

## Developing Teaching Materials on Basic Social Studies Concepts Through SDGs-Integrated Case Studies for Prospective Teachers

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**Abstract:** This study aims to describe the development of teaching materials for basic concepts of social studies integrated with SDGs for prospective social studies teachers. This study employed a Research and Development (R&D) method using the ADDIE model, which consists of five stages: Analysis, Design, Development, Implementation, and Evaluation. Data was collected using questionnaire and test methods. The data analysis techniques used were qualitative and quantitative analysis. The results of the study showed: (1) based on the validity test, the teaching materials on the basic concepts of social studies using a case study approach were classified as very valid with a score of 82.92%; (2) the practicality test indicated that the teaching materials were very practical with a score of 83.39%; and (3) the effectiveness test, which aimed to measure the critical thinking skills of prospective social studies teachers, revealed an N-Gain score of 0.56, categorized as a moderate effect. In addition, the results of the t-test showed a significance value of 0.000, which is smaller than 0.05, indicating a significant influence of the developed teaching materials on students' critical thinking skills. Therefore, the development of teaching materials on the basic concepts of social studies based on case studies is valid, practical, and effective for use in the learning process.

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### Introduction

Education is one of the key pillars for the realization of the Sustainable Development Goals, especially related to the target to promote inclusive, equitable, and quality education (Van Daalen, K. R., Tonne, C., Semenza, J. C., Rocklöv, J., Markandya, A., Dasandi, N., ... & Lowe, 2024). The education sector aims to achieve progress towards a competent, globalized, and socially responsible society. It emphasizes the importance of education in preparing current and future generations with knowledge and skills to deal with social, economic, and environmental complexities (Lewis, J., Schneegans, S., & Straza, 2021). In this context, Social Studies Education, as one of the basic subjects, also has a very important role, as it provides insight into the dynamics of social, cultural, economic, and geographical life related to global issues (Cerf., 2023). It is hoped that social studies education learning will always undergo changes for the better, especially by means of a new approach in teaching that is designed to face an innovative, technology-driven, and time-appropriate learning process.

Social Studies has an important role in providing students with an understanding of social, cultural, economic, and environmental dynamics. However, the reality in the field is that social studies education in schools faces many challenges that can hinder the

achievement of educational goals. One of the problems is the lack of learning materials that integrate relevant global issues, especially those related to the Sustainable Development Goals (SDGs). Conventional learning in social studies education often focuses on teaching basic concepts alone without providing an understanding of these concepts that are linked to current global issues, such as inequality social, climate change, and sustainable natural resource management (Puspitasari, S., Hayati, K. N., & Purwaningsih, 2022). This leads to a lack of awareness of students on the importance of sustainability issues, so that it can limit students' ability to become agents of change who care about the future of the environment (Buuololo, 2024). According to Maulidah, H., & Sabtiawan (2023), there is research in social studies learning that still uses conventional methods so that it is less able to accommodate the needs of students in understanding global issues, such as social inequality, climate change, and gender justice.

There are so many issues contained in the SDGs that can be collaborated in today's education, especially in formal schools through a case study learning model. The Sustainable Development Goals (SDGs) are a joint agreement with world leaders to address various issues. One of the issues is climate change. A global survey in 26 countries shows that global warming is happening and 73% of respondents believe that climate disruption is caused by human activities (Plutzer, E., Branch, G., & Townley, 2024). The findings of national research show that most Indonesians are aware of climate change and attribute it to human activities. However, there is a gap between such awareness and real actions in daily life (Schneider-Mayerson, M., Gustafson, A., Leiserowitz, A., Goldberg, M. H., Rosenthal, S. A., & Ballew, 2023). The achievement of the SDGs through education is also conveyed in the 2022 SDGs achievement report by the National Development Planning Agency/BAPPENAS (2023). It is stated that the achievement of the SDGs target can be done through encouragement by universities, which is integrated in the implementation of the Tri Dharma of Higher Education, both teaching, research and service.

Social studies education in higher education has a strategic role in shaping students' character and critical thinking skills (Pakpahan, R., & Fitriani, 2020). Critical thinking skills are very important, especially in the context of changing social and global developments (Arsita, S. A., Saputro, G. E., & Susanto, 2021). However, in practice, the development of these skills is often less integrated in the learning process in the S1 Social Studies Education study program. The S1 Social Studies Education Study Program is one of the study programs that is still relatively new, so one of the lecturers' duties is to create teaching materials to make it easier for students to understand social studies learning. It is hoped that students and lecturers will actively explore social issues faced by the community so that students better understand social phenomena in Indonesia, and make them more relevant in teaching social studies materials at various levels of education.

Based on the results of the tracer study, there are several aspects that are evaluated to see the achievement of the previous curriculum. One of them shows that students' understanding of social science content that supports social studies (Geography, Sociology, Economics and History) is still low. This is in line with the results of the research of Khusniyah, (2020) which stated that there are several problems that arise in social studies learning, namely 1) Around 50% of students are passive when attending lectures. Student activities are more listening and taking notes, which depends on the lecturer's ability to deliver the material. 2) There are only one or two people who express their opinions or ask questions after the lecturer finishes explaining. 3) Students cannot complete their independent assignments on time, because the dependence on lecturers is still very large. 4) Self-

adjustment experienced by students when participating in learning at university. Students in the first semester do not have the maturity to study independently. Students are also still carried away with learning at school which is more *teacher-oriented*. Some of these things have an influence on student learning outcomes in the basic social studies concept course at a low level. In addition, the characteristics of the basic concept of social studies courses have a material content that is quite broad and theoretical. Based on social studies learning problems in the field and previous research, learning support is needed in the form of teaching materials for basic social studies concepts based on case studies. Quality learning support by involving students in meaningful learning experiences will train students to get used to independent learning and construct their own knowledge.

Several previous studies have shown that the development of case-based teaching materials can improve students' critical thinking skills (Lee, J. M., Heller, M. I., & Lam, 2018). Case studies in the context of social studies learning have been used in several universities to improve students' understanding of concepts and analytical skills (Yulianto, T., Pramudya, I., & Slamet, 2019). However, its application specifically in the S1 Social Studies Education Study Program in Indonesia is still limited. This research offers novelty by developing more specific teaching materials tailored to the social studies education context in Indonesia, which has not been extensively researched by researchers before. The development of case study-based teaching materials in this study will also pay attention to the SDGs, which can contribute more to student learning. With this approach, students will not only study social studies theories, but also be faced with conditions in the field that require in-depth analysis of social, economic, historical and political issues. It is hoped that the teaching materials of the Basic Concept of Social Studies can function as a tool to support the achievement of the SDGs goals in social studies learning. This research will provide social studies textbooks that are more applicable and relevant to the needs of the times, namely learning that is not only knowledge-based, but also based on global skills and awareness of sustainability issues to improve students' critical thinking skills. Research on case-based teaching materials integrated with the SDGs in Indonesian higher education remains limited; therefore, this study provides a new contribution by developing case-based teaching materials integrated with the SDGs in social studies learning.

## Research Method

The method in this study uses the research and development method or *Research and Development*. The development research method is a research method used to produce a certain product and test the effectiveness of the product to be produced (Sugiyono, 2015). The development model used in this study is the ADDIE development model. ADDIE as a concept of an effective product development process (Branch, 2009). The research model consists of five stages of development, including: *Analysis, Design, Development or Production, Implementation or Delivery and Evaluations*. In this study, it will produce teaching materials for basic social studies concepts that are integrated with the SDGs. The research design for the development of the ADDIE model can be seen from the chart below:



**Figure 1 ADDIE Development Model (Robert Maribe Branch, 2009)**

1. Analysis/Analysis Stage

The first stage in this research is to analyze a problem that has occurred in the field.

2. Design/Planning Stage

The selection and preparation of learning materials at this stage, the steps that have been taken are the preparation of materials presented in the form of teaching materials. The material is taken from the NCSS theme which is integrated with the SDGs theme

3. Development Stage

The development stage is the stage that is carried out to produce and validate the products created.

4. Implementation/Implementation Stage,

The next stage is the application of social studies teaching material products that have been validated by media experts, material experts and practitioners and have been declared significant and have been tested on S1 Social Studies Education students.

5. Evaluation Stage

After implementation, an evaluation is carried out to determine whether the trial results are insufficient, adequate, or satisfactory. This evaluation employs formative assessment, which aims to monitor student progress and provide feedback to improve the learning process throughout its implementation. Thus, a valid and feasible product can be produced for use.

In this study, the research subjects were students of the class of 2024 who took basic social studies concept courses. The result of this research is a developmental product in the form of case-based teaching materials on basic social studies concepts integrated with the SDGs for prospective teachers, with the validity, practicality, and effectiveness of the textbook as the object of study. The methods used in this research were questionnaires and tests. This developmental research employed two data analysis techniques, namely quantitative and qualitative analysis. The qualitative descriptive analysis method was used to analyze suggestions and comments from the review data provided by validators and practitioners. The quantitative analysis method consisted of two approaches, descriptive and inferential statistics. Descriptive statistical analysis was used to process questionnaire data into scores, while inferential statistical analysis was applied to test the research hypotheses, which included the N-Gain test and the Paired Sample T-Test.

The data analysis technique on product feasibility is based on data from questionnaires/questionnaires from media experts, subject matter experts and practitioners using a percentage (Percentage (%)) = total number of parts/total amount x 100%). Data analysis techniques consist of:

1. Expert Validation Analysis

Data from the validation of materials and media to assess the feasibility of the materials and media used.

$$P = \frac{f}{n} \times 100\%$$

Arikunto (2012)

P= Percentage of Eligibility

f = Score obtained

n= Total maximum score

**Table 1. Validation Results Data Assessment Criteria**

Percentage Value	Category
80% <HP ≤ 100%	Highly Valid
60% <HP ≤ 80%	Valid
40% <HP ≤ 60%	Quite Valid
20% <Pv ≤ 40%	Less Valid
0% <HP ≤ 20%	Invalid

2. Testing the Practicality of the Teaching Materials

The practicality test of teaching materials using teacher and student response instruments was analyzed using the formula:

$$P = \frac{f}{n} \times 100\%$$

Arikunto (2012)

P = Percentage of Practicality

f = Score obtained

n= Total maximum score

**Table 2. Criteria for Assessing Teacher and Student Responses**

Percentage Value	Category
80% <HP ≤ 100%	Very Practical
60% <HP ≤ 80%	Practical
40% <HP ≤ 60%	Quite Practical
20% <Pv ≤ 40%	Less Practical
0% <HP ≤ 20%	Impractical

3. Testing the Effectiveness of Teaching Materials

The practical test of teaching materials using pre-test and post-test results data was analyzed using the Gain Score formula as follows:

$$g = \frac{\text{score post test} - \text{score pre test}}{\text{score max} - \text{score pre test}}$$

The gain *score* aims to determine the level of effectiveness of the use of basic social studies concept teaching materials based on case studies to improve students' critical thinking skills. The Gain Score is interpreted using the following classification:

**Table 3. Gain Score Classification**

Gain Score	Category
$-1.00 < g < 0.00$	Less
$g = 0.00$	Stable
$0.00 < g < 0.30$	Low
$0.30 < g < 0.70$	Average
$0.70 < g < 1.00$	Tall

In this N-gain trial design, the media can be declared effective and efficient if it is included in the medium and high categories.

## Results and Discussion

### 1. Validity Test of Teaching Materials Basic Concepts of Social Studies Based *on Case Study*

To determine the validity of the teaching materials of the basic concept of social studies based on a case study, validation was carried out by 3 validators consisting of material experts, media experts and linguists. The purpose of the validation process is to determine the feasibility of teaching materials for basic social studies concepts based on *case studies*. The results of the experts' validation can be seen in table 4.

**Table 4. Results of Validation of Teaching Materials**

Yes	Validation	Score (%)	Result
1	Subject Matter Expert Validation	81	Highly Valid
2	Module Expert Validation	84	Highly Valid
3	Linguist Validation	83,75	Highly Valid
Total		82,92	Highly Valid

Based on table 4, it is known that the teaching materials for basic social studies concepts based on case studies that were validated are classified as very valid with a score of 82.92%. Based on these data, it can be concluded that the teaching materials for basic social studies concepts based on case studies are suitable for use in the trial stage.

### 2. Practical Test of Teaching Materials Basic Concepts of Social Studies Based *on Case Study*

The practicality test of teaching materials for basic social studies concepts using the responses of lecturers and students. The practicality test questionnaire consists of interest, material and language. The results of the practicality test of the basic concept of social studies teaching materials can be seen in table 5.

**Table 5. Results of the Practical Test of Teaching Materials**

Yes	Aspects	Average	Category
1	Ketertarikan	82	Very Practical
2	Material	85	Very Practical
3	Language	83,19	Very Practical
Total		83,39	Very practical

The data in table 5 shows that the average response of lecturers and students is 83.39 which is classified as very practical. Based on this data, it can be concluded that the

teaching materials for basic social studies concepts based on case studies are very practical to use.

3. Test of the Effectiveness of Teaching Materials The basic concepts of social studies based on *a case study*

The effectiveness test aims to measure students' critical thinking skills during the learning process. The effectiveness of teaching materials was tested using pre-test and post-test data analyzed using the Gain Score formula.

**Tabel 6. N-GAIN Results**

Descriptives		Statistic	Std. Error
ngain_score	Mean/Rata-Rata	0,5607	,02219
95% Confidence Interval for Mean	Lower Bound	,5164	
	Upper Bound	,6050	
5% Trimmed Mean		,5626	
Median		,5833	
Variance		,032	
Std. Deviation		,17886	
Minimum		,14	
Maximum		1,00	
Range		,86	
Interquartile Range		,26	
Skewness		-,235	,297
Kurtosis		-,201	,586

Based on the table above, it can be seen that the output results of the N-Gain score show a value of 0.56 which shows that the amount of effectiveness in measuring students' critical thinking skills according to the N-Gain score criteria has a moderate effect.

**Tabel 7. T-TEST**

Paired Samples Test					
		Paired Differences	t	df	Sig. (2-tailed)
		95% Confidence Interval of the Difference			
		Upper			
Pair 1	Pre_Test - Pots_Test		-18,20290	-19,275	64 0,000

Based on table 7 above, it is clear that the significance results (2-tailed) show a number of 0.000 which is smaller than 0.05. Adjusted to decision-making, if the significance value is less than 0.05,  $H_0$  is rejected and  $H_1$  is accepted, meaning that there is an influence of teaching materials on the basic concept of social studies based on case studies on students' critical thinking skills. This is supported by research findings which show that the characteristics of case-based learning stimulate critical thinking more effectively compared to conventional methods. The characteristics of case-based learning that can foster critical thinking include: (1) this learning approach is based on real-life problems experienced by students, linked to the SDGs, thereby encouraging students to think realistically, analyze contexts, and seek applicable solutions; (2) it promotes in-depth analysis, requiring students to break down problems, identify causal factors, and



consider multiple perspectives before drawing conclusions; (3) it integrates theory and practice, as students need to connect the theories they study with real conditions in the cases, thereby training both critical and applied thinking; (4) it is collaborative and discursive, allowing students to work together to discuss social issues related to one of the SDG themes, thereby creating opportunities for argumentation and exchange of perspectives.

Therefore, case-based learning is more effective in stimulating critical thinking because it challenges students to face uncertainty, analyze deeply, and practice decision-making. In contrast, conventional learning tends to produce strong conceptual understanding but is less effective in fostering the development of critical thinking. Conventional learning in social studies education often focuses on teaching basic concepts without providing an understanding of these concepts that are related to current global issues, such as social inequality, climate change, and sustainable natural resource management (Puspitasari, S., Hayati, K. N., & Purwaningsih, 2022). According to Maulidah, H., & Sabtiawan (2023), there is research in social studies learning that still uses conventional methods so that it is less able to accommodate the needs of students in understanding global issues, such as social inequality, climate change, and gender justice. This leads to a lack of awareness of students on the importance of sustainability issues, so that it can limit students' ability to become agents of change who care about the future of the environment (Buulolo, S., Zebua, A., & Lase, 2024). This textbook is designed to specifically integrate SDGs principles in social studies learning, so that it can fully support the formation of students' awareness of pressing social and environmental issues (Wahyudi, S. A., Siddik, M., & Suhartini, 2023).

The results of the study show the effectiveness of the basic concept of social studies textbooks based on case studies in improving critical thinking skills through the SDGs. Sustainable Development Goals (SDGs) and have been agreed upon by world leaders, including Indonesia, to end poverty, reduce inequality, and protect the environment (Walter, C. T., Kooy, M., & Prabaharyaka, 2017). He further explained that the SDGs have 17 goals and 169 targets that are expected to be achieved by 2030. In achieving these goals, education is expected to be able to bridge the 17 goals that exist in sustainable development. This is in accordance with the opinion KUSUMANINGRUM, M. E., Roshayanti, F., & Dewi (2022) that there is great hope to design a sustainable future in a good way and overcome the problem of environmental change by means of Education which is then called *Education for Sustainable Development* (ESD) or the same as education for sustainable development.

Saputri, V., & Diana (2021) found that students who are given a project that begins with a problem, and have high emotional intelligence will tend to seek all information to be able to understand the problem in the given project. Case study-based learning integrated with the SDGs indirectly trains students' analytical skills. Students become more able to recognize problems and be able to determine the right alternative solutions. These indicators of critical thinking can be reflected in students' ability to determine learning resources, as well as gather relevant information. This is in line with the view of Nugraha, D. M. D. P., Juniayanti, D., & Indraswati (2023) that the critical thinking process is a stage of processing information and analyzing problems accurately. Through case studies, students are directed to act scientifically. Students investigate, gather information, sort, and determine the ideas to use to complete their case studies.

This study developed case-based teaching materials on basic concepts of social studies integrated with the SDGs. This is in line with research findings indicating that the teaching materials available in schools have not yet met students' needs for interactive independent learning, as they are still limited to printed materials. Therefore, innovation is needed through the development of interactive e-modules that are tailored to students' learning needs. (Putri, S. K., Nugraha, A., & Putri, 2025). The development of this teaching material is integrated with the SDGs due to the numerous issues emerging in the present era. Among them is the widespread problem of deforestation, which requires fostering environmental awareness in society from an early age, one of which can be achieved through school learning. Therefore, the E-LKPD BERHUTAN (Contributing to Sustainable Forests) application was developed as an interactive teaching material integrated with SDG 15, Life on Land, aimed at enhancing students' environmental awareness. (Wulandari, T. N., Haerani, R. P. R., Suhartini, E., & Arafah, 2025). The difference between this study and previous research lies in the development of case-based teaching materials on basic social studies concepts integrated with the SDGs, which do not focus on only one SDG theme, but instead address all SDG themes that are relevant to the NCSS. This is expected to enable students to become familiar with global issues that align with the themes of social studies education.

## Conclusion

The development of teaching materials for basic social studies concepts based on case studies is valid, practical, and effective to be used in the learning process. This conclusion is based on the results of the validity test of the basic concept of social studies teaching materials based on a case study, which is classified as a very valid category with a score of 82.92%. The practicality test of teaching materials for basic social studies concepts is classified as very practical with a score of 83.39%. Meanwhile, the results of the effectiveness test which aims to measure students' critical thinking skills can be seen as the output results of the N-Gain score showing a value of 0.56 which shows that the amount of effectiveness in measuring students' critical thinking skills according to the N-Gain score criteria is to have a moderate effect and based on the results of the t-test shows a figure of 0.000 which is smaller than 0.05. Adjusted to decision-making, if the significance value is less than 0.05,  $H_0$  is rejected and  $H_1$  is accepted, meaning that there is an influence of teaching materials on the basic concept of social studies based on case studies on students' critical thinking skills. The results of observations during the study show that the development of basic social studies concepts teaching materials based on case studies integrated with the SDGs is able to stimulate students' curiosity from the beginning of learning. Thus, this learning design encourages the realization of students' behavior/critical thinking skills such as giving questions, explanations, or mentioning examples, determining learning resources and collecting appropriate information, understanding problems and choosing relevant solutions, arguing logically or based on facts, and drawing conclusions carefully.

## Recommendation

Based on the research findings, several recommendations can be proposed. First, at the classroom practice level (teachers), teachers are expected to prioritize case studies that are relevant to students' daily lives, both in local contexts and global issues, linked to the SDGs. Second, at the curriculum level (curriculum developers and educational institutions), the integration of SDG-based case studies should not be incidental but become an integral part of

the social studies curriculum structure. Curriculum developers need to design modules or a bank of case studies that are contextualized to the social conditions of each region, providing teachers with rich and relevant references. Third, at the educational policy level (policymakers), the government needs to establish policies that support the systematic implementation of SDG-integrated, case-based social studies teaching materials within the national curriculum.

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