USING VIDEO ANIMATION IN CONTEXTUAL TEACHING AND LEARNING TO ENHANCE STUDENT ENGAGEMENT IN SCIENCE LEARNING

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Abstract. *Science learning that only prioritizes conceptual learning and ignores relevance to the environmental context and society in which students live needs to be immediately abandoned and changed to contextual learning oriented towards student activity and engagement. The research aims to implement the contextual teaching and learning (CTL) model assisted by video animation to improve student learning processes and engagement in science learning about the Water Cycle. For this reason, a qualitative approach to this type of classroom action research is a research method that is considered relevant. Class actions were carried out in cycles (planning, implementation, observation and reflection) in class 5 of SDN 3 Watang Sidenreng, Sidrap Regency, South Sulawesi. Three instruments were used as data collection tools: teacher and student observation sheets and student learning engagement observation. Descriptive analysis was used for the analysis of data. The result is significant changes after implementing three class actions, especially in the student-centred orientation of learning science. With worksheets supported by animated video media, everything strengthens the contextualization of the Water Cycle material to be closer to students' daily phenomena. Various activities and learning experiences are realized when implementing the CTL model's seven learning steps (syntax). At the end of the cycle, student engagement could increase significantly. Thus, implementing CTL assisted by video animation could improve the learning process and engagement.*

Keywords*: animation videos; contextual teaching; contextual learning, learning engagement*

INTRODUCTION

One of the significant challenges for teachers in facilitating science learning is increasing student engagement in any science learning relevant to the environment and society (Hadzigeorgiou & Schulz, 2019; King & Ritchie, 2012). This is because learning science in recently developed classes privileges conceptual learning and ignores relevance to the context of the environment and society where students live, or what is termed decontextualization, and often ignores the realities of life and students' interests (King & Ritchie, 2012; Kruse et al., 2021; Marco-Bujosa et al., 2021; Valladares, 2021). For this reason, science learning in classes needs to be transformed into contextual learning oriented towards student activity and engagement. Thus, students know science not only as a product of science but also as a process and an attitude.

Context-based science learning (CBSL) is an effort to build student engagement by placing science learning in meaningful contexts for students (King & Ritchie, 2012). CBSL is an approach to science education that emphasizes teaching scientific concepts within meaningful and real-world contexts. Instead of presenting science as a series of disconnected facts or theories, CBSL integrates scientific knowledge with relevant societal, environmental, or personal contexts. This approach

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aims to make science more relevant and engaging for students by showing them how scientific concepts are applied in everyday life or in addressing contemporary issues. In CBSL, students might investigate scientific phenomena or solve problems that are relevant to their own lives or communities. This can involve conducting experiments, analyzing data, and engaging in discussions or debates about scientific topics that have practical implications. By connecting science to familiar contexts, CBSL helps students see the relevance of science in their lives and encourages deeper understanding and interest in the subject. For example, learning begins by taking the students to the school garden, then discussing with them the importance of plants, how they grow, and their role in providing food and oxygen. Have the students observe different plants in the garden. Encourage them to notice differences in size, shape, and color. Guide them to identify the parts of a plant (roots, stems, leaves, and flowers) and discuss their functions.

An evaluation study of learning programs recommends that in facilitating science learning, teachers should prioritize student engagement in constructing meaning through exploration or investigation of natural phenomena through various learning activities such as engaging in discussions, collecting and analyzing data, and reading relevant literature so that it allows them to broaden their understanding (Tyler et al., 2018). Natural phenomena are observable events or processes that occur in the natural world without human intervention. Thus, it is interesting for students to investigate, such biological phenomena, such as photosynthesis, ecosystems, and water cycle. Direct investigations of the natural environment around the school or home, equipped with discussions, collecting and analyzing data, and reading relevant literature, have the potential to broaden their understanding of the natural phenomena being studied.

In addition, there is also an assertion that building student learning engagement in learning science is one of the essential tasks of science teachers because, with a good level of learning engagement, student understanding can occur (Hadzigeorgiou & Schulz, 2019). This student learning engagement can be seen in three dimensions: affective-emotional engagement, which includes attitudes, interests, a sense of belonging and identification; cognitive engagement, which can be seen in persistence, willingness, motivation, and psychological condition to learn and engagement behaviors such as participation in activities (Christenson et al., 2012; Godec et al., 2018; Morcillo-Martínez et al., 2021).

However, in the reality of implementing science learning in grade 5 of SDN 3 Watang Sidenreng, Sidrap Regency, South Sulawesi, students tend to be passive, not actively ask and answer, and passively dominant learning activities by listening to teacher explanations tend to show their low engagement in learning. Data from several initial observations shows that every science lesson begins with a thorough teacher explanation of the material and then continues working on questions on student worksheets using textbook learning resources. When finished, the teacher explains the answers to the questions again. Thus, the allocation of study time is dominated by the teacher's active teaching, whereas students tend to learn passively because they accept more of the teacher's explanations. After making further observations, this was caused by two factors, including factors from teachers and factors from students. Factors from the teacher namely: (1) Teachers still need to implement specific and appropriate learning models to increase student learning engagement. (2) Teachers need to utilize instructional media that help students increase student learning engagement. (3) Teachers must create learning activities that encourage increased student engagement. This problem must be resolved so that the process of learning science and student learning outcomes in these schools can increase. Reeve & Jang (Jannah & Jainudin, 2019) emphasized that the higher the level of engagement in a student's learning, the better the learning process and, potentially, the better the learning outcomes.

Among several existing learning models, contextual teaching & learning (CTL) is a learning model that is suitable for overcoming the problems described in the previous paragraph. The CTL model has the potential to facilitate learning that is oriented towards increasing student learning engagement (Kelana & Wardani, 2021). Contextual learning helps teachers connect academic material with real-world situations that are commonly experienced by students and then encourages students to make connections between what they know and what they experience in the real world (Davtyan, 2014; Glynn & Winter, 2004). Through CTL, students who need the information to better understand the real-world context related to the material being studied will be fulfilled so that the focus of their learning activities is to help students answer questions, research, or investigations that refer to students' daily lives. In the end, learning becomes more meaningful (Aydin-Ceran, 2022). CTL is a learning process that helps students learn naturally, then helps them learn about critical thinking, problem-solving, and creativity in learning materials or activities. It also helps students connect knowledge to various applications in everyday life and helps them learn by doing it (Ambrose et al., 2013; Baker et al., 2009; Berns & Erickson, 2001).

To strengthen the implementation of CTL in science learning, relevant learning media are needed. Learning media containing contextual content is likely to strengthen students' understanding further. The learning activities carried out by students using learning media will further encourage their learning involvement. One of the learning media that is considered relevant to the implementation of CTL is video media which can facilitate contextual learning content (Cantum Pel et al., 2023; Mufidah et al., 2020; Ningsih et al., 2022) and facilitate various learning activities in the form of listening to the video content, telling or rewriting the video content, writing down the critical information obtained. This is sure to encourage students to focus on the learning process.

Thus, according to the literature, integrating learning media into contextual learning can potentially increase student engagement. Studies that examine media integration (specifically animated video media) and contextual learning models have yet to be carried out by many researchers, especially specifically for science learning at the elementary school level. The results from classroom action research will fill this gap in the literature. Practically, the research results will provide alternatives for elementary school teachers to teach science material oriented towards student learning engagement.

Based on the description in the previous paragraph, it is deemed essential to conduct classroom action research that focuses on answering the research question of how to implement CTL assisted by animated video media to improve the learning process and engagement in science learning in grade 5 at SDN 3 Watang Sidenreng, Sidrap Regency, South Sulawesi.

METHOD

This research seeks to improve the learning process and engagement in science learning. Therefore, this type of classroom action research is considered appropriate for the research design. This type is considered appropriate because classroom action research is a method of finding out what works best in your classroom to improve student learning (Mettetal, 2001, 2002). In this case, the researcher will implement an action in CTL supported by animated video media to improve the science learning process in grade 5 SDN 3 Watang Sidenreng, Sidrap Regency, South Sulawesi. After implementing these actions, it is hoped that student learning engagement will increase and ultimately be able to encourage their learning outcomes. This research was conducted in May 2023.

The research design used in this study is the Classroom Action Research model developed by Elliot (Elliott, 2001). The implementation of the action is designed in cycles, consists of several stages: 1) planning; 2) implementation; 3) observation; and 4) reflection (Elliott, 2001). In short, the stages of the planning and implementation action refer to the CTL learning syntax (Kadir, 2013), including: 1) Facilitating students to learn independently, discovering and constructing their new knowledge and skills (Constructivism), 2) Facilitating students to carry out inquiry activities, 3) Facilitating students' curiosity by asking questions (Questioning), 4) Facilitating Learning Community, 5) Presenting models as examples (Modeling), 6) Facilitating reflection at the end of the meeting (Reflection), and 7) Conducting actual assessments in various ways (Authentic Assessment). At each stage, animated video media is the leading learning resource, so it is integrated into its use at every step of learning. The observation and reflection stages also refer to the contextual learning stages. Researchers collect data about the implementation, process and quality of implementation of each stage of contextual learning along with integrating animated video media. The results are used as reflection material to determine the weaknesses and improvement process for the next cycle.

The sample was selected purposively, namely 16 grade 5 students in elementary schools. Purposeful sampling is widely used in qualitative research to identify and select information-rich cases related to the phenomenon of interest (Palinkas et al., 2015). Students in this class were chosen because, in that class, there were problems with the science learning process carried out by the teacher, and there were also problems with the students' low learning engagement.

The research data was collected using instruments in the form of 3 observation sheets: 1) observation sheets of student learning activities, 2) teacher teaching observation sheets, and 3) observation sheets of student learning engagement. Each observation sheet instrument was developed based on the indicators from the literature review.

Instruments for student learning engagement were developed based on indicators of student engagement, as shown in Table 1.

Table 1. Categorization of students' learning engagement

Score	Categorization
76 – 100	Excellent
60 – 75	Sufficient
0 – 59	Less

Source: Adapted from indicators measuring student engagement (Sihpiwelas et al., 2014)

The results of observations of each student were then scored to categorize the level of student learning engagement with the guide to the table of indicators for observing student engagement, as shown in Table 2. The standard for successful action in this study was when at the end of learning, > 75% of students were in the Excellent categories of learning engagement.

Table 2. Observation Indicators of Student Learning Engagement

Aspect	Indicator
Physical Engagement	1. Throughout the lesson, students see the teacher explain things. 2. Students take notes or jot down things as they study. 3. Students concentrate on completing their worksheets following teacher instructions. 4. Students actively engage in sequential learning activities.
Mental Engagement	1. Students take the initiative to raise questions during talks with instructors and other students. 2. Students share ideas and sentiments about that day's learning process. 3. Students participate actively in group activities. 4. When speaking with teachers and their peers, students take the initiative to ask questions.
Emotional Engagement	1. Students like following the educational process. 2. Students actively interact with one another, different educational tools and media learning resources. 3. Students are eager and enthusiastic to engage in learning from beginning to end. 4. The students appear committed to completing each learning assignment.
Scoring guidelines	
• Students get a score of 4 if they show 4 indicators during learning • Students get a score of 3 if they show 3 indicators during learning • Students get a score of 2 if they show 2 indicators during learning • Students get a score of 1 if they show 1 indicator during learning Student score is the total score obtained, divided by the total score (12) and multiplied by 100.	

Source: Adapted from indicators measuring student engagement (Sihpiwelas et al., 2014)

RESULT AND DISCUSSION

This section explains the research results with a content structure in the form of a description of the implementation of each cycle, then continues to describe the results of observations, reflections, and the results of measuring student learning engagement in each cycle. The final section continues by discussing all research findings with relevant literature, both on the findings of the learning process during the implementation of the action and the findings of the impact after the action on increasing student learning engagement. The following is the complete explanation.

Implementation Description of Cycle Action Learning

Cycle I

The learning process as a form of implementation of the action plan in this study was carried out through the opening, core, and closing stages of learning. At the core of learning, the action in this study is applied by implementing all the CTL stages (syntax), and animated videos about the Water Cycle supports each stage. The learning stages can be described as follows:

1) Facilitate students to learn independently, find themselves, and construct new knowledge and skills (Constructivism). At this stage, the teacher shows students an animated video about the Water Cycle. The teacher provides opportunities for students to analyze examples of the benefits of water in the animated video and pours the results into student worksheets. An example of a worksheet and animated video content can be seen in Figure 1.

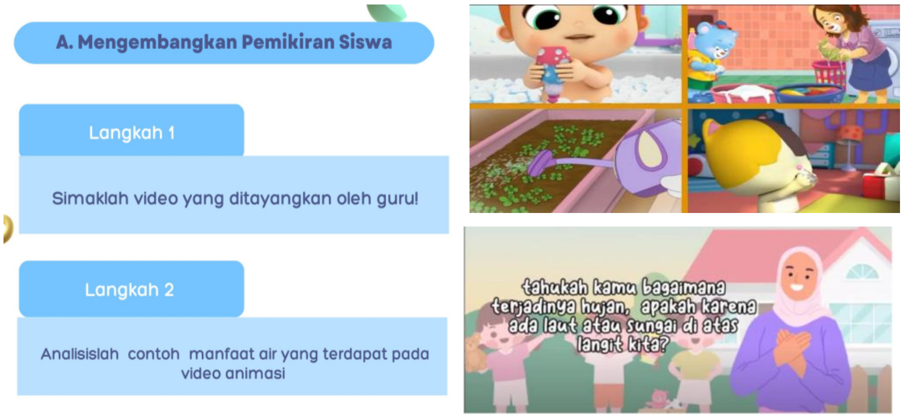

Figure 1. Screenshot of an example of a student worksheet and animated video for cycle I action learning

2) Facilitating students to carry out inquiry activities. At this stage, the teacher directs and guides students to find information obtained from animated videos about the Water Cycle, for example, the definition of the water cycle, the stages of the water cycle, and examples of evaporation events found in everyday life. Students write down the information they get on student worksheets. When finished, students explain orally the information they have obtained from the animated video about the Water Cycle in front of the class.
3) Facilitating students' curiosity by asking (Questioning). The teacher shows the animated video again and then directs the students to remember and share their experiences with water and its use at home, just like the events shown in the animated video. Then, they were allowed to ask questions about things they had yet to understand about water phenomena they had experienced or seen daily.
4) Facilitating Learning Community. At this stage, students are divided into 4 heterogeneous groups, and they are to discuss in their respective groups to do some tasks related to water problems in everyday life. The teacher provides facilities for showing animated videos as a discussion reference source for students.
5) Presenting the model as an example (Modeling). At this stage, the teacher shows an experimental video animation. After that, invite students to experiment with examples of evaporation events often found in everyday life with the help of glasses and hot water. Students observe and record what happens on the worksheet. The results of their observations were presented, responded to, and appreciated by other groups. Then, at the end, an explanation or confirmation regarding the correct answer.
6) Facilitate reflection at the end of the meeting (Reflection). At this stage, the teacher reviews the material studied today. The teacher asks students what good things can be learned from today's material and what moral messages relate to water use. The teacher provides opportunities for students to ask about material that has not been understood
7) Carry out actual assessments in various ways (Authentic Assessment). The teacher gives individual evaluation questions to students. The results of completing the worksheet are also an essential aspect of the assessment.

Cycle II

The learning process of implementing the action plan in cycle II is carried out in the same stages as cycle I. However, there are several improvements in the process, such as students taking turns presenting and presenting the results of completing individual assignments and discussions, thus encouraging students who are still passive to get involved and active. In addition to fostering the courage to express opinions, ask and respond to each student. The next difference is in the material presented, worksheets, and animated videos. Examples of worksheets and animated video content for implementing cycle II actions can be seen in Figure 2.

Cycle III

The learning action cycle III process is carried out in the same stages as cycles I and II. The difference lies in several improvements in the process: after watching the animated video, the teacher gives real-life examples related to water-saving efforts. This is done so students can understand the examples in the animated video. The next difference is in the material presented; cycle III is about saving water in everyday life. For this reason, the worksheets and video animations are also different. Examples of worksheets and animated video content for implementing cycle III actions can be seen in Figure 3.

Results of Implementation of Cycle

Cycle I

Analysis of the results of observations of student learning activities shows that aspects of student learning in cycle I have only reached the sufficient category because based on indicators of the implementation of new learning implemented 63%. The student learning activities that need to be improved include encouraging students to have the courage to convey the results of discussions and students to have the courage to ask questions on their initiative during the learning process. There are still certain students who have shown their courage. This becomes material for reflection for the teacher and input for improvement in the next cycle. However, in terms of the process, some changes have begun to appear; for example, students are starting to focus on learning from the first step to the end. Animation video support encourages this to happen. Then there is also a learning activity at each stage. Student worksheet support at each stage of CTL syntax provided by the teacher encourages each student to complete it actively.

After applying the video-assisted Contextual Teaching and Learning (CTL) learning model in cycle I, it can be seen from the 16 students, there were 9 students (56%) who reached the excellent category, 3 students (19%) who reached the sufficient category, and there were still 4 students (25%) who were in the less category. Overall, student learning engagement are still in the sufficient category with an average percentage of 68.75%, and only 56% of students are in the excellent category. Thus, the learning engagement achieved by students in cycle I did not match the established criteria, namely >75%. For this reason, the implementation of the action needs to be continued in cycle II.

Cycle II

Analysis of the results of observing student learning activities in cycle II shows that aspects of student learning in cycle II are still in the sufficient category because of all the indicators of implementation of learning; only 74% of the indicators are followed by students well. As for student learning activities that need to be improved, among others, in developing thoughts, students still need to be able to relate them to the phenomena of their daily lives. Students are still focused on examples of phenomena in the video, meaning that the contextualization process of the studied material still needs to improve. This becomes material for reflection for the teacher and input for improvement in the next cycle. However, in the process, some changes have begun to appear; for example, the focus is getting better, the learning activity at each stage is getting better, and the courage of some students who were previously passive has started to appear active in speaking, asking questions both in groups and in class discussions with the teacher.

Figure 2. Screenshot of an example of a student worksheet and animated video for cycle II

Based on the observations of student engagement in learning cycle II, the data shows that out of 16 students, there were already 11 students (69%) were already in the excellent category, and 4 (25%) were still in the sufficient category. There was 1 student (6%) in the less category. However, overall aspects of student learning engagement only reach the sufficient category with an average percentage of 74%. Thus the learning engagement achieved by students in cycle II did not match the established criteria; only 69% of students were in a suitable category. Thus, the learning engagement students achieve in cycle II differs from the established criteria, namely >75%. For this reason, the implementation of the action needs to be continued in cycle III.

Cycle III

Analysis of the results of observations of student learning activities in cycle III shows that everything has been implemented based on existing indicators of the learning process so that aspects of student learning are in a suitable category. Various changes in the science learning process have strengthened the quality of learning. There are significant changes. Compared to the science learning process before the action, especially in the student-centered orientation of learning science. Since the beginning of learning, it has been seen that students are active, starting to focus on animated videos, observing, taking notes, and presenting various information that they find themselves. The science learning process is no longer based solely on teacher explanations but uses various learning resources such as animated videos, textbooks, and the environment of students' daily lives. With supporting worksheets, then reinforced by animated videos and examples presented by the teacher, all of this strengthens the contextualization of the Water Cycle material, which becomes close to students' daily phenomena. The contextualization of this material then leads to an increase in student understanding and student learning outcomes with satisfactory results. It can also be seen in the student learning process, which is getting more stable in terms of some of the results of the changes; for example, the focus on learning is getting better, and the learning activity at each stage is getting better, and the courage of most students who were previously passive and now are starting to appear active in speaking, asking good questions in groups and class discussion with the teacher.

In action learning cycle III, the results of observations of student learning engagement showed data that out of 16 students, 14 students (88%) were already in the excellent category, 2 students (12%) were still in the sufficient category, and there were no more students who were in the less category. Overall, aspects of student engagement have reached a good category with an average percentage of 90%. Thus, the learning engagement achieved by students in cycle III follows the established criteria, namely >75%. For this reason, the implementation of the action was stopped in cycle III.

Implementation of learning as a concrete manifestation of classroom action in research that lasted for three cycles has implemented CTL syntax, which is reinforced by the use of animated video media in science learning on Water Cycle material in grade 5 SDN 3 Watang Sidenreng, Sidrap Regency, South Sulawesi. This implementation is then strengthened by synchronizing between learning steps, activities on student worksheets, and the content structure of the animated video used. This synchronization changed science learning on the Water Cycle material in grade 5 SDN 3 Watang.

After applying the video-assisted Contextual Teaching and Learning (CTL) in cycle I, there were still 3 students (19%) who reached the sufficient category and 4 students (25%) who were in the less category. Overall, student learning engagement is still in the sufficient category with an average percentage of 68.75%, and only 56% of students are in the excellent category. In cycle III, the results of observations of student learning engagement showed data that 14 students (88%) were already in the excellent category, 2 students (12%) were still in the sufficient category, and there were no more students who were in the less category. Overall, student learning engagement has reached a good category with an average percentage of 90%. Compared with the science learning process in grade 5 of SDN 3 Watang before the action, there are significant changes, especially in the student-centered learning science orientation.

Figure 3. Screenshots of examples of student worksheets and animated video for cycle III

Since the beginning of the lesson, it has been seen that grade 5 students at SDN 3 Watang are active, starting to listen to animated videos, observing, taking notes, and presenting various information they find themselves. The science learning process is no longer based solely on teacher explanations but uses various learning resources such as animated videos, textbooks, and the environment of students' daily lives. With supporting worksheets, then reinforced by animated videos and examples presented by the teacher, all of this strengthens the contextualization of the Water Cycle material, which becomes close to students' daily phenomena. The contextualization of this material then increases students' understanding and meaning of the material they learn.

Various fundamental changes to the science learning process in grade 5 SDN 3 Watang after being given CTL actions can be explained by referring to various literature. When students need information to better understand the real-world context related to the material being studied, CTL can facilitate it so that the focus of their learning activities helps students answer questions, research, or investigations that refer to students' daily lives. In the end, learning becomes more meaningful (Aydin-Ceran, 2022). This is also in line with contextual learning, which can help teachers connect academic material with real-world situations that students commonly experience and then encourage students to connect what they know and experience in the real world (Davtyan, 2014; Glynn & Winter, 2004). Because CTL is a learning process that helps students learn naturally, it helps them learn about critical thinking, problem-solving, and creativity in learning materials or activities. It helps students connect knowledge to various applications in everyday life and helps them learn by doing (Ambrose et al., 2013; Baker et al., 2009; Berns & Erickson, 2001). Other literature shows that CTL improves student performance by increasing interest and motivation, developing skills and mastery of information, increasing connectivity with peers, and accommodating various learning activities (Baker et al., 2009). It was also explained that CTL can stimulate students' brains to develop patterns and create meaning by connecting sensory experiences and stimuli with new knowledge through real-life applications (Baker et al., 2009).

The implementation of CTL in science learning in grade 5 SDN 3 Watang helps students connect with internal and external contexts, 1) starting with students' knowledge or past experiences, then continuing with learning experiences in class. They re-associate with everyday phenomena through diverse learning experiences and interactions. In this case, through the seven steps (syntax) of CTL. This experience produces a more profound understanding so that students are more likely to maintain competence for a longer time and can apply their knowledge to solve everyday problems (Berns & Erickson, 2001). Through contextual learning, students are facilitated to understand the scientific ideas they learn using meaningful information, phenomena, and problems or situations because they are presented with real examples to provide students with a cognitive framework that connects their experiences with new knowledge about the Water Cycle. In this respect, the cognitive framework acts like a structure through which abstract ideas can be linked to prior understanding and fixed in long-term memory (Rivet & Krajcik, 2008). This also aligns with the assertion that CTL is identified as a strategy that encourages active student engagement, enhances the learning process, and develops scientific thinking skills (Baker et al., 2009; Seo et al., 2021).

Video animation support has supported the implementation of each CTL stage (syntax). Learning media developed with contextual content further strengthens students' understanding. Students learning activities using animated video media also strengthen the understanding and meaningfulness of the material they are learning. In various literature, it is emphasized that one of the learning media that is considered relevant to CTL implementation and has the potential to facilitate contextual learning content is video media (Cantum Pel et al., 2023; Mufidah et al., 2020; Ningsih et al., 2022). Animated video support that is set with a contextual approach has the potential to increase student learning activities, the level of students' understanding and meaning of the material being studied, as well as the conclusions of previous research (Mardanti & Abadi, 2021; Sumampan et al., 2022; Suwastawan & Renda, 2022). In the context of implementation in grade 5 at SDN 3 Watang, the Water Cycle animation video has facilitated a variety of learning activities, such as listening to video content, telling or rewriting video content, writing down essential information obtained, and which is sure to encourage students to focus on their learning process. Teachers are no longer the only source of learning, thus encouraging real change, namely that teacher-centered orientation is no longer the case in science learning in grade 5 SDN 3 Watang.

The occurrence of significant changes in the science learning process in grade 5 of SDN 3 Watang, as described in the previous paragraph, led to an increase in student learning engagement in both physical, mental, and emotional aspects. In action learning cycle III, the results of observations of student learning engagement showed data that out of 16 students, 14 students (88%) were already in the excellent category, 2 students (12%) were still in the sufficient category, and there were no more students who are in the less category. Overall, aspects of student engagement have reached a good category with an average percentage of 90%. This data indicates that the implementation of CTL, supported by the use of animated video media, can increase student engagement in science learning in grade 5 SDN 3 Watang. This research effort is an effort to solve problems in the class. This is in line with the concept that context-based science learning is an effort to build student engagement by placing science learning in meaningful contexts for students (Fraser et al., 2012; Nashon et al., 2020; Zidny et al., 2021), because, without a good level of learning engagement, student understanding cannot occur (Hadzigeorgiou & Schulz, 2019; Inkinen et al., 2020; Lim, 2020). Apart from that, as an effort to realize the recommendation that in facilitating science learning, teachers should prioritize student engagement in building meaning through exploration or investigation of natural phenomena through various learning activities such as engaging in discussions, collecting and analyzing data, and reading relevant literature so that it allows them to broaden their understanding (Bae & Lai, 2020; Tyler et al., 2018).

Thus, the novelty of this classroom action research lies in integrating the four stages of the Classroom Action Research model developed by Elliot (2001): planning, implementation, observation, and reflection with 7 CTL stages (syntax) for science learning at the elementary school. Apart from that, at each CTL stage (syntax), there is integration/use of animated video media. This complements existing literature, especially in studies of student learning engagement at the elementary school level and in studies of CTL for science learning in elementary schools, supported by animated video media. Practically, the research results will provide alternatives for elementary school teachers to teach science material oriented towards student learning engagement.

CONCLUSION

Based on the results of improving learning through action in three cycles, it can be concluded that the implementation of Contextual Teaching and Learning assisted by video animation can improve the learning process and engagement of grade 5 students at SDN 3 Watang, Sidenreng, Sidrap Regency, South Sulawesi. In terms of the learning process, there have been various fundamental changes in science learning in grade 5 SDN 3 Watang after being given CTL actions. The occurrence of significant changes in the science learning process led to an increase in student learning engagement in terms of both physical, mental, and emotional aspects. Based on the results of this research, there is a recommendation that it is time for science teachers to leave the science learning process in classes that focus too much on and prioritize conceptual learning and ignore relevance to the environmental context and society in which students live (decontextualization), and often ignore reality students' own lives and interests. It is time for science learning to switch to learning which facilitates students' attention to think about "Why do I need to study science? Why is it useful? Where is it useful for me?" This understanding needs to be instilled so that children can use science to make sense of life, see science as a tool for transferring it to situations they face in life, and have the characteristics of developing 21st-century skills. For this reason, every science teacher and science curriculum designer in elementary schools needs to redesign it so that learning science becomes fun and meaningful for the lives of every elementary school student.

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