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Development of Economics Textbooks with a Constructivist Approach Based on the 7E Learning Cycle to Improve High School Students' Critical Thinking and Collaboration Skills

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Abstract: This research aims to develop a textbook Economics with a Constructivist Approach Based on the 7E Learning Cycle to Improve High School Students' Critical Thinking and Collaboration Skills. This research is a development research (Development Research) with the ADDIE model (Analyze, Design, Development, Implementation and Evaluation. The development of this textbook involved 4 validators who assess the format, language and content of the textbook. Data were collected using a validation sheet instrument aimed at obtaining reviews and recommendations for the developed textbook product. Validity analysis was carried out by descriptive percentage analysis by determining the Average Percentage Score (PRS) of achievement of each component of the validated aspect. Based on data analysis from the assessment results of 4 validators, the average score (PRS) of the textbook on the format aspect was 78 (moderate), language aspect 86.67 (High), and content aspect 82.22 (High), the overall average was 82.29 (High). From the PRS results obtained, it can be concluded that the economics textbook with a constructivist approach based on the Learning Cycle 7E to improve critical thinking and collaboration skills of high school students meets the validity aspect and can be implemented in high school students' economics learning.

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Introduction

Education is an important indicator that determines the progress of a nation (Shavkidinova et al., 2023). Good quality education is needed so that the nation's goals are stated in the Preamble to the 1945 Constitution, namely to educate the nation's life. To produce quality education, quality, reliable, skilled, and professional human resources (HR) are needed (Patil, 2022). To prepare a golden generation that is in accordance with the development of the times that is ready to face the 21st-century world of work, the sector that plays an important role is the world of education, especially schools and teachers. Schools as an output of students who will produce the next generation of the nation who are ready to compete in the world of work(Huda & Susilo, 2017). Therefore, students should be equipped with skills/expertise that are appropriate for the 21st century (González-salamanca et al., 2020). 21st-century learning requires schools to have 4C skills (Fadhilla, 2021). One of the aspects is Critical and collaboration thinking (Critical thinking and collaboration skills) (Warsah et al., 2021).

Learning in the 21st century is not only centered on cognitive abilities, but includes a number of personal and social skills.(González-pérez & Ramírez-montoya, 2022). Critical thinking skills are the ability to think logically, reflectively, productively, and systematically

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in making considerations and decisions and collaborating.(Eni et al., 2017). Collaborative learning enhances critical thinking and encourages students to engage in discussions and take responsibility for themselves.(Gokhale, 1995).

Economics is a subject that essentially studies society to gain an understanding of how humans live and various activities related to determining needs. Economics plays a fairly important role in the success of human resource development, and the development of science and technology. The purpose of economics is essentially the competence to use economic concepts in everyday life which is the main target in the economic learning process (Yusuf, 2023). The critical thinking and collaboration skills of students at the school level in general are not yet as expected (Najaah, 2021).

The critical thinking and collaboration skills of students in Indonesia are in the very low category (Matsna, 2023). Many students still have difficulty relating the concept of lesson material to everyday life (Coştu et al., 2009). Looking at education today, teachers in schools tend to focus on transferring information by giving a limited portion to critical and creative thinking. This is proven by looking at the results of the Programme for International Student Assessment (PISA) Indonesia in 2018. PISA questions are often said to be able to measure students' level of critical thinking. The results of the 2018 PISA which was followed by 78 countries showed that Indonesia was ranked 72nd(Know & Do, 2019). The implementation of PISA 2018 in Indonesia involved 12,098 students in 399 educational units. The sample was taken to represent 85% (3,768,508 students) of the population aged 15 years. The concept of critical thinking is a complex concept and includes complex activities and mentality, the process of critical thinking is a process that is not easy to describe (J.W, 2012).

Furthermore, for some students, the level of understanding is still low, and critical thinking and collaboration skills are still lacking. Additionally, the researcher's observations at SMA Negeri 1 Angkola Selatan in North Sumatera Province showed that students engage in minimal cognitive activities during learning. The teaching process remains largely dominated by traditional methods, with students mainly listening and responding to the teacher's questions by rote. The use of learning media is absent, many students lack confidence, and critical thinking in problem-solving is not emphasized. Furthermore, according to the researcher's observations, teachers use the available textbooks and cause students to be less involved in learning.

Textbooks are a component that must be present in the learning process, which must be studied, examined, learned, and used as material to be mastered by students and at the same time can provide guidelines for studying it (Spiel et al., 2013). Textbooks are a component that must be studied, examined, learned, and used as material to be mastered by students and at the same time can provide guidelines for studying it.(Salahudin et al., 2018). Textbooks contain scientific knowledge whose substance is derived from basic competencies contained in the curriculum for use by students in learning (Hunaepi et al., 2016). Textbooks are materials that contain explanations of subject matter needed by students and teachers. The importance of textbooks as a guideline in the learning process is contrary to the existing situation. Textbooks used in schools today seem less interesting, and not innovative, and still cannot facilitate the achievement of students' mathematical abilities, one of which is students' critical thinking skills.

In developing textbooks, the learning approach becomes an inseparable whole and must be adjusted during the learning process. One approach that can be used is the constructivism approach. The constructivism approach makes students build or construct new knowledge in cognitive structures based on real experiences, collaborative activities, and reflections and interpretations.(Mataheru et al., 2020). Learning is directed to answer

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questions from the students' perspectives. Learning activities are more based on emphasizing critical thinking skills so that the knowledge gained is more meaningful and profound (Wei et al., 2024). The 7E learning cycle model is a learning model based on constructivism in learning, with the basic assumption that "knowledge is built in the learner's mind" which consists of 7 phases in the form of Elicit (Obtain), Engage (Connect), Explore (Investigate), Explain (Explain), Elaborate (Develop), Evaluate (Evaluate), and Extentd (Need) which emphasizes students to be able to construct their thoughts so that students' experience of the concepts taught is obtained by processing their thoughts. In addition, it can provide social activities that can stimulate students to criticize what is seen, heard, and done (Musdalifa & Taqwa, 2017).

In developing textbooks, the learning approach becomes a unity that must be adjusted during the learning process. Textbooks should link learning in a constructivist manner.(Setyawan et al., 2020). The purpose of this study was to develop a textbook Economics with a Constructivist Approach Based on the 7E Learning Cycle to Improve High School Students' Critical Thinking and Collaboration Skills.

Research Method

This research is a development research where the model used is the ADDIE model (Analysis, Design, Development, Implementation and Evaluation) (OD, 2004). The analysis stage in this case involves Need Assessment and Front-End Analysis. Need Assessment is a needs assessment carried out to determine the gap between actual and ideal conditions. Where in this study it was carried out on material, economics curriculum, student characteristics, and analysis of student work plans, subject analysis, analysis of learning objectives. Need assessment was carried out using observation and interview techniques. Observation and interview techniques are carried out to identify products that are appropriate for students. Learning objectives, core competencies, basic competencies, and learning materials that will be discussed in the textbooks developed. Furthermore, Front-End Analysis was carried out to collect techniques that can be used as solutions to existing gaps, Front-End Analysis carried out includes analysis of the approach used in developing textbooks both related to the principles, characteristics and syntax used in the learning approach used. Furthermore, the books developed must refer to the development of critical thinking skills and student collaboration.

The Design Stage is the stage of designing the product to be made. Starting from making a research schedule plan, designing a textbook with a constructivist theme according to the analysis carried out, designing a textbook product with a constructivist approach. The research product book is designed for high school students in grade XI in semester 1 material, namely taxation. Furthermore, the instruments needed in the research on critical thinking and collaborative test questions are also designed. Learning management observation sheets, learning tools, such as teaching modules and LKD and validator research.

The Development Stage is carried out to obtain a product in the form of a textbook that can be applied. This activity was carried out through product validation by expert validators of the material and experts in the constructivist learning approach. Validation is carried out on format, language, and content. The product developed in the form of a textbook with a constructivist approach as well as learning tools and instruments needed in this study have been validated by experts. If the validator provides revisions or suggestions for improvement, improvements will be made so that the product developed meets the validity criteria.

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The Implementation Stage aims to apply the product that has been developed through the validator stage to the user. The application of the product to the previous user has been validated from the material aspects and the approach used first. This stage is a test of the readability of the product and the validation process of the instrument in testing the feasibility of the critical thinking and collaboration test items that will be used in the evaluation stage.

The evaluation stage aims to measure the level of product suitability with the research objectives. The intention is to test the level of validity, practicality and effectiveness of the product. In this stage the product is applied to students. Trial activities were carried out with quasi-experimental research using a one group pretest posttest design. The research design applied is an experimental design for one research class consisting of pretest questions, learning activities and posttests. The class involved was class XI students of SMA Negeri 1 Angkola Selatan.

In the learning process involving teacher and student interactions/activities, where the interactions/activities are assessed by a certain group by observing the interactions/activities during the learning process and the teacher's interactions/activities are observed by an observer to provide an assessment of the management of learning. The assessment of teacher and student activities/interactions is an assessment of the practicality of using research products. The pretest and posttest questions conducted to see the level of effectiveness are by looking at the N-gain from pretest to posttest.

The research was conducted from July to August 2024. The location of the research was SMA Negeri 1 Angkola Selatan. The subject matter developed in the textbook was material that is adapted to the lessons of grade XI students. The subject matter developed is focused on economic subjects, namely taxation material. The research instrument used was the learning device validation sheet. The validity of the textbook was reviewed from the aspects of format, language and content. In the format aspect, the validation of the textbook aims to assess the feasibility of several aspects carried out by experts/experts (validators) before use, then the learning device is revised based on suggestions and input from the validator (Naila & Sadida, 2020). The assessment of the validity of the textbook was carried out by 4 validators who were competent in the constructivist approach to improve the critical thinking and collaboration skills of high school students. Validation was carried out by experts to assess the product by filling out a validation sheet that was used to assess how the material and language were appropriate, as well as the appropriateness of the media display presented in the product.(Kholifah & Kristin, 2021). The assessment was carried out through a validation sheet by providing a checklist ("√") on a 1-5 assessment scale. The scoring is based on 1= very poor, 2= poor, 3= sufficient, 4= good, 5= very good.

Validity analysis was carried out by descriptive percentage analysis by determining the Average Percentage Score (PRS) of achievement of each component of the validated aspect. The category of component achievement in percentage is interpreted in the criteria of very good.⇔$90 \leq PRS \leq 100$, good⇔$80 \leq PRS < 90$, enough⇔$70 \leq PRS < 80$, less⇔$60 \leq PRS < 70$ and very less⇔$0 \leq PRS < 60$(Sudjana, 2007). A validated component meets the valid criteria if$PRS \geq 70$ or at least in the sufficient category. The assessment of the developed textbook (product) by the validator includes both recommendations and remarks. These were analyzed qualitatively to guide the revision of the textbook based on the validator's feedback. Improvements are made to the textbook according to the suggestions and comments provided. The validator's recommendations are examined to ensure they support and strengthen the development of the learning materials (Siregar et al., 2020).

Results and Discussion

The findings from the analysis are as follows: The assessment of the developed textbook, which utilizes the constructivist learning approach and the Learning Cycle 7E to improve high school students' critical thinking and collaboration skills, was performed by 4 validators. This evaluation covered the format aspect, consisting of 5 components, the language aspect with 6 components, and the content aspect involving 8 components. The validator's assessment of the textbook reviewed from the format aspect can be seen in table 1 below.

Table 1. Validator's assessment of format aspects

No	Format Aspect Components	Validator Assessment				PRS	Interpretation	Category
		1	2	3	4			
1	Clarity of Material Division in Textbooks	5	4	4	4	85.0	High	Valid
2	Clear Numbering System	4	3	4	5	80.0	High	Valid
3	Space Arrangement/Layout	4	4	5	4	85.0	High	Valid
4	Appropriate Font Type and Size	3	4	5	6	65.0	Low	Invalid
5	Suitability of the physical size of the book to the user	4	4	4	3	75.0	Currently	Valid
Average value		4.00	3.80	4.00	3.80	78.0	Currently	Valid

From the assessment given by the validator to the format aspect components, the assessment includes sufficient, good, and very good. When viewed from the average value, the validator's assessment is generally good. Then, based on the PRS analysis, the 5 validated components contain 5 aspects that meet the valid category, namely the clarity of the division of material in the textbook, the arrangement of space/layout, the numbering system, and the suitability of the physical size of the book. Furthermore, there is one invalid component, namely the type and size of the font. That is because the type and size of the font are not consistent, which previously used *Times New Roman* and continued with *Calibri*. The dominant suggestions submitted by the validator are that it is necessary to adjust the type and size of the font, it is necessary to make bold letters on some titles so that the appearance is more attractive. The suggestions submitted by the validator are used as considerations to improve the textbook product from the format aspect. Furthermore, the validation carried out on the textbook is reviewed from the language aspect. The assessment of the language aspect through the existing components was all in the valid category. The results of the validator's assessment of the language aspect can be seen in Table 2 below:

Table 2. Validator's Assessment of Language Aspects

No	Format Aspect Components	Validator Assessment				PRS	Interpretation	Category
		1	2	3	4			
1	Grammar Corrections in Textbooks	4	5	4	4	85	High	Valid
2	Simplicity of Sentence Structure	4	5	4	5	90	Very high	Valid
3	Encourage learning of critical thinking and collaboration skills	3	5	5	4	85	High	Valid
4	Compliance with instructions or directions	4	4	4	4	80	High	Valid
5	Suitability of fives with learning approaches	4	5	5	5	95	Very high	Valid

6	Question sentences do not contain double meanings	4	3	5	5	85	High	Valid
Average value		3.83	4.5	4.33	4.33	86.67	High	Valid

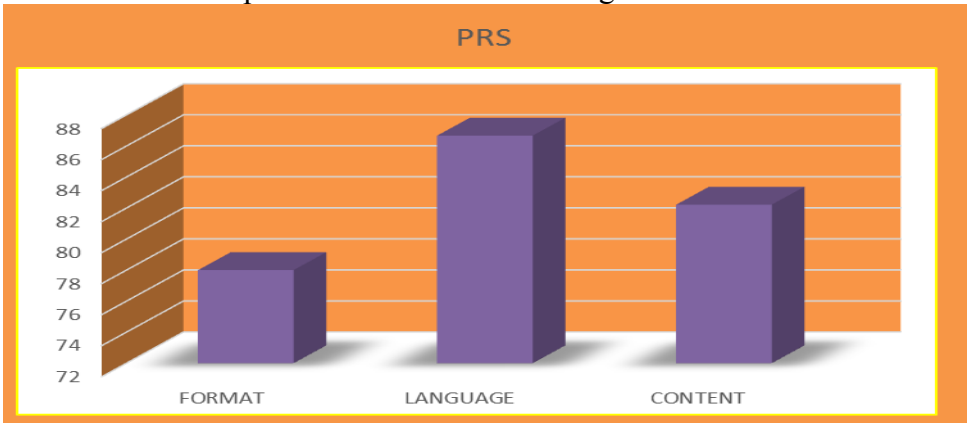
By looking at Table 2, the highest validity value is in the components of sentence structure simplicity and sentence suitability with the learning approach. Where both of these components were in a very high interpretation. That is because the sentences in the textbook are simple short sentences and in a sentence in accordance with the learning approach. While the component that has the lowest value is the suitability of instructions or directions. That is because the instructions in the book are partly unclear. From the assessment given by the validator to the language aspect component, the assessment includes good and very good. When viewed from the average value, the validator's assessment in general is good. Then, based on the analysis of the PRS value, the six validated components are in the valid category. Likewise, the average PRS value shows that the validation of the textbook reviewed from the format aspect is in the valid criteria. Furthermore, there are dominant suggestions conveyed by the validator in language validation, namely the need to clarify the instructions or directions in the book. Furthermore, the validation of the textbook was reviewed from the content aspect. The assessment of the language aspect was carried out according to the components contained in the content aspect. The results of the validator's assessment of the textbook reviewed from the content aspect according to the components being assessed can be seen in table 3 below.

Table 3. Validator's assessment of content aspects

No	Format Aspect Components	Validator Assessment				PRS	Interpretation	Category
		1	2	3	4			
1	Completeness of Components in Textbooks	4	4	5	4	85	High	Valid
2	Truth of material/content	4	4	3	4	75	Currently	Valid
3	Compliance with TP, Indicators, KI and KD	4	3	4	4	75	Currently	Valid
4	Grouping into logical parts	4	4	4	3	75	Currently	Valid
5	Conformity with the applicable curriculum	4	3	3	3	65	Low	Invalid
6	conformity with the Constructivism Approach Based on the 7E Learning Cycle	5	4	5	5	95	Very high	Valid
7	Stimulate students' critical thinking and collaboration skills	4	5	5	5	95	Very high	Valid
8	Suitability of the time allocation used	4	4	5	4	85	High	Valid
9	Conformity of Material Sequence	4	5	5	4	90	Very high	Valid
Average value		4.11	4.00	4.33	4.00	82.22	High	Valid

From the assessment given by the validator on the content aspect, it can be seen that the assessment given includes low, sufficient, good and very good. When viewed from the average value, the validator's assessment was generally good. Then, based on the PRS analysis, of the 9 validated components, there were 8 components in the valid category and one component in the invalid category. The invalid content aspect component is the conformity with the applicable curriculum. This is because the textbooks that are compiled

refer to the independent curriculum while the current curriculum is the 2023 curriculum. The preparation of teaching materials was carried out based on the independent curriculum because of the adjustment to the curriculum applied in schools and maintaining the hierarchy of the arrangement of subject matter for high-class students at the school where the research was conducted. Suggestions and comments submitted by the validator tend to be that the curriculum applied should follow the applicable curriculum and the preparation of teaching materials must be logical and integrated. The suggestions given are used as input to improve or revise the textbook so that it is more feasible to proceed to the next stage. Judging from the achievement of the results of the validation of the textbook carried out by the validator, the highest validation value achievement is language validation, then continued with content validation, and followed by format validation. The PRS value obtained from the validation results reviewed from the aspects used can be seen in Figure 1 below.



Discussion

Validation achievement reviewed considering the format, language, and content it is in the valid category. Furthermore, the average total PRS achievement from the validation results was 81.64. By comparing the validity criteria$PRS \geq 70$, then the validation PRS of the textbook was on the validity PRS criteria. Thus it is concluded that the textbook developed is valid both in terms of language format and content. The results of this study are in line with the findings of the study(Oktari et al., 2022) found that by involving 3 people Validity test from media expert assessment obtained a validation value of 95% very valid criteria and language experts with a validation value of 93% very valid criteria and material experts with a validation value of 90% very valid criteria. 2. Practical tests from assessment by economics teachers obtained a value of 88% very practical criteria. 3. Effectiveness test from student assessment obtained as much as 77% effective criteria for CTL-based Economics modules showed an average percentage of 93.75% which was in the very feasible category. Furthermore, research findings (Mataheru et al., 2020)whose research is namely through research on the development of student worksheets with a constructivist approach in facilitating critical thinking skills, the criteria for a learning device are said to meet valid requirements. This means that the textbook is based on constructivism in Basic Mathematics. Research on the development of Economics textbooks for high school students was conducted at SMA Negeri 4 Padangsidimpuan. The research carried out resulted in a textbook product with a constructivist approach to improving critical thinking and collaboration skills in Economics for high school students that is valid.

The analysis stage (analyze) in product development is the initial stage in conducting research involving Need Assessment or needs assessment. Through the needs analysis, information was obtained that it was still necessary to develop textbooks using a

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constructivist approach to improve critical thinking and collaboration skills in Economics for grade XI high school students. Furthermore, the material to be developed is Economics, especially Taxation, the curriculum applied is still using K13; the students are students aged 14-16 years. Furthermore, through Front-End Analysis, the constructivist approach applied to the product being developed was determined, as well as the achievements of critical thinking and collaboration that must be used as abilities that must be developed in learning activities based on textbooks.

After the analysis stage, it is continued with the design stage. The design stage is the stage for designing the product to be developed, namely the textbook. The design of the textbook developed refers to the approach used, namely the constructivism approach and the abilities developed, namely critical thinking and collaboration. The textbook developed involves Economics material in taxation studies. The last stage is the development stage. The development stage was carried out by testing the validity of the textbook product. The validity test of the product developed was carried out by 4 experts. The textbook was validated from 3 (three) aspects including format, language and content. Each aspect consists of various components that are assessed by each validator. Based on the data analysis carried out, an assessment was obtained from each validator with an average total PRS which showed that the textbook developed was valid. In addition, suggestions or comments were also obtained from the validator which were used as considerations for improving the product being developed. With the assessment of the validator and product revision based on suggestions and comments from the validator, a research and development product was obtained in the form of a textbook with a constructivism approach in improving students' critical thinking and collaboration skills that were valid and suitable for use for implementation in learning. The development of textbooks was carried out on the subject of Economics by involving constructivist components to provide students with the opportunity to develop their critical thinking and collaboration skills.

Viewed from the aspect of format, it is necessary to adjust the type and size of the letters, it is necessary to make bold letters on some titles so that the appearance is more attractive. Furthermore, the material presented in the textbook was neatly arranged by distinguishing between lowercase and capital letters. Many textbooks do not distinguish between lowercase and capital letters, causing ambiguity in notation and increasing statistical difficulties (Lee, 2013). Reviewed from the language component where the textbook presented uses correct grammar, uses simple sentences and clear meaning. The language used in the textbook is communicative, clear, consistent, and in accordance with good and correct Indonesian language rules (Afrahamiryano & Ariani, 2017). In the textbook, the context related to the subject matter is described with good and correct language in accordance with the initial knowledge situation of students who are taking part in the learning. A good textbook is a textbook that is in accordance with the level of cognitive development of students (Nursyahrifa et al., 2019). Furthermore, the developed textbooks direct students to be motivated to motivate students in developing critical thinking and collaboration skills and include instructions and directions in using the textbooks. The linguistic components in the textbooks are aspects related to readability, motivating ability, straightforwardness and conformity with Indonesian language rules.(Sultan et al., 2023). The developed textbook has attractive images, clear information, and easy-to-read language (Sabri et al., 2023).

From the content perspective, the developed textbook organizes the material into logical sections, following a constructivist approach aimed at enhancing students's critical thinking and collaborative skills. The material involved in the textbook is adjusted to the sub-chapter or study of the material on responsibility, obligations, rights and deliberation. Based

on the approach used, this material is used in various contexts in the family, school, society, nation and state. The presentation of material in the textbook is adjusted to the learning objectives, indicators, main Competencies (KI) and Basic Competencies (KD). In addition, the teaching material is also adjusted to the applicable curriculum and the allocation of time for learning Economics in schools. The validity status of the content of the research product developed is that the teaching material involved is in accordance with KI and KD, has accurate material, material that supports learning, and has up-to-date material (Irhasyuarna & Hafizah, 2022). By presenting materials with various contexts that are appropriate to the conditions of students, it is expected to motivate students in learning activities, especially in developing critical thinking and student collaboration skills. Textbooks aligned with the objectives set, have clear and precise material substance, and can motivate students are valid textbook development products (Afrahamiryano & Ariani, 2017).

Conclusion

Based on the research outcomes , it can be concluded that the textbook with a constructivist learning approach based on Learning Cycle 7E to enhance critical thinking and collaboration skills of high school students meets the validity criteria with an average total PRS validation result of 82.29 with a high category. This can be interpreted as a research product in the form of an economics textbook with a constructivist approach in improving critical thinking and collaboration skills of high school students is valid and can be implemented in economics learning in schools.

Recommendation

The recommendation proposed according to the findings of this study is Teachers are encouraged to consistently apply the Learning Cycle 7E method to enhance students' critical thinking and collaboration skills. Students should actively engage and collaborate in each learning phase to strengthen their understanding of economics. Further research could focus on developing evaluation instruments, extending this approach to other subjects, and testing digital-based textbooks to make constructivist learning more flexible and effective.

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References

Afrahamiryano, & Ariani, D. (2017). Analisis Validitas Buku Ajar Untuk Sistem Perkuliahan E-Learning Pada Mata Kuliah Kimia Dasar Di Fkip Ummy Solok. *Jurnal Eksakta Pendidikan (Jep)*, *1*(2), 104. https://doi.org/10.24036/jep.v1i2.55

Coştu, S., Arslan, S., Çatlioğlu, H., & Birgin, O. (2009). Perspectives of elementary school teachers and their students about relating and contextualizing in mathematics. *Procedia - Social and Behavioral Sciences*, *1*(1), 1692–1696. https://doi.org/10.1016/j.sbspro.2009.01.300

Eni, D., Willy, A., & Fitri, S. (2017). تأث ير تصو و مشاهده يرسازى ر سركوب بر عمل يتم م يو بسكتبال 3. آزاد پرتاب در * فرزانه حاتم ى 1 ، فرش يد طهماسب ى 2 ، حاتم الهام ى شاه مير *Neuropsychology*, *3*(8), 85–102.

Fadhilla, S. A. (2021). *Memahami Peran Guru Pada Abad 21 Serta Tantangan*. 1–9.

Gokhale, A. (1995). *Collaborative Learning Enhances Critical Thinking*. . https://doi.org/10.21061/jte.v7i1.a.2.

González-pérez, L. I., & Ramírez-montoya, M. S. (2022). COMPETENCIES TYPES (LEARNING SKILLS, LITERACY SKILLS, LIFE SKILLS) Components of Education 4.0 in 21st Century Skills Frameworks: Systematic Review. *Sustainability (Switzerland)*, *14*(3), 1–31.

González-salamanca, J. C., Agudelo, O. L., & Salinas, J. (2020). Key competences, education for sustainable development and strategies for the development of 21st century skills. A systematic literature review. *Sustainability (Switzerland)*, *12*(24), 1–17. https://doi.org/10.3390/su122410366

Huda, M. M., & Susilo, H. (2017). *PENERAPAN PEMBELAJARAN RECIPROCAL TEACHING DIPADU THINK PAIR SHARE UNTUK MENINGKATKAN KETERAMPILAN BERPIKIR KRITIS DAN HASIL BELAJAR SISWA KELAS V*. 1356–1368.

Hunaepi, H., Firdaus, L., & Kurnia, N. (2016). Validitas Buku Ajar Ekologi Berbasis Kearifan Lokal untuk Mengembangkan Sikap Ilmiah Mahasiswa. *Prisma Sains : Jurnal Pengkajian Ilmu Dan Pembelajaran Matematika Dan IPA IKIP Mataram*, *4*(2), 94. https://doi.org/10.33394/j-ps.v4i2.1152

Irhasyuarna, Y., & Hafizah, E. (2022). Analisis Validitas Terhadap Pengembangan Bahan Ajar. *Jurna Pahlawan*, *18*(01), 11–15.

J.W, M. (2012). *Thinking Critically about Critical Thinking*. *44*(5), 467–479.

Kholifah, W. T., & Kristin, F. (2021). Pengembangan Bahan Ajar Cerita Bergambar Tematik Untuk Meningkatkan Minat Baca Siswa Sekolah Dasar. *Jurnal Basicedu*, *5*(5), 3061–3072. https://doi.org/10.31004/basicedu.v5i5.1256

Know, W. S., & Do, C. A. N. (2019). *PISA 2018 Results (Volume I): Vol. I*. https://doi.org/10.1787/5f07c754-en

Lee, W. (2013). "Statistics is difficult"? - Textbooks problems. *Journal of the Korean Data and Information Science Society*, *24*(6), 1253–1262. https://doi.org/10.7465/jkdi.2013.24.6.1253

Mataheru, W., Huwaa, N. C., & Matitaputty, C. (2020). The Development of Textbook Based on Constructivism in the Basic Mathematical Concept Course. *Journal of Physics: Conference Series*, *1429*(1). https://doi.org/10.1088/1742-6596/1429/1/012006

Matsna, M. (2023). Peningakatan Kemampuan Berpikir Kritis Peserta Didik Kelas VII D SMPN 19 Semarang Materi Ekologi Melalui Problem Based Learning Berbasis Socio-Scientific Issue. *Seminar Nasional IPA XIII*, *373*, 373–380.

Musdalifa, A., & Taqwa, T. (2017). Efektivitas Model Learning Cycle 7e (Lc 7e) Berbasis Pendekatan Konstruktivisme. *Kelola: Journal of Islamic Education Management*, *2*(2), 176–186. https://doi.org/10.24256/kelola.v2i2.439

Naila, I., & Sadida, Q. (2020). Validitas Perangkat Pembelajaran Matematika berbasis Scaffolding untuk Siswa Sekolah Dasar. *Procedings Conference of Elementary Studies : Literasi Dalam Pendidikan Di Era Digital Untuk Generasi Milenial*, *1*(1), 229–246.

Najaah, L. S. (2021). Analisis Keterampilan Berpikir Kritis Dan Kolaborasi Peserta Didik Sekolah Menengah Pertama (Smp). *Jurnal Jaringan Penelitian Pengembangan Penerapan Inovasi Pendidikan (Jarlitbang)*, 115–122. https://doi.org/10.59344/jarlitbang.v7i2.64

Nursyahrifa, N., Mukhaiyar, M., & Jufrizal, J. (2019). Textbooks Evaluation: To what Extent Do the English Textbooks Provide Learning to Promote Cognitive Skill? *Metathesis:*

Journal of English Language, Literature, and Teaching, *3*(1), 78. https://doi.org/10.31002/metathesis.v3i1.1250

OD, L. W. (2004). *Multimedia Based Instructional Design Second Edition*. John Wiley & Sons, Inc.

Oktari, N. B., Wahyuni, S., Eprilison, V., Pgri, S., Barat, S., Pgri, S., Barat, S., Pgri, S., & Barat, S. (2022). *Berbasis Website Wordpress Di Sma N 1 Gunung Talang*. *1*(January), 705–716.

Patil, S. A. (2022). National Educational Policy 2020-Heart of Sustainable Development Goals 2030 International Journal for Multidisciplinary Research (IJFMR). *International Journal for Multidisciplinary Research*, *4*(5), 1–8.

Sabri, S., Umar Kholil, & Marzuki Ahmad. (2023). Validitas Buku Ajar dengan Pendekatan Kontekstual dalam Membelajarkan Kemampuan Berpikir Kreatif Siswa Sekolah Dasar. *Jurnal Elementaria Edukasia*, *6*(3), 1043–1056. https://doi.org/10.31949/jee.v6i3.6629

Salahudin, Akos, M., & Hermawan, A. (2018). Meningkatkan Mutu Pendidikan Melalui Sumber Daya Manusia dan Sarana Prasarana di MTsN Banjar Selatan 2 Kota Banjarmasin. *Jurnal Ilmu Administrasi Dan Manajemen*, *2*(1), 1–13.

Setyawan, F., Prasetyo, P. W., & Nurnugroho, B. A. (2020). Developing complex analysis textbook to enhance students' critical thinking. *JRAMathEdu (Journal of Research and Advances in Mathematics Education)*, *5*(1), 26–37. https://doi.org/10.23917/jramathedu.v5i1.8741

Shavkidinova, D., Suyunova, F., & Kholdarova, J. (2023). Education Is an Important Factor in Human and Country Development. *Current Research Journal of Pedagogics*, *04*(01), 27–34. https://doi.org/10.37547/pedagogics-crjp-04-01-04

Spiel, C., Schober, B., & Reimann, R. (2013). Modeling and measurement of competencies in higher education - the contribution of scientific evaluation. *Modeling and Measuring Competencies in Higher Education: Tasks and Challenges*, *1*, 195–206. https://doi.org/10.1007/978-94-6091-867-4

Sudjana. (2007). *Media Pengajaran*. Sinar Baru Algasindo.

Sultan, Rapi, M., Basri, M. B., Mangila, B. B., & Rahmat, W. (2023). Texts and Tasks in Indonesian Language Textbooks: Do They Support Indonesian Students in the International Reading Literacy Test? *International Journal of Language Education*, *7*(3), 563–578. https://doi.org/10.26858/ijole.v7i3.56017

Warsah, I., Morganna, R., Uyun, M., Hamengkubuwono, H., & Afandi, M. (2021). The Impact of Collaborative Learning on Learners' Critical Thinking Skills. *International Journal of Instruction*, *14*(2), 443–460. https://doi.org/10.29333/iji.2021.14225a

Wei, B., Wang, H., Li, F., Long, Y., Zhang, Q., Liu, H., Tang, X., & Rao, M. (2024). Effectiveness of Problem-Based Learning on Development of Nursing Students' Critical Thinking Skills: A Systematic Review and Meta-analysis. *Nurse Educator*, *49*(3), E115–E119. https://doi.org/10.1097/NNE.0000000000001548

Yusuf, N. (2023). Upaya Peningkatan Hasil Belajar Mata Pelajaran Ekonomi Melalui Penerapan Metode Ceramah Yang Dikombinasikan Dengan Metode Two Stay Two Stray Pada Siswa Kelas X . IPS Madrasah Aliyah Negeri 3 Bireuen Tahun Pelajaran 2022 / 2023. *Serambi Akademica: Jurnal Pendidikan, Sains, Dan Humaniora*, *11*(4), 363–382.