

Developing Contextual-Based Thematic Worksheets to Improve Critical Thinking Skill

Hiwa Wonda ¹

¹ Universitas Nusa Cendana, Indonesian; hiwawonda@staf.undana.ac.id

Received: 02/07/2023

Revised: 25/09/2023

Accepted: 06/10/2023

Abstract

This study aims to develop contextually based Student Worksheets that can improve students' critical thinking skills. In addition, this study also aims to meet the needs of students and teachers for contextual-based student worksheets so that they can more easily understand the material and have interesting worksheets to use. This research is development research involving 22 subjects: teachers and grade IV students of SD Inpres Naikoten Kupang. The object of this study is student worksheets based on contextual approaches to improve students' critical thinking skills. Data collection is done through observation, questionnaires, and documentation. The data were analyzed using qualitative and quantitative data analysis. Furthermore, this study applies the ADDIE model, which consists of five stages: analysis, design, development, implementation, and evaluation. The result of this research is a product in the form of contextual-based student worksheets that have been tested for feasibility by material experts, linguists, and media experts. In addition, through student and teacher response tests, it was found that these student worksheets were effective, interesting, and practical to use by research subjects. This research succeeded in developing contextual-based student worksheets to improve students' critical thinking skills. The results showed that these student worksheets were effective and practical to use by teachers and students. Thus, this approach can effectively meet contextual needs in learning and improve students' critical thinking skills.

Keywords

Contextual; Critical Thinking; Thematic Worksheets

Corresponding Author

Hiwa Wonda

Universitas Nusa Cendana, Indonesian; hiwawonda@staf.undana.ac.id



1. INTRODUCTION

Innovation in education has a central role in improving the quality of human resources, with teachers playing a key role in this process. As a statement by Hamdu et al. (2020), teachers are expected to be able to bring innovation to the learning process. Why is this so important? Innovation in learning can potentially transform students' learning experience, making it more engaging and fun. In innovative learning processes, student motivation is often a strong impetus.

However, this innovation goes beyond simply making lessons more interesting. As argued by Hastuti et al. (2018) and Marlina et al. (2020), teachers today also facilitate students to develop 21st-century skills. In addition to simply transferring knowledge, teachers should also be guides who can teach students about effective communication, collaboration, critical thinking, and problem-solving skills, as well as encourage creativity and innovation. By integrating these elements into learning, teachers contribute to forming individuals better prepared to face the demands of an increasingly complex modern world. Thus, innovation in education is not just about better ways of learning but also about preparing students for a challenging future.

Not only that, innovation in education also includes using technology as an effective learning aid. Technology has become integral to everyday life in today's digital age, and education cannot be spared its influence. According to research by Anderson et al. (2019), using technology in learning can open the door to more interactive, adaptive, and personalized learning methods. This allows students to learn in a way that suits their needs and ability level.

However, it is important to remember that innovation in education also faces some challenges. One is teacher training to integrate technology into teaching effectively. Sustained efforts are needed to prepare teachers with the knowledge and skills to adopt these innovations. In addition, changes in curriculum and education policy are also needed to support innovative learning approaches.

One of the skills students need to acquire is critical thinking skills. According to Firdaus & Wilujeng (2018) and Marlina et al. (2020), critical thinking skills are students' analytical and evaluation skills to proceed with information and experiences obtained through the learning process. A similar idea was stated by (Hastuti et al., 2018; Herdiansyah, 2018) that critical thinking skills are thinking skills possessed by students to evaluate evidence, assumptions, and logic and draw appropriate conclusions. Sulistiyono, 2020 further proposed by Astuti et al., 2017 Wahyuni et al., 2021) that critical thinking skills are the principal skills needed to prepare students to become reliable problem solvers, choosing the right outpouring information and making the right decision. Therefore, teachers need to seek innovation to improve critical thinking skills. To improve students' critical thinking skills, input innovations in learning, including learning devices used in the classroom.

Students' worksheet is a learning tool that functions as a learning aid to student books during learning at school (Rahmawaty, 2017; Susiloningsih, 2015). Students' worksheets motivate students to learn and understand the material actively. This statement was supported by Rizki et al. (2021), who said that worksheets help students generate their understanding of the material, which is the goal of learning. Atika (2016) also suggested that using worksheets can encourage students to work independently and guide students to develop learned concepts.

Furthermore, (Rahmawaty, 2017) proposed that a qualified student worksheet meets students' needs and characteristics, is easy to use, and effectively supports learning. This idea was also supported by (Insan & Hidayat, 2018), who said that the produced worksheets must be based on students' characteristics and make students experience meaningful learning.

Facts found in the field were: first, students' worksheets used in schools generally only contained a list of questions, and students were assigned to do it. Literacy and problem-solving processes that could encourage students' critical thinking skills were nonexistent. In addition, the learning carried out did not assist students in developing their critical thinking skills (Hartini et al., 2020; Sulistyorini et al.,

2018). Second, the worksheets did not meet the expected learning objectives. Third, the available worksheets could not link the studied concepts with students' real-life situations. Fourth, the appearance was less attractive and difficult for students to understand due to a lack of innovations to develop students' worksheets as needed. Fifth, students' critical thinking skills did not seem to increase in every learning process, whereas their critical thinking skills were crucial for overcoming real-life problems they faced.

Observing these facts, a solution that needed to be taken was to develop worksheets that met students' characteristics and needs, which were contextual-based worksheets. Lamapaha (2017), Rahmawaty (2017), and Yulianti & Yulianto (2015) defined the contextual approach as a learning concept that helps teachers relate the material being taught to real-world situations.

In the context of worksheets grounded in a contextual framework, Sugiyanto et al. (2018) asserted that students positively received these worksheets due to their emphasis on incorporating content and instances derived from authentic real-life scenarios. Furthermore, according to Susiloningsih and Karlina (2015), contextual-based worksheets were designed to stimulate students' motivation to comprehend the essence of educational content by establishing connections between the subject matter and the contexts of their everyday existence, thereby facilitating the acquisition of adaptable knowledge and skills transferable across various problem-solving scenarios.

Similar views to the statement can be found in other research and perspectives. For example, a study by Smith et al. (2020) revealed that contextual-based worksheets positively impacted student engagement in learning, as it helped them perceive the relevance of the subject matter to their daily lives. Additionally, research by Brown and Jones (2017) highlighted that this approach could ignite students' interest and motivation to learn, as it connects abstract concepts with concrete experiences in their everyday lives, allowing them to develop a deeper understanding and skills that can be applied in various contexts.

In the context of contextual-based worksheets, Robinson and Smith (2019) emphasized that these worksheets offer a practical solution to bridging the gap between theoretical knowledge and its real-world application. They contended that such worksheets foster a deeper understanding of subject matter by presenting it within familiar contexts, encouraging students to think critically and creatively when encountering problems in their everyday lives.

So, in conjunction with the previously mentioned viewpoints, this perspective underscores the utility of contextual-based worksheets in facilitating meaningful learning experiences and enhancing students' critical thinking abilities.

Drawing from the provided narrative, this investigation was undertaken to craft an educational resource in contextual-based worksheets tailored to enhance the critical thinking aptitude of fourth-grade students at SD Inpres Naikoten, Kupang. Noteworthy is the distinctive aspect of this research, which differentiates it from prior inquiries, as it incorporates a worksheet development process that is finely tuned to the distinctive needs, characteristics, and everyday experiences of students residing in East Nusa Tenggara.

2. METHOD

The present study employed a research and development (R&D) design methodology. The resultant output of this research endeavor comprised contextual-based worksheets strategically designed to enhance the critical thinking proficiencies of fourth-grade students attending SD Inpres Naikoten, Kupang. This research followed the ADDIE model, encompassing five stages: analysis, design, development, implementation, and evaluation.

The focal point of this research revolved around contextual-based worksheets designed to cultivate

students' critical thinking abilities. The research participants encompassed a cohort of 22 individuals, comprising both teachers and fourth-grade students from SD Inpres Naikoten, Kupang. The study spanned three months, commencing in September and concluding in November during the 2022/2023 academic year. Data collection was facilitated through a multifaceted approach, encompassing techniques such as observation, interviews, questionnaires, and assessments. The research instrument encompassed interviews, questionnaires, observations, and a skills assessment through essay-based tests. Preceding the actual product development phase, a pretest was administered to gauge the baseline level of students' critical thinking skills through essay-based assessments.

A summary of data collection techniques, instruments, and subjects of the study can be seen in Table 1.

Table 1. Data collection techniques, instruments, and subjects of the study

No	Studied Aspects	Data Collection Techniques	Instruments	Subjects
1	Needs, Curriculum, and Characteristics Analysis	Observation and Interview	Observation and interview guideline	Teacher and Students
2	Validity	Questionnaires	Materials, Media, and Language expert's validation Sheets	Lecturer
3	Practicality, Attractiveness, and Effectiveness	Questionnaires	Practicality, Attractiveness, and Effectiveness test sheet	Teacher and Students
4	Critical Thinking Skill	Test	Critical Thinking Skill essay questions	Students

The employed data analysis technique involved descriptive data analysis, which entailed the calculation of questionnaire score validity percentages and assessments of practicality, attractiveness, and effectiveness. This approach was also utilized to scrutinize the outcomes of the pretest and posttest critical thinking skills tests and to provide an in-depth description of the developed product's viability, effectiveness, appeal, and practicality, presented in the form of contextual-based worksheets. The validity assessment by material, media, and language experts was conducted by tabulating the total scores from the questionnaire and calculating the percentage score using the following formula.

$$\text{Validity level} = (\text{Obtained Score}) / (\text{Total Score}) \times 100$$

The next step was score interpretation using the following criteria:

81% - 100%	: Highly valid
61% - 80%	: Valid
41% - 60%	: Adequately Valid
21% - 40%	: Less Valid
0 – 20%	: Invalid

Analysis of practicality, effectiveness, and attractiveness tests also underwent similar stages of calculating the number of answer scores obtained from the questionnaire, then calculating the percentage score with the following formula

$$\text{Practicality, attractiveness and effectiveness level} = (\text{Obtained Score}) / (\text{Total Score}) \times 100$$

Then, score interpretation was done using the following criteria:

81% - 100%	: Highly practical/attractive/effective
------------	---

61% - 80% : Practical/Attractive/Effective

41% - 60%: Adequately practical/attractive/effective

21% - 40%: Less practical/attractive/effective

0 – 20%: impractical/unattractive/ineffective

Critical thinking skills test analysis was carried out using quantitative descriptive analysis by calculating the obtained number of answer scores and the percentage using the following formula.

$$S = R/N \times 100$$

Description

S: Expected Score

R: Total score of correctly answered items

N: Maximum Score

Data interpretation based on critical thinking skill criteria was done afterward using the guidelines below.

Interval	Criteria
81% - 100%	High
61% - 79%	Medium
<60%	Low

The research procedure was aligned with the five steps of the ADDIE model. In the analysis stage, student needs regarding contextual-based worksheets, student characteristics, and the context of daily life could be integrated into thematic learning worksheets on theme eight sub-themes one, lessons 1 to 6. At the design stage, the cover and worksheet design were done, and instruments were made in the form of questionnaires for expert validators and student and teacher responses. At the development stage, students' worksheets were developed by designs carried out in the previous stage. The developed worksheets were validated by material, media, and language expert validators at this stage. After being revised, it was corrected according to the given input. In the implementation stage, 22 fourth-grade students and teachers at SD Inpres Naikoten were given a limited trial. A questionnaire was also given to students and teachers to evaluate the attractiveness, effectiveness, and practicality of using students' worksheets. Product evaluation and revision are carried out in the evaluation stage based on input from expert validators, teachers, and students. As the final product was ready, a posttest was administered to measure whether there was an increase in critical thinking skills of fourth-grade students at SD Inpres Naikoten, Kupang.

3. FINDINGS AND DISCUSSIONS

This study aimed to produce a contextual-based worksheet product to improve fourth-grade students' critical thinking skills of SD Inpres Naikoten and to test the product's feasibility, effectiveness, attractiveness, and practicality. Before conducting this research, the researcher gave a pretest to 22 fourth-grade students to measure their critical thinking skills. Students were given essay questions about determined learning materials in theme 8, "My Neighborhood," sub-theme 1, "My Living Environment," lesson 1. Below are the results of the student's critical thinking skills test on the pretest presented in Table 2.

Table 2. Critical Thinking Skill Average Score based on pretest

No	Indicators	Scores
1.	Problem identification	70
2.	Ability to express facts needed to solve a problem	65
3.	Selecting logical, relevant, and accurate argument	65
4.	Inducing	70
5	Evaluating	60
Total Score		330
Expected value		66%

The average score students gained from the critical thinking skill test was 66% or in the medium criterion, as shown in Table 2.

Furthermore, product development was done using the five ADDIE steps. In the analyzing stage, needs, curriculum, and student characteristics were analyzed. First, the needs analysis regarding students' worksheets in which teachers and students needed contextual-based worksheets. The results of interviews with teachers revealed that teachers and students needed a contextual approach for theme 8, "My Neighborhood" sub-theme 1, and "My Living Environment" lesson 1. In addition, teachers still used worksheets that had not been adapted to learning about students' houses. Second, curriculum analysis as described in interviews and observations, contextual learning is needed for theme 8, "my neighborhood" sub-theme 1, " my living environment" lesson 1 because some parts of the material and exercises contained reading context from other regions and not by residential area in East Nusa Tenggara. The third was an analysis of student characteristics regarding critical thinking skills to solve problems in this material.

In the design stage, the worksheets and questionnaires were designed for validators of media experts, linguists, and media experts, as well as student and teacher response questionnaires. At the development stage contextual-based worksheets were developed as planned in the design stage. The designed contextual-based worksheets were handed to expert validators to check and provide revisions. Furthermore, revisions were made based on inputs from validators. Table 3 presents the results of material expert validation on contextual-based students' worksheet products.

Table 3. Material Expert Validation Result

No	Aspects	Gained score before revision (%)	Criteria	Gained score after revision (%)	Criteria
1.	Content feasibility	70 %	Appropriate	85%	Appropriate
2.	Presentation feasibility	80 %	Appropriate	85%	Appropriate
3.	Contextual Approach	75 %	Appropriate	90%	Appropriate
4.	Critical Thinking Skill	75%	Appropriate	85%	Appropriate

As portrayed in Table 3, the results of material expert validation on the content feasibility aspect, a score of 70% was obtained before revision with appropriate criteria, and a score of 85% was obtained with appropriate criteria after revision. This implied increased content feasibility before and after the material experts' revision. Moreover, regarding presentation feasibility, a score of 80% was obtained with appropriate criteria before revision, and 85% was obtained with appropriate criteria after revision. This result marked an increase in the presentation feasibility aspect before and after revisions by material experts. The results of material expert validation regarding the contextual approach aspect before revision were 75% with appropriate criteria and 90% with appropriate criteria after revision. This meant increased contextual approach aspects before and after revision by material experts. Furthermore, results from material expert validation on critical thinking skills aspects before the

revision was 75% with appropriate criteria, and after the revision was 85% with appropriate criteria. This also implied increased critical thinking skills before and after revision by material experts.

The result of media expert validation on contextual-based students' worksheet products can be seen in Table 4.

Table 4. Media Expert Validation Result

No	Aspects	Gained score before revision (%)	Criteria	Gained score after revision (%)	Criteria
1.	Layout Aspect	75%	Appropriate	80%	Appropriate
2.	Image Positioning Aspect	70%	Appropriate	85%	Appropriate

The data in Table 4 showed that the results of the media expert's validation on the display aspect before revision was 75% inappropriate criteria, and after the revision, was 80% inappropriate. This indicated increased appearance aspects before and after revision by media experts. Furthermore, the media expert validation result of the image positioning aspect was 70% before revision and 85% after revision within the appropriate criteria. This also indicated an increase in the image positioning aspect before and after revisions by media experts.

On the other hand, the linguist's validation result on the contextual-based students' worksheet product was presented in Table 5.

Table 5. Linguist's Validation Result

No	Aspects	Gained score before revision (%)	Criteria	Gained score after revision (%)	Criteria
1.	Writing Format	80%	Appropriate	85%	Appropriate
2.	Language	75%	Appropriate	80%	Appropriate

As presented in Table 5, the result of the linguist's validation regarding the writing format aspect before revision was 80%, and after revision, 85% was obtained, respectively, with appropriate criteria. This showed increased writing format aspects before and after revision by linguists. Moreover, validation results of the language aspect before revision were 75% and 80% after revision with appropriate criteria. This also implied increased aspects of language before and after revision by linguists.

In addition, comments and suggestions by material, media, and language experts are presented in Table 6.

Table 6. Expert Validators' Comments

Validators	Comments / Suggestions
Worksheet and Material Expert	The worksheet was good, but the CTL component should be added to parts of the designed worksheet, especially on images and problems, which must be more contextual, and there was a need for question items' depth to measure students' critical thinking skills.
Linguist	- Pay attention to language usage in the worksheet to be more understandable. - Use clear instructions in a worksheet for problem-solving steps.
Media Experts	Pay attention to the color setting on the worksheet cover.

A limited trial was administered to grade IV students and SD Inpres Naikoten Kupang teachers during the implementation stage. Twenty-two fourth-grade students and homeroom teachers were involved as subjects of the limited trial. After the trial, subjects were given a questionnaire to evaluate contextual-based worksheets' effectiveness, attractiveness, and practicality in developing students' critical thinking attitudes. The results of student responses can be seen in Table 7.

Table 7. Students Responses

Assessed Aspect	Gained Score (%)	Criteria
Attractiveness	85%	Attractive
Practicality	80%	Practical

The results of student responses from the questionnaire they filled out regarding the attractiveness aspect were 75% in the attractive range criteria; meanwhile, the practicality aspect obtained a score of 80% with practical criteria. In addition, the results of the teacher's response can be seen in Table 8.

Table 8. Teacher's Response

Assessed Aspect	Gained Score (%)	Criteria
Effectiveness	85%	Effective
Practicality	85%	Practical

The results of the teacher's response to the questionnaire in Table 8 exposed that a score of 85% was obtained with effective criteria on the effectiveness aspect. In contrast, the practicality aspect was 85% with practical criteria.

A posttest was administered later to measure students' critical thinking skills after the treatment of thematic learning using contextual-based worksheets. A critical thinking skills test was given to determine their current skills. Their average score of critical thinking skills after treatment can be seen in Table 9.

Table 9. Average Score of Critical Thinking Skill based on *Posttest*

No	Indicators	Score
1.	Problem identification	86
2.	Ability to express facts needed to solve a problem	79
3.	Selecting logical, relevant, and accurate argument	85
4.	Inducing	80
5	Evaluating	85
Total Score		415
Expected value		83%

Data from Table 9 showed that students' average score on the critical thinking skill test was 83% or was in high criteria. The pretest and post-test score comparison graphic is illustrated in Figure 1.

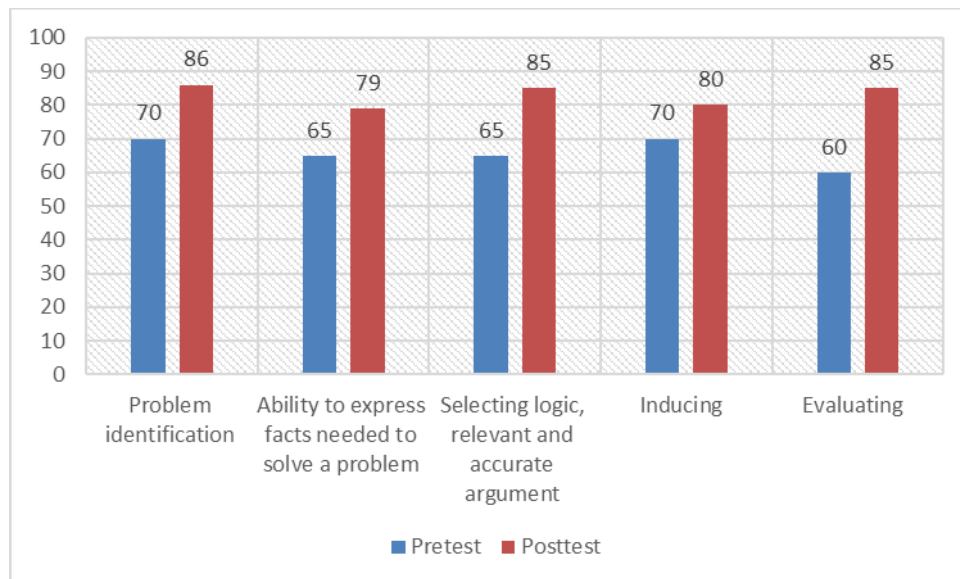


Figure 1. The pretest and posttest score comparison

Based on Figure 1, it could be seen that there was an increase in scores from pretest to posttest in each aspect of students' critical thinking skills test. It could be inferred that contextual-based worksheets could improve the critical thinking skills of fourth-grade students in SD Inpres Naikoten Kupang.

The development of students' worksheets based on a contextual approach integrates six stages: identifying problems, making hypotheses, data searching, testing hypotheses, drawing conclusions, and applying problem solving. First, identify the problems. Students were allowed to find problems from stories presented in students' worksheets. Second, make a hypothesis. At this stage, students were expected to formulate problems encountered in the previous stage and make tentative guesses about the problem. Third, collect data. Students asked questions and discussed with group members or the teacher at this stage. Fourth, test the hypothesis in which students used the data sought in the previous stage to find solutions to the problems presented in the worksheets. Fifth, conclude. At this stage, students conclude the results obtained through the previous stages. Sixth, resolve implementation problems. Students solved application problems in everyday life to practice their critical thinking skills.

These stages are helpful for students to practice sharpen their critical thinking skills in solving problems. This is due to students' direct involvement in identifying and concluding problem solving. Particularly in the discussion stage with the learning community, it is found that students' critical thinking skills in finding and giving opinions about problems presented get better. This is in line with an idea suggested by (Hartini et al., 2020; Hastuti et al., 2018; Sujatmika et al., 2019; Yasin et al., 2019) that students can acquire critical thinking skills by trying to find problems, proceed with them, and become more improved if the problem is discussed in study groups. Another benefit obtained through contextual-based worksheets is that the problems are taken from real-life problems so that they can easily practice critical thinking skills about the occurred problems.

4. CONCLUSION

A conclusion can be inferred that the development process of contextual-based students' worksheets to improve students' critical thinking skills used the ADDIE model, which consists of five stages: analyze, design, development, implement, evaluate. Through these stages, it was found that the worksheets were feasible to use based on the validation of material, language, and media experts. In addition, it was found that the worksheets were also effective, attractive, and practical used by teachers and students of SD Inpres Naikoten. Besides, the results of the pretest and posttest implied an increase

in students' critical thinking skills after using contextual-based worksheets. This is because students were highly involved during the six stages of the contextual approach, which include identifying problems, making hypotheses, searching for data, testing hypotheses, concluding and solving application problems. The findings suggest that using a contextual-based worksheet helps students process critical thinking skills.

REFERENCES

- Algiranto, & Sulistiyono. (2020). Development of Physics Students Worksheets with Scientific Approaches to Improve Skills Critical Thinking and High School Student Learning Outcomes Pengembangan Lembar Kerja Peserta Didik Fisika dengan Pendekatan Saintifik untuk Meningkatkan Keterampilan. *Geliga Sains: Jurnal Pendidikan Fisika*, 8(2), 107–113.
- Arisa, R. (2022). Development of Student Worksheets (LKPD) Based on Contextual Teaching and Learning (CTL) on the Subject of the Association. *Jurnal Riset Ilmu Pendidikan*.
- Astuti, P., Hartono, Y., Bunayati, H., & Sriwijaya, U. (2017). Pengembangan LKS Berbasis Pendekatan Pemodelan Matematika untuk Melatih Kemampuan Koneksi Matematis Siswa SMP Kelas VIII. *Jurnal Pendidikan Matematika*. 11(2), 61–77.
- Atika, N., & MZ, Z. A. (2016). Pengembangan LKS Berbasis Pendekatan RME Untuk Menumbuhkembangkan Kemampuan Berpikir Kritis Matematis Siswa. *Suska Journal of Mathematics Education*, 2(2), 103. <https://doi.org/10.24014/sjme.v2i2.2126>
- Fauziah, A.N., & Nurita, T. (2019). Activities of students in using worksheet based on Contextual Teaching and Learning. *Journal of Physics: Conference Series*, 1417.
- Firdaus, M., & Wilujeng, I. (2018). Developing Students Worksheet on guided inquiry to Improve Critical Thinking Skills and Learning Outcomes of Students. *Jurnal Inovasi Pendidikan IPA*, 4(1), 26–40.
- Hamdu, G., Rostiana, N. I., & Artikel, I. (2020). Desain LKS pada Pembelajaran STEM untuk Siswa Sekolah Dasar. *Refleksi Edukatika: Jurnal Ilmiah Kependidikan*. 11 (1), 79 - 87.
- Hartini, S., Mariani, I., Misbah, & Sulaeman, N. . (2020). Developing of Students Worksheets Through STEM Approach to Train Critical Thinking Skills International Conference on Mathematics, Science, and Education (ICMSE 2019). <https://doi.org/10.1088/1742-6596/1567/4/042029>
- Hastuti, P., Nurohman, S., & Setianingsih, W. (2018). The Development of Science Worksheet Based on Inquiry Science Issues to Improve Critical Thinking and Scientific Attitude. *IOP Conf. Series: Journal Of Physics : Conf Series* 1097 (2018) 012004, 1–7.
- Herdiansyah, K. (2018). Pengembangan LKPD Berbasis Model Problem Based Learning untuk Meningkatkan Kemampuan Berpikir Kritis. *Jurnal Eksponen*, 8(1), 1–9.
- Insan, B., & Hidayat, P. (2018). Pengembangan LKS Berbasis Contextual Teaching and Learning di Lingkungan Sekolah Pada Mata Pelajaran IPA Kelas III SD Muhammadiyah. *Jurnal Fundamental Pendidikan Dasar*, 1(2), 121–131.
- King, R.B., Chai, C.S., & Korpershoek, H. (2022). Learning and teaching during Covid-19 and beyond educational psychology perspectives. *Educational Psychology*, 42, 1199 - 1203.
- Lamapaha, Y. F. (2017). Developing of Contextual-Based Student Worksheet Oriented to Reasoning Scientific. *Jurnal Pendidikan Matematika dan Sains*. 5(1), 58–68.
- Marlina, L., Meiwandari, M., Sriyanti, I., & Jauhari, J. (2020). Developing student worksheet of natural science for the eighth-grade junior high school students based on critical thinking skills Developing student worksheet of natural science for the eighth-grade junior high school students based on critical thinking. *Journal of Physics: Conference Series*. <https://doi.org/10.1088/1742-6596/1796/1/012089>
- Olivia, C., Rusminto, NE, & Perdana, R. (2022). Mengembangkan LKS berbasis pembelajaran kontekstual untuk meningkatkan berpikir kritis siswa kelas V. *Jurnal Teknologi Pendidikan Asia* .
- Opie, J., Southcott, J., & Deppeler, J. (2017). "Akan membantu jika Anda adalah orang yang berisik":

- Mendengarkan suara siswa sekolah yang mengalami gangguan penglihatan. *Laporan Kualitatif*, 22, 2369-2384.
- Rahmawaty, E. (2017). Pengembangan Lembar Kerja Siswa dengan Menggunakan Pendekatan Kontekstual Subtema Lingkungan Tempat tinggalku untuk Meningkatkan Hasil Belajar Pada Siswa Kelas IV Sekolah Dasar. *Jurnal Review Pendidikan Dasar: Jurnal Kajian Dan Hasil Penelitian*, 3(1), 346–350.
- Rizki, D., Kalifah, N., Nugraheni, A. S. (2021). Pengembangan LKPD Tematik Berbasis Kearifan Lokal Budaya Lampung Selatan Tema Indahnya Keberagaman Kelas IV SD/ MI. Terampil: *Jurnal Pendidikan & Pembelajaran Sekolah Dasar*. 8(1), 27–36.
- Sujatnika, S., Irfan, M., Ernawati, T., Wijayanti, A., & Widodo, S. A. (2019). Designing E-Worksheet Based On Problem-Based Learning To Improve Designing E-Worksheet Based On Problem-Based Learning To Improve Critical Thinking. *ICSTI 2018*, May. <https://doi.org/10.4108/eai.19-10-2018.2281282>
- Sulistiyorini, S., Harmanto, & Jaino, Z. A. (2018). Pengembangan LKPD Tematik Terpadu Menginterasikan PPK dan Literasi Siswa SD di Kota Semarang. *Jurnal Kreatif*, 9(1), 21–30.
- Susiloningsih, E., & Karlina, R. (2015). Lembar Kerja Siswa Berbasis Kontekstual dalam Pembelajaran Subtema "Aku Bangga Daerah Tempat Tinggalku". *Jurnal Inovasi Sekolah Dasar*, 2(2), 100–106.
- Wahyuni, S., Rizki, K., Budiarso, A. S., Dwi, P., & Putra, A. (2021). The Development of E-Student Worksheet on Environmental Pollution to Improve Critical Thinking Skills of Junior High School Students. 7(4). <https://doi.org/10.29303/jppipa.v7i4.870>
- Yasin, M., Jauhariyah, D., Madiyo, M., Rahmawati, R., Irwandani, I., & Mardana, F. F. (2019). The Guided Inquiry to Improve Students Mathematical Critical Thinking Skills Using Student's Worksheet. *Journal of Education of Gifted Young*. 7(4), 1345–1360.
- Yulianti, D., & Yulianto, A. (2015). Development of Physics Student Worksheet to Build Science Process Skill Valued Conservation. *Jurnal Pendidikan Fisika Indonesia*. 11(2), 126–133. <https://doi.org/10.15294/jpfi>
- Zhu, G., Teo, C.L., Scardamalia, M., Badron, M.F., Martin, K., Raman, P., Hewitt, J., Teo, T.W., Tan, A., Ng, D.A., Nazeem, R., Donohue, Z., Lai, Z., Ma, L., & Woodruff, E. (2020). Emotional and Cognitive Affordances of Collaborative Learning Environments. *International Conference of the Learning Sciences*.

