimally. For that, in the second cycle of learning planning should pay more attention to the time available.

The learning outcomes in the first cycle indicate that the research has not yet reached the expected success benchmark. Based on the observation of learning with VideoScribe's Sparkol media, for teachers, data was obtained that in the first cycle the performance of teachers and students was not optimal in learning activities. Data analysis of student absorption in the first cycle of learning outcomes test shows that the average grade achieved by students is 67.88 or is in sufficient qualification, this result has not reached the minimum standard of completeness which is 70. For this reason, it is necessary to hold Cycle II which is an improvement from the implementation Cycle I.

B. Description of Cycle II Results

Like Cycle I, Cycle II also consisted of four stages, namely planning, implementing, observing and reflecting, as stated below.

1) Planning

As was the case in Cycle I, Cycle II still begins with curriculum analysis to determine the basic competencies to be conveyed to students, making lesson plans with reference to the steps for implementing VideoScribe's Sparkol media. The teacher also prepares media or tools and materials to be used in the learning process in Cycle II, then makes an observation format to see the teaching and learning conditions in the class during the implementation of the action and prepares a learning achievement test to measure student learning outcomes after the learning process in Cycle II.

2) Action

Basically, the actions in Cycle II still refer to the syntax of applying VideoScribe's Sparkol media as applied to Cycle I. It's just that the difference in Cycle II is that the teacher pays more attention to organizing time that is more proportional so that the mistakes in Cycle I are not repeated.

At the first meeting, the teacher carried out the main activity by presenting material using VideoScribe's media. At the first meeting of Cycle II, the material focused on Indonesian cultural diversity in terms of existing clothes. Students are divided into several groups that have been determined by the teacher based on the results of Cycle I reflection. Based on the reflection results in Cycle I, in Cycle II the teacher began to rearrange the grouping of students who were more heterogeneous. This is so that the forces between groups can be more balanced and all groups are expected to be active and participate in learning activities. In addition, the teacher also pays more attention to students who previously did not want to participate in group discussion activities, giving encouragement to be involved in each activity.

The second meeting is the last meeting of Cycle II. Basically, this meeting was held the same as the first meeting of Cycle II, which was based on the application of VideoScribe's media and referred to the reflection results of Cycle I. However, what was different from the previous first meeting was that the second meeting of Cycle II focused on Indonesia's cultural diversity in terms of regional culinary specialties. After the learning process, a test is given to evaluate the process and student learning outcomes.

3) Observation

Based on the results of observations made by observers of the teacher's activities in applying VideoScribe's Sparkol media to the learning process in Cycle II, several things can be stated, namely, in the early part the teacher stimulated well through questions given related to learning material. The same thing is also done in the activity of watching videos the

teacher has directed students to identify concrete material related to learning.

The success that distinguishes it from the previous cycle is in the material discussion phase. In this phase the organization of time to discuss material is more neatly arranged. Students who were not serious about discussing in the previous cycle experienced positive changes in Cycle II. This also had a positive impact on the process phase of the discussion implementation which was carried out as expected. It appears that in this phase the interaction between group members is going well, cooperation between students shows good results as well. The observation results show that students have been involved and interacted well in analyzing data about sound energy sources.

Similar success was also observed in the material presentation phase. Most of the students showed activities that were in line with expectations. This was observed after most students had the courage to express their opinions and conclusions regarding the discussion results and subject matter. The conclusions conveyed by students have been obtained in accordance with the concepts studied.

4) Reflection

Based on the observations that have been obtained in the implementation of Cycle II learning, the results of reflection are obtained, namely the learning process has shown that learning with VideoScribe's Sparkol media is in accordance with the plan. This is indicated by student activity which in general has shown a systematic phase of applying VideoScribe's Sparkol. The learning outcomes in Cycle II show that this classroom action research has achieved the expected success benchmarks. Based on learning observations, it shows that the teacher's performance in learning has implemented VideoScribe's Sparkol well. This is shown that the teacher has maximized in stimulating students, guiding students in identifying material through VideoScribe's Sparkol and drawing conclusions based on findings in the learning process. Likewise in the aspect of students who have shown the expected activity in Cycle II. Students have taken the activity of watching VideoScribe's Sparkol seriously. Cooperation and interaction between group members has been going well according to the allotted time.

Fig. 3 presents a comparison of the findings in Cycle I and Cycle II in terms of student learning outcomes and learning mastery level. If viewed from the learning outcomes (blue diagram) it can be explained that there has been a significant increase in student learning outcomes. The same thing happened to the learning completeness aspect (brown diagram). The figure shows that there is an increase in the percentage of learning completeness in Cycle II. Descriptively, this shows the effectiveness of learning by using VideoScribe's Sparkol media.

Data analysis of students' absorption in the Cycle II learning achievement test showed an increase in that the class average score achieved by students was 88.86, this result has reached a minimum standard of completeness, namely 70. Classical completeness shows an achievement of 95%, for this reason the class is considered classically completed, the research action is declared successful so that the implementation of a further cycle does not need to be carried out.

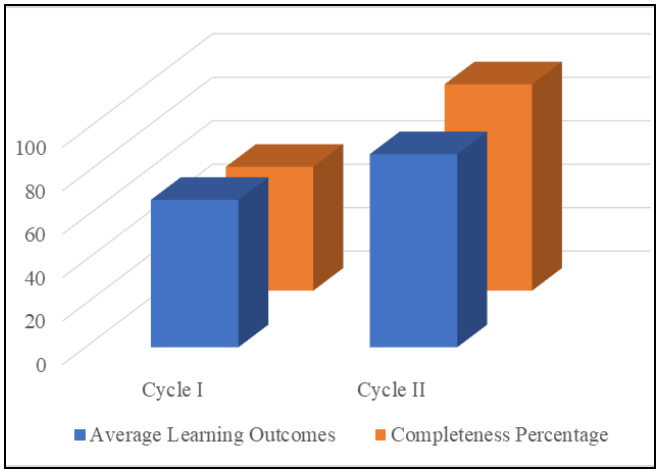

Fig. 3. Distribution of Cycle I and Cycle II findings.

V. Discussion

These findings indicate that VideoScribe's Sparkol can improve student learning outcomes in primary schools. This is evidenced by the increase in students' ability to complete teaching competencies in the form of learning outcomes tests after being given action by applying VideoScribe's Sparkol media. It can be said that students' cognitive learning outcomes can be improved if they apply this learning media, especially what this research has proven in elementary schools.

Learning that is carried out using the discovery learning method is more focused on the activities and experiences of students directly, this can affect the attractiveness, motivation, and attention of students in learning[34–36]. Even with this media can help students in learning meaningful abstract concepts. On VideoScribe's Sparkol media students can watch live material as well as real examples, making it easier for them to understand the subject matter correctly [37–40]. This media can arouse students' motivation in learning because this method is associated with the interests and characteristics of the students themselves [41].

VideoScribe's Sparkol media is very good in honing students' cognitive abilities [42–44]. VideoScribe's Sparkol develops an active way of learning where students can independently investigate the problems they face or learn on their own. This is very beneficial for students because the learning outcomes obtained last a long time in memory so they are not easily forgotten by students [45]. This is very beneficial in improving students' cognitive abilities [46]. If students are continuously involved in VideoScribe's Sparkol learning, it will be easier for students to understand and be able to develop their cognitive aspects.

In addition, the proper application of VideoScribe's Sparkol can lead students to identify what they want to know by searching for information themselves, then students organize or form (constructively) what is known and understood into a final form. With discovery learning students are accustomed to thinking analytically to solve the problems they face. Another characteristic is the interaction with the learning environment. Interaction with media and

learning resources can improve understanding and enrich students' knowledge in learning activities [47]. Of course, this can further strengthen the cognitive intelligence of students.

The proper application of VideoScribe's Sparkol will make students closer to their learning resources, students' self-confidence will increase because students feel that what they understand is discovered by themselves and of course adds to student experiences. Through this media, students will be able to develop curiosity in the teaching and learning process [48–51]. In learning with VideoScribe's Sparkol, students are encouraged to study independently. Students are actively involved in discovering various concepts and principles through solving problems or abstracting various objects [52]. Therefore, aspects of student independence can also be formed through the application of VideoScribe's Sparkol media.

Students who study with VideoScribe's Sparkol will be stimulated to develop their curiosity. To answer this curiosity, video content is presented that attracts students' attention in order to maintain and strengthen their concentration in learning. Some of the previous descriptions show that the application of VideoScribe's Sparkol in learning has a positive impact not only on cognitive aspects but can also benefit students' psychomotor aspects. Through VideoScribe's Sparkol students can build habits by integrating technology in learning activities.

The results of this classroom action research show that VideoScribe's Sparkol is a suitable learning media to be applied in elementary schools. This method is very appropriate for children because it is very relevant to the world of children, helping to generate interest in learning and motivate children so that learning outcomes can be maximized. If this learning media is applied continuously in elementary schools, it will not only be the knowledge aspect that is achieved but also the skills aspect that can be developed in accordance with the demands of technological modernization in the education sector. Based on this analysis, it strengthens the conclusion that VideoScribe's Sparkol-based learning media can improve student learning outcomes in elementary schools.

VI. Conclusion

The study concludes that VideoScribe's Sparkol-based learning media can improve student learning outcomes in elementary schools. This is indicated by an increase in student learning outcomes after the implementation of this media in learning activities. VideoScribe's Sparkol is very good for developing students' cognitive intelligence in understanding subject matter. This is evidenced by the increase in students' ability to complete the learning outcomes test after being given learning actions with VideoScribe's Sparkol.

Based on these findings, to hone students' cognitive intelligence it is suggested to apply VideoScribe's Sparkol learning media in learning activities. The findings of this study indicate that VideoScribe's Sparkol has a positive impact on student learning outcomes. For this reason, it is suggested that this learning media can be applied on an ongoing basis in elementary schools.

Limitations and Contribution

This study is a classroom action research applied in one class. Therefore, these findings are limited to one class area according to the research subject. In the future it needs development and verification for a wider area. This study provides a theoretical contribution to the development of learning media theory. These findings reinforce that the integration of technology in learning activities has a very good positive impact on student learning activities. The practical significance of this finding shows that VideoScribe's Sparkol media is very suitable for the characteristics of elementary school-age children and is recommended as an alternative media to maximize students' cognitive learning outcomes. Practically this can help teacher performance in learning activities.

Conflict of Interest

This manuscript does not contain a conflict of interest.

Author Contributions

Bambang Saptono found the main issues, drafted the manuscript, developed the instruments and collected data. Herwin Herwin formulated a model of action, made observations and reflected on actions. Shakila Che Dahalan supports data analysis, discussion of findings and formulation of study conclusions.

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