
Contextual teaching and learning to improve conceptual understanding of primary students

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Abstract: The learning capacity aims to bring multidimensional changes in human life aspects for the better. However, in reality, both teachers and students struggle to carry out an effective learning process. Learning becomes meaningless, which causes low conceptual understanding of students on what they learn. Contextual Teaching and Learning (CTL) is one learning model that can help students associate the lesson with their life context and make sense of things they learn. Therefore, this research aims to (1) elaborate on the significance of students' conceptual understanding, and (2) elaborate on the effectiveness of CTL in improving conceptual understanding of primary students. The research method used is descriptive qualitative, and the result shows that CTL is effective to help teachers carry out a meaningful learning experience to improve students' conceptual understanding. It is recommended that (1) CTL can be implemented with various learning methods and media according to the learning environment and students' characteristics, (2) apply CTL consistently in a period of time, and (3) manage the time well so all components in CTL can be performed as a whole.

Keywords: CTL, conceptual understanding, primary students, learning process, online learning

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INTRODUCTION

Human will never stop learning, and this learning capacity is owned uniquely by every individual at all ages. Learning enables man to get not only skills and knowledge but also values, attitudes, and emotional reactions (Pingge, 2020). Therefore, it can be said that the learning process involves the interconnected changes in knowledge (cognitive), skills (psychomotor), and attitudes (affective). According to Schunk (2012), learning itself is the enduring changes in behaviour, or in the capacity to behave in a given fashion, which results from practise or other forms of experience. Learning aims to cause continuous changes in behaviour that lead the learner significantly for the better. Thus, a meaningful learning experience is needed where students not only received a theoretical knowledge in their mind but also able to see its significance for their life with heart and continually affects their output behaviour towards others (Graham, 2003; Johnson-Miller, 2005).

School through teachers plays an important role in carrying out a learning process for the students through a learning community in the classroom. However, there is no such thing as a perfect classroom, one of the manifestations is the tendency of learning that solely to pass the standard grade in which students are lack of a strong and solid conceptual understanding (Lasut & Selekty, 2017).

One of the problems that occur during the primary school learning process is the lack of students' conceptual understanding (Al-Tabany, 2017). Students often do learning without actually gain a deep understanding, ended up getting nothing more than a collection of

theories from the subject matter (Mansor et al., 2010). Depart from this significance; the researcher is motivated to highlight the gap between expectations and reality where many students are still struggling with the low conceptual understanding during the learning process meanwhile, it is a building block of thinking that enables students to simplify, summarize and organize information (Santrock, 2011). It is expected by having a conceptual understanding students make sense of things they learn and not only memorize isolated facts. Therefore students may experience a holistic development.

The same problem also occurred during the researcher's online teaching experience that was held in grade III A class on August 12, 2020, during the civic education. It is expected that students will have a solid conceptual understanding of the lesson: what is the meaning of diversity and individual characteristics, also the application of respectful behaviour in the midst of diversity. The researcher found that students were difficult to build their conceptual understanding, especially on the abstract concept such as the identification of individual characteristics and the meaning of diversity itself using a conventional handout-based discussion. Furthermore, the low conceptual understanding of students can be seen from the results of checking for understanding rubric which shows that most of the students were still needed hints to answer the question although the questions referred to their personal context. Accordingly, students became less-engaged to participate in giving feedback on the question and answer session, which becomes another indication of the students' low conceptual understanding.

The researcher reflects that the learning process that was occurred tend to be a mere theoretical material delivery from the researcher as the teacher to the students and followed by doing the exercises together from the handout. The learning process did not show any strong relationship with students' life so they became less-engaged. This causes students were less able to build their conceptual understanding of the lesson shown by the students' confusion in answering the given questions. Thus, a meaningful learning experience is needed to be applied so students will not only receive and memorizing learning content theories but furthermore able to acknowledge the meaning and its relationship to their daily life (Tantu, 2018).

According to John Dewey (Al-Tabany, 2017), a learning process is considered as meaningful if the concept that is learned by the students related to what they already know and it will be productive if it involves the students. A contextual teaching and learning (CTL) model is found helpful to improve students' conceptual understanding of the lesson because it allows students to experience the relevance of learning with daily life situation and involves students actively to find the meaning of learning (Nuzul, 2014). Moreover, CTL is considered suitable to primary students because it allows the teacher to provides contextual examples of subject matter which supports students' thinking ability and provides an inquiry learning environment that involves students as an active learner even though the learning is held through online (Ilyas & Liu, 2020). In its implementation, the researcher builds the context of the lesson's topic, which is the meaning of diversity according to students' everyday life. Students are guided to learn what is the meaning of diversity, individual characteristics, respectful behaviours from what they can identify and observe from their lives through oneself, friends, or family members.

Based on the description above, the formulations of the problem are (1) how is the significance of students' conceptual understanding in the learning process? and (2) how effective is CTL to improve students' conceptual understanding in the learning process of primary students? Therefore, the writing of this paper aims to: (1) elaborate the significance of students' conceptual understanding in the learning process; and (2) elaborate the effectiveness of CTL in improving students' conceptual understanding of primary students in learning process compared to the learning process that does not use the same model.

METHOD

The method used in this research is a qualitative descriptive method. Qualitative descriptive method is a technique of data collection in a natural setting with the intention of

interpreting the phenomena that occur in which the researcher is the key instrument (Anggito & Setiawan, 2018). According to Creswell (2012), qualitative descriptive research includes steps of the topic selection, literature review from relevant books and scientific journal, data collection, data analysis, interpretation in the form of descriptive text, and report (Raco, 2018). In this research, the subject is the III-A students of one private school in Tangerang. The data collected come from the observations, journal reflection, and also validated by the feedback that comes from the mentor teacher of the researcher during the online teaching experience that was held specifically on August 12 and August 19, 2020, during Civic education lesson.

RESULTS AND DISCUSSION

These days, most of the school held the learning process through online platform due to COVID-19 pandemic issue (Favale et al., 2020; Purwanto et al., 2020). The situation of distance learning makes students and teachers be in different places and could not meet physically; thus, it has become a challenge for the researcher. The fact that is found by the researcher during the online learning experience is the low conceptual understanding of students toward the lesson, whereas, without it learning becomes meaningless and ends up in mere theoretical knowledge (Al-Tabany, 2017). This problem arises as the teaching and learning experience tend to focus on solely material delivery from the teacher to the students (Pujiasih, 2020). Students become less-engaged to learn in virtual classrooms.

According to Santrock (2011, p. 295), "conceptual understanding is the key aspect of learning", meaning it is a significant aspect in learning, the basis for any higher level of mastery abilities. It is the basic understanding which strongly influences students' attitude, decision-making, problem-solving toward the new corresponding real-life situations. However, the low conceptual understanding of students often occurs due to some unsupported factors which took place during the learning process. The low conceptual understanding can be seen from students' difficulties on mention the attributes, give an example and non-example, re-explain with their own words and apply the learning concept in the real-world situations (Aningsih & Zahrani, 2019).

Based on the online teaching experience on August 12, 2020, that was conducted by the researcher in grade III-A, one of the problems that occurred was the low conceptual understanding of students during Civic education with the topic of the meaning of diversity. This problem can be seen from the results of the checking for understanding rubric which was done orally in the online learning which shows that only some students could identify and mention the five individual characteristics, some of them still needed hints first before answer the question. Besides, only a few students could give the examples on how to appreciate the diversity of individual characteristics and the students were also needed hints to be able to re-explain the definition of diversity by their own words. Thus, the researcher concludes that the students have not met yet three of four indicators of conceptual understanding that have been explained earlier: (1) students are not able to mention the attributes; (2) students are not able to give the examples and non-examples of the learning concept; and (3) students are not able to construct meaning from the concept by being able to re-explain it with their own words. This problem of conceptual understanding arises as it is influenced by the situation of the online learning environment which took place: a sole hand-out or textbook-based learning, less-contextual learning, and students' less-engagement.

In response to this problem, a real action from the teacher to facilitate students with a meaningful learning experience is needed. One of the solutions is through the implementation of a learning model in accordance with the classroom environment and learner conditions. The learning model is a conceptual framework that is used as the teacher's guidelines in planning and carries out teaching and learning activities in class (Darmadi, 2017). The appropriate learning model will greatly impact the occurrence of an effective and meaningful learning process.

The researcher found that the implementation of Contextual Teaching and Learning (CTL) could help the researcher to improve students' conceptual understanding during Civic

education with the topic of the meaning of diversity. Contextual Teaching and Learning (CTL) is one of the learning models that can be implemented in education. CTL helps the teachers to connect the material they teach with students' real-world situations and encourages students to make connections between their knowledge and its application in their daily life (Kadir, 2013). CTL aims to help students see meaning in the learning material they learn by associate it to the context of their personal, social, and cultural environment (Johnson, 2007). It is expected that context will help students to see the meaning of their learning material or even school work as they connect it to their prior knowledge and own experience.

In its practice, CTL has seven main components which are integrated during its implementation: (1) active involvement of students in constructing their understanding based on their own experience (*constructivism*); (2) systematic thinking proses where students could find the subject matter by their own (*inquiry*); (3) questions to encourage and guide students' thinking ability to dig information (*questioning*); (4) two-way communication sharing between learners and teacher (*learning community*); (5) teacher provides examples to be a model which strengthen learning concept (*modelling*); (6) students' personal response toward the significance of what they have learned with their life (*reflection*); and (7) the data record by the teacher which shows students' development along the learning process (*authentic assessment*) (Al-Tabany, 2017).

CTL learning model is chosen because it can be used not only for the conventional classes but also during the online learning (Ilyas & Liu, 2020). Based on the data that is collected by the researcher, the implementation of CTL is effective to overcome the low conceptual understanding of grade III A students during the online learning that was held on August 19, 2020, in Civic education about the meaning of the diversity. The effectiveness can be seen from the checking for understanding rubric result, which shows that there is improvement after the implementation of CTL. It can be concluded from the rubric that students could meet all the three indicators of conceptual understanding which has not been achieved before: (1) students are able to mention the attributes; (2) students are able to give the examples and non-examples of the learning concept; (3) students are able to construct meaning from the concept by being able to re-explain it with their own words, and significantly meet the fourth indicator as well: (4) students are able to apply the learning concept in the new corresponding situation that is simulated by the teacher.

The earlier research by Adim et al. (2020) proved that the implementation of CTL learning model with various learning activities could promote a fun learning atmosphere to primary students that lead to the discovery of concept by their own little by little and the results can be expanded through context. In response to students' difficulty to understand the five individual characteristics, the researcher held a mini quiz review which consists of five questions related to the individual characteristics that were contextualized according to students' life. For example, the first individual characteristic is age; the researcher asked the student how old is he and moreover asked how old his parents are. After that, the student was asked to determine who is the younger and who is the older one. This way, students are guided to understand the concept of age and furthermore the concept of young and old through fun, and contextual learning that was more interesting did not monotonous and boring.

In response to students' difficulty to construct meaning on the abstract concepts of the lesson, the researcher tried to make a deeper connection between the subject matter with students' daily live context. Even though the learning is held online, meaningful learning is required; thus it takes more than just content delivery using handout-based learning but moreover associate the material with students' contextual situation (Pujiasih, 2020). Students are guided to build their conceptual understanding about the differences between their own characteristics and their classmates by asking the students to identify and mention their own characteristics then followed by their friends' characteristics that they know or could see at that time during the video conference. This way, students are guided to understand the concept of characteristics and the diversity deeper between their own characteristics and their classmates based on the natural environment in the virtual class.

The result shows that it was easier for the students to build their conceptual understanding on the abstract concept such as the characteristics and diversity from what they could identify in concrete by themselves. This statement is supported by the result of another research conducted by Yesya and Desyandri (2019) which shows that the implementation of CTL could help the primary students to associate the learning material with the real-life situation thus the students could build their conceptual understanding easier and promote optimal learning. The learning goes deeper as students are guided to discover the lesson take away such as maintain a respectful and loving attitude whenever reply or react to their friend's chat in the comment section during the online learning. Accordingly, research by (Suhartono, 2018) shows that Civic education should not only contain mere memorization but integrated with real-life in society thus the students can find a meaningful connection between the abstract concept with practical application in real-world contexts.

Besides, in response to students' less-engagement during the previous session, the researcher tried to facilitate the students with an opened-discussion based CTL about diversity. Accordingly, research by Ilyas and Liu (2020) highlighted that the implementation of opened-discussion in CTL during online learning could increase students' involvement in the learning activities intensively as students are engaged to participate and share their ideas based on what they do every day. As the engagement arises, the students will be getting used to asking questions, share experiences, or even personal reflection voluntarily related to the lesson, which eventually sharpened their understanding. Research conducted by (Indriani, 2017) also shows a corresponding result in which the discussion-based CTL learning model could improve students' active engagement and enrich students' conceptual understanding toward the lesson as they could exchange ideas with each other.

Through the seven main components in which are integrated during the learning, students are guided to understand what learning means, what is the significance for their lives, and what is their role in the community. It helps students to realize that what they learn will be useful for their future as well. By doing so, students will also be more enthusiast and responsible to learn (Kadir, 2013). The implementation of CTL allowed the students to have a meaningful online learning experience that contextual, engaging, and applicable in which support students' conceptual understanding.

During the online learning, the researcher noticed the benefits of CTL in improving students' conceptual understanding toward the lesson as they could associate the concept of the lesson, which are individual characteristics and diversity, with their own context at home as a family member, at school as students, among peers, and as citizens in the society regarding the material, so it was easier for them to understand about it. This suits to the theory which stated that context helps students to learn from their surroundings which they familiar to (Ramadayanti et al., 2018). Besides, to primary students, an everyday-relevant context is a matter due to their thinking ability. The researcher found that when students could make the connection between the subject matter and their lives which is relevant to them, the students were able to extract the abstract concept of the lesson into the concrete one that they could identify from their environment.

Furthermore, the conceptual understanding of students improved as the implementation of CTL made the learning process more productive. The researcher found that contextual learning made students were more enthusiast because they were involved, not only receive learning material from the books that were delivered by the teacher but also made an effort to construct knowledge, for example through the review quiz activity, opened-discussion, question and answer which allowed students to share their ideas, thoughts, or relevant experiences between peers as a learning community on a particular topic given by the teacher. Here the teacher facilitates the students to develop their understanding of the material by guiding them to re-think their understanding so that they gain a better understanding. This suits to the theory which stated that knowledge is not a set of facts or information that students only remember, but it should be reconstructed and then given meaning from real learning process experiences (Hasibuan, 2014).

The learning experience of CTL ultimately leads the students further to discover issues of implication in daily life (Johnson, 2007). Students were guided to sharpen their critical

thinking on how to respond to the environment and develop their ideas to solve any simulated problems by the teacher regarded to the topic to strengthen students' conceptual understanding, so they are able to apply the learning concept to the corresponding new situation. In order to have a conceptual understanding, students not only have to remember but understand, and moreover able to apply the concept they have learned to solve the different problems simulated by the teacher (Lasut & Seleky, 2017). The students were guided to further understanding by figuring out the significance of learning material in their daily life. The learning process did not only bless student's understanding of intelligence but impact their relationships with others. Therefore, through CTL, students were facilitated to reflect their lives and guided to discover the take away of respectful behaviour that can be done in the midst of diversity which can be applied after studying the subject matter as well, in the context of their daily life to carry out their roles in communities as a family member, students, and citizens.

CONCLUSION

The conceptual understanding of students is a significant thing for students to have from the learning process. It is a basis that enables students not only memorize theoretical knowledge but moreover understanding the significance of what they learn and apply it in their daily lives. Contextual Teaching and Learning (CTL) is effective to help the students find meaning on what they learn so that the learning process will not just pass by. The result of checking for understanding through question and answer session shows that there is a significant improvement on grade III A students' conceptual understanding on the learning material-meaning of diversity-which shows that students are able to mention the attribute of the learning concept, give an example and non-example, give the daily life application of the learning concept, and express their own reflection regarding what they have learned with their own words.

Based on the discussion of this research, there are several recommendations that can be given by the researcher to improve the quality of further related research. First, the CTL model as the framework will be more optimal if it is implemented through various learning methods and media that suit to the learning environment and also the characteristics of students. Second, the benefits of CTL could be more effective if it is applied consistently in a period of time, so the teacher will be able to record and identify the data needed better in detail. Third, the teacher should be able to manage the time carefully so that all the components in CTL can be performed during the learning process as a whole.

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