

IMPROVING PRIMARY SCHOOL STUDENTS' KNOWLEDGE OF PUBERTY THROUGH CONTEXTUAL TEACHING AND LEARNING METHOD

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ABSTRACT

The Indonesian adolescents' knowledge on the subject of puberty is very limited according to a national data survey. This is the reason this study aims to increase knowledge, attitudes, and behaviors of healthy living during the puberty phase through the contextual teaching and learning (CTL) method of classroom action research with cyclical procedures. The participants were 20 students and a teacher of fifth-year at the elementary school; meanwhile, the object was knowledge about puberty, collected through test questions and observations. The data analysis technique was conducted in a quantitative and qualitative descriptive manner, and the result showed that the method used was able to improve the knowledge, attitudes, and healthy living behavior of fifth-grade students in SDIT Mutiara Insan. This is evident in the pre-cycle with a percentage of 5.3%, which further increased to 15.8% in the first cycle, while in the second cycle, it increased to 94.7%.

Keywords: CTL, healthy behavior, puberty

INTRODUCTION

Adolescents experience accelerated growth and development that varies greatly among individuals. It has been discovered that this maturity process is often disrupted by unhealthy behavior¹ and another survey found that their health knowledge/literacy is not improving, even though access to information is very high². To intervene in this fundamental problem, a strong strategy such as education, both in terms of intra- and extra-curricular activities is needed³.

¹ Brown, Judith E, Ellen Lechtenberg, Maureen A Murtaugh, Patricia L Splett, Jamie Stang, Robyn Wong, L D Kaiser, et al. 2017. *Nutrition Through the Life Cycle*. 6th ed. Boston: Cengage Learning. www.cengage.com/highered.

² BKKBN. 2017. "Indonesia Demographic and Health Survey 2017: Adolescents' Reproductive Health." *Badan Kependudukan Dan Keluarga Berencana Nasional*. Jakarta. <http://www.dhsprogram.com>.

³ Nurfadhilah, and Arum RR Ariasih. 2019. "Abstinensi Dan Pendidikan Seks Remaja: Survei Cepat Di Jakarta Dan Sekitarnya." *Pendidikan Lingkungan Dan Pembangunan Berkelanjutan XX* (Maret 2019): 17–28.



However, many teachers reported that providing sexual and reproductive health information to adolescents is difficult⁴.

Puberty is the most important turning point in adolescence, which is the transition period from childhood to adulthood and the time until fertility is achieved. This period is caused by the activation of the reproductive glands and is accompanied by a series of physical and mental symptoms or changes⁵. Most adolescents find puberty as uncomfortable, and this is the reason society, families, and these teenagers need to work together in order to create an atmosphere in which correct information about puberty and the associated issues are easily accessible⁶. It has also been observed that many of them are trapped in risky behavior instead of sexual abstinence⁷. This situation underlies this study to increase knowledge, attitudes, and healthy behavior during puberty through contextual teaching and learning (CTL).

RESEARCH METHODS

This is a Classroom Action Research (CAR) conducted collaboratively, involving the fifth-grade teacher and students of Mutiara Insan Islamic Elementary School, West Java, Indonesia. The data was collected in March 2021, and the participants include 20 people, which consisted of 10 male and 9 female students with 1 teacher. Furthermore, the variables were students' knowledge, attitude, and healthy behaviors related to puberty.

The CAR consists of the following phases which include planning, implementation, observation, and reflection. Planning was drafted before the action, afterward, the action was observed, and reflection was conducted to improve the next cycle.

⁴ Utomo E, . N, Satibi Hidayat O, Wahyu Wicaksono J, Arif A. The Misconception of Teachers' and Students' Knowledge Regarding Puberty in Higher Elementary Education. *KnE Soc Sci* [Internet]. 2020;2020(11 Nov 2020):135–41. Available from: <https://knepublishing.com/index.php/KnE-Social/article/view/7865/13623>

⁵ Ziapour, Arash, Manoj Sharma, Nazila Nejhaddadgar, Afrouz Mardi, and Sedigheh Sadat Tavafian. 2020. "Educational Needs Assessment among 10-14-Year-Old Girls about Puberty Adolescent Health of Ardebil." *Archives of Public Health* 78 (1): 1–7. <https://doi.org/10.1186/s13690-019-0388-3>.

⁶ Golchin, Nayereh Azam Hagikhani, Zeinab Hamzehgardeshi, Moloud Fakhri, and Leila Hamzehgardeshi. 2012. "The Experience of Puberty in Iranian Adolescent Girls: A Qualitative Content Analysis." *BMC Public Health* 12 (1): 1. <https://doi.org/10.1186/1471-2458-12-698>.

⁷ Mundhiro, Nadhirul, Ridhwan Fauzi, Mohammad Ainul Maruf, and Nurfadhilah Nurfadhilah. 2021. "Determinants of Premarital Sexual Behavior Amongst Adolescents in Indonesia." *Jurnal Biometrika Dan Kependudukan* 10 (1): 86. <https://doi.org/10.20473/jbk.v10i1.2021.86-93>

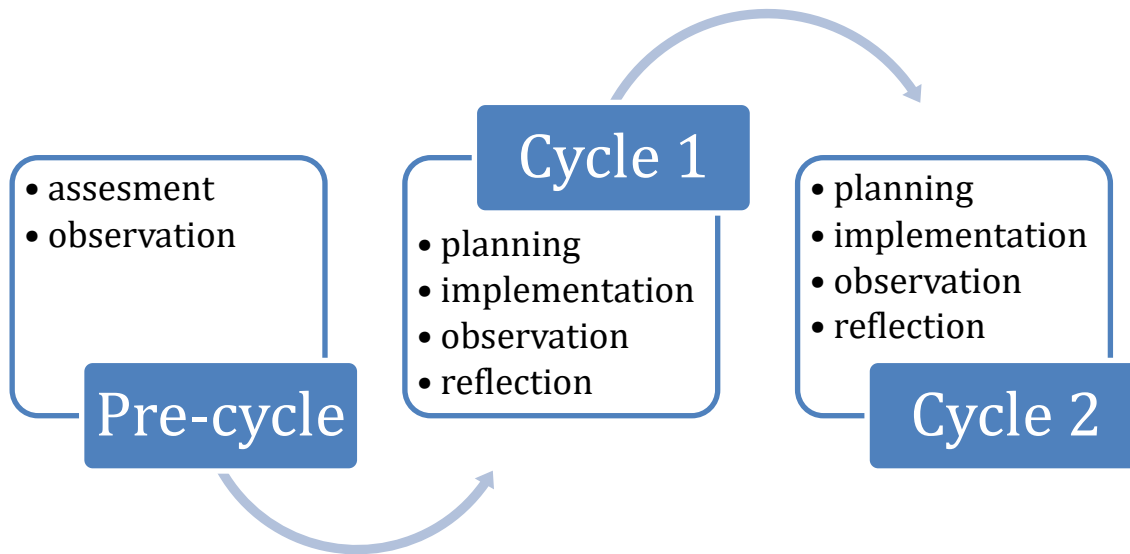


Figure 1
Research Cycle Flow

The data was collected using observation reports in order to measure the increase in student achievement through the rubric of practical and project performance assessments. The learning process as well as all the activities of students and teachers were observed and recorded on the prepared observation sheet based on the results of observations, questionnaires, and interviews. This sheet was used to record learning activities in the form of notes using a yes/no checklist, which contains students' and teachers' actions. The data obtained are quantitative and qualitative, while the steps of the analysis techniques used include:

1. Quantitative Descriptive Techniques

First, each student's score was calculated, whether it has reached a value $> 75\%$, followed by the calculation of their average scores. The number of students who reached 75 was calculated to determine the percentage of complete learning and the education was declared successful when this percentage is more than or equal to 75% of the total number of students. This analysis result was used to plan follow-up activities in the next cycle when they do not meet the specified criteria.

2. Qualitative Descriptive Techniques

This technique was used to analyze the observation results of teacher and students' activities during learning. The media used are hyper-content books that are freely accessible to teachers⁸ and students⁹.

RESULT AND DISCUSSION

In the pre-cycle stage, general knowledge data related to puberty were collected. The activities conducted consisted of interviews and completing questionnaires to understand puberty and its signs, and the result was presented in Table 1.

Table 1.
Achievement and completeness of student learning

Criteria for achievement and completeness of student learning	Pre-cycle		Cycle 1		Cycle 2	
	F	%	F	%	F	%
Completed (> 75)	1	5.3	3	15.8	18	94.7
Incompleted (< 75)	18	94.7	16	84.2	1	5.3
Total	19	100	19	100	19	100
Max score	95		95		95	
Min score	50		50		50	
Average score	64.25		67.25		82.25	

Table 1 shows that the students' understanding percentage in the pre-cycle was only 12.5%. This simply implies that their knowledge at the pre-cycle stage has not reached the expected target. In the first cycle conducted in one meeting, the percentages of students' comprehension increased from 5.3% to 15.8% but have not yet meet the success target of 75%.

It was observed that the teacher was good at explaining the meaning, signs, and healthy behaviors by instructing students to identify primary and secondary changes that occur in their friends. The teacher also cited some examples that are appropriate to the life of the student's environment for easy understanding. Moreover, the shortcoming that needs to be addressed was that the teacher is still reluctant to explain clearly, specifically with regard to reproduction.

⁸ Nurfadhilah, and Erry Utomo. 2020. *Buku Pegangan Guru Kelas IV Sekolah Dasar Pubertas: Siap Menghadapi*. 1st ed. Jakarta: FKM UMJ. <https://fkm.umj.ac.id/launch-buku-pubertas-siap-menghadapi/>.

⁹ Bahij, Al Azmi, Nurfadhilah, and Indarti Erlina. 2020. *Remaja Juara. Remaja Juara Cerdas Menghadapi Pubertas*. 1st ed. Jakarta. <https://fkm.umj.ac.id/launch-buku-pubertas-siap-menghadapi/>.

Furthermore, the students' activities in the first cycle meeting were quite good, reason being that almost all of them were attentive to the explanation of the meaning and signs of puberty. The students therefore begin to understand the changes occurring in them from the examples given but have not been able to determine the application of healthy attitudes and behaviors.

It has been previously discovered that adolescents do not communicate much with their parents about sexual and reproductive health issues, therefore there is a need for identifying the contextual and age-dependent communication barriers¹⁰. To achieve this, character education in the 2013 Curriculum was developed and is still being refined to make it affordable for Indonesian students and relevant to the ideal educational principles. The role of school, family, and community is important for achieving holistic and integrated educational goals¹¹ because it is not possible to complete puberty education in one meeting, therefore, it is supposed to be conducted according to the situation and context.

It was observed in the first cycle that the teacher still felt reluctant or as taboo to discuss puberty and sexuality, and decided not to check their understanding. Similarly, the students were also shy and afraid to ask questions, therefore the teacher was not aware of the difficulties they are experiencing.

At the first meeting of the second cycle, students' understanding was better than in the previous cycle because most of the students were enthusiastic and focused on watching videos about the physical changes in boys and girls during puberty. In the question and answer session, students were able to actively answer and also ask several questions related to the video being shown. They also begin to recognize the events they experienced as they entered puberty and express what they are feeling. The media used in this study were hyper-content books with embedded videos and quizzes to make the discussion of the material more interesting and in-depth¹².

¹⁰ Kusheta, Samuel, Belay Banacha, Yitagesu Habtu, Degefa Helamo, and Samuel Yohannes. 2019. "Adolescent-Parent Communication on Sexual and Reproductive Health Issues and Its Factors among Secondary and Preparatory School Students in Hadiya Zone, Southern Ethiopia: Institution Based Cross Sectional Study 11 Medical and Health Sciences 1117 Public ." *BMC Pediatrics* 19 (1): 1–12. <https://doi.org/10.1186/s12887-018-1388-0>.

¹¹ Nurfadhilah. 2019. "Analisis Pendidikan Karakter Dalam Mempersiapkan Pubertas Menuju Generasi Emas Indonesia 2045." *Jurnal Pendidikan Dasar* 10 (1): 85–100. <http://journal.unj.ac.id/unj/index.php/jpd/article/view/11124>.

¹² Nurfadhilah, Erry Utomo, and Amos Neolaka. 2021. "Puberty Hypercontent Book, Expert and Community Responses." *Proceedings of the 5th Asian Education Symposium 2020 (AES 2020)* 566 (Aes

A total of 6 among 10 male students and 6 females experienced the main signs of puberty, such as menarche and wet dreams. This is consistent with the results of previous studies, which found that some 3rd-year students had experienced this sign of puberty¹³. At the second meeting of the second cycle, the students were asked to record their understanding of the material presented in their language, and based on the observation in the first cycle, the teacher reflected that the results were useful for improving the actions in the second cycle. It was therefore discovered that assertiveness was still a weakness of Indonesian students and it is possibly due to errors in parenting and upbringing^{14,15}.

At the end of cycle 2, there was an increase in learning completeness from 15.8% to 94.7% with an average knowledge score of 82.25. This indicates that the teacher directly involves students in improving knowledge, attitudes, and healthy behavior during the puberty phase. In the course of the group discussion, it was observed that the teacher did not feel awkward in answering students' questions about reproduction, and also appreciated those that answered the questions/test correctly or presented their idea about puberty.

CONCLUSION

In conclusion, the CTL method was able to improve the knowledge, attitudes, and healthy behavior of fifth-grade students of Mutiara Insan Islamic Elementary School. Teachers also need to improve their pedagogic skills and mastery of the material and help students communicate with confidence. It was observed that over half of the participants have experienced menarche and wet dreams, therefore the knowledge of puberty was an urgent need and the teachers are obliged to provide the latest information according to science and technology developments.

2020): 98–101. <https://doi.org/10.2991/assehr.k.210715.020>.

¹³ ———. 2020. "Pendidikan Abstinensi Dalam Kurikulum Pendidikan Dasar Indonesia." *Jurnal Pendidikan Dasar* 1 (31 Mei 2020): 12. https://www.researchgate.net/publication/341915377_PENDIDIKAN_ABSTINENSI_DALAM_KURIKULUM_PENDIDIKAN_DASAR_INDONESIA_Nurfadhilah_Erry_Utomo.

¹⁴ Nurfadhilah. 2021. "Mengejar Pertumbuhan Dan Mencegah Stunting." In *Membaca Muhammadiyah*, edited by Ahmad Faizin and Karimi David Efendi, 1st ed., 153-158 (414). Jakarta: Caremedia Communication. https://www.researchgate.net/publication/353730924_Mengejar_pertumbuhan_dan_mencegah_stunting.

¹⁵ Nurfadhilah, Erry Utomo, Amos Neolaka, Al Azmi Bahij, and Sonya Sinyanyuri. 2021. "Puberty Education in Primary School: Situation and Solution." *International Journal of Mechanical Engineering* 6 (January): 1110–17. https://kalaharijournals.com/resources/121-140/IJME_Vol7.1_134.pdf.

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DECLARATION OF CONFLICTING INTERESTS

The author confirmed that there were no potential conflicts of interest with the authorship and publication of this study.

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REFERENCES

- Bahij, Al Azmi, Nurfadhilah, and Indarti Erlina. 2020. *Remaja Juara Cerdas Menghadapi Pubertas. Puskurbuk*. 1st ed. Jakarta. <https://fkm.umj.ac.id/launch-buku-pubertas-siap-menghadapi/>.
- BKKBN. 2017. "Indonesia Demographic and Health Survey 2017: Adolescents' Reproductive Health." *Badan Kependudukan Dan Keluarga Berencana Nasional*. Jakarta. <http://www.dhsprogram.com>.
- Brown, Judith E, Ellen Lechtenberg, Maureen A Murtaugh, Patricia L Splett, Jamie Stang, Robyn Wong, L D Kaiser, et al. 2017. *Nutrition Through the Life Cycle*. 6th ed. Boston: Cengage Learning. www.cengage.com/highered.
- Golchin, Nayereh Azam Hagikhani, Zeinab Hamzehgardeshi, Moloud Fakhri, and Leila Hamzehgardeshi. 2012. "The Experience of Puberty in Iranian Adolescent Girls: A Qualitative Content Analysis." *BMC Public Health* 12 (1): 1. <https://doi.org/10.1186/1471-2458-12-698>.
- Kusheta, Samuel, Belay Banacha, Yitagesu Habtu, Degefa Helamo, and Samuel Yohannes. 2019. "Adolescent-Parent Communication on Sexual and Reproductive Health Issues and Its Factors among Secondary and Preparatory School Students in Hadiya Zone, Southern Ethiopia: Institution Based Cross Sectional Study 11 Medical and Health Sciences 1117 Public ." *BMC Pediatrics* 19 (1): 1–12.

<https://doi.org/10.1186/s12887-018-1388-0>.

- Mundhiro, Nadhirul, Ridhwan Fauzi, Mohammad Ainul Maruf, and Nurfadhilah Nurfadhilah. 2021. "Determinants of Premarital Sexual Behavior Amongst Adolescents in Indonesia." *Jurnal Biometrika Dan Kependudukan* 10 (1): 86. <https://doi.org/10.20473/jbk.v10i1.2021.86-93>.
- Nurfadhilah. 2019. "Analisis Pendidikan Karakter Dalam Mempersiapkan Pubertas Menuju Generasi Emas Indonesia 2045." *Jurnal Pendidikan Dasar* 10 (1): 85–100. <http://journal.unj.ac.id/unj/index.php/jpd/article/view/11124>.
- . 2021. "Mengejar Pertumbuhan Dan Mencegah Stunting." In *Membaca Muhammadiyah*, edited by Ahmad Faizin and Karimi David Efendi, 1st ed., 153-158 (414). Jakarta: Caremedia Communication. https://www.researchgate.net/publication/353730924_Mengejar_pertumbuhan_dan_mencegah_stunting.
- Nurfadhilah, and RR Arum Ariasih. 2019. "Abstinensi Dan Pendidikan Seks Remaja Survei Cepat Di Jakarta Dan Sekitarnya." *Jurnal Ilmiah Pendidikan Lingkungan Dan Pembangunan* 20 (01): 17–27. <https://doi.org/10.21009/plpb.201.02>.
- Nurfadhilah, and Erry Utomo. 2020. *Buku Pegangan Guru Kelas IV Sekolah Dasar Pubertas: Siap Menghadapi*. 1st ed. Jakarta: FKM UMJ. <https://fkm.umj.ac.id/launch-buku-pubertas-siap-menghadapi/>.
- Nurfadhilah, Erry Utomo, and Amos Neolaka. 2020. "Pendidikan Abstinensi Dalam Kurikulum Pendidikan Dasar Indonesia." *Jurnal Pendidikan Dasar* 1 (31 Mei 2020): 12. <http://journal.unj.ac.id/unj/index.php/jpd/article/view/15435>.
- . 2021. "Puberty Hypercontent Book, Expert and Community Responses." *Proceedings of the 5th Asian Education Symposium 2020 (AES 2020)* 566 (Aes 2020): 98–101. <https://doi.org/10.2991/assehr.k.210715.020>.
- Nurfadhilah, Erry Utomo, Amos Neolaka, Al Azmi Bahij, and Sonya Sinyanyuri. 2021. "Puberty Education in Primary School: Situation and Solution." *International Journal of Mechanical Engineering* 6 (January): 1110–17. https://kalaharijournals.com/resources/121-140/IJME_Vol7.1_134.pdf.
- Roberts, Elystan, Abigail Fraser, David Gunnell, Carol Joinson, and Becky Mars. 2020. "Timing of Menarche and Self-Harm in Adolescence and Adulthood: A Population-Based Cohort Study." *Psychological Medicine* 50 (12): 2010–18. <https://doi.org/10.1017/S0033291719002095>.
- Utomo, Erry, Nurfadhilah, Otib Satibi Hidayat, Jatu Wahyu Wicaksono, and Alrahmat Arif. 2020. "The Misconception of Teachers' and Students' Knowledge Regarding Puberty in Elementary Education." *KnE Social Sciences* 2020 (11 Nov 2020): 135–41. <https://doi.org/10.18502/kss.v4i14.7865>.
- Ziapour, Arash, Manoj Sharma, Nazila Nejhaddadgar, Afrouz Mardi, and Sedigheh Sadat Tavafian. 2020. "Educational Needs Assessment among 10-14-Year-Old Girls about Puberty Adolescent Health of Ardebil." *Archives of Public Health* 78 (1): 1–7. <https://doi.org/10.1186/s13690-019-0388-3>.