Integrating Socio-Cultural Realities into Differentiated Instruction: A Modular Approach

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Abstract. This research aims to develop differentiated instruction through a socio-cultural module for Junior high school teachers. This research used a Research and Development (R&D) method with the ADDIE model (Analysis, Design, Development, Implementation, Evaluation). The analysis was carried out by analysing teachers' and students' problems, implementing differentiated instruction, and teachers' and students' needs. Then, the module will be designed and developed by validating and revising the product through three education experts as validators. Next, implementation and evaluation were conducted in 2 junior high schools with a sample of 185 students, 1 school supervisor, 2 headmasters, and 10 teachers. After being validated by three education experts, this module was revised, then implemented in 2 junior high schools in Soppeng, Indonesia. The result of this study showed positive feedback from validators which reached 98.4 % satisfaction. However, some feedback were given to improve this module. After some revisions, the module was implemented in two junior high schools in Soppeng and reached an average score of 99.5 % from four aspects: utility, feasibility, accuracy, and propriety of the module. In terms of students' satisfaction related to teachers' method of delivering material using a social culture approach to differentiated instruction, 77.7% was achieved, which showed students feel very satisfied with differentiated instruction with a socio-cultural approach. Based on this result, the teaching module for differentiated instruction with a social-culture approach is valid and practical, so it qualifies as a feasible and quality development product.

Keywords: differentiated instruction; socio-cultural approach; module development

INTRODUCTION

Differentiated learning is not an emerging practice in the world of education; rather, it is a timely technique needed in any progressive teaching environment. Differentiated instruction is more than just an educational philosophy; it is an essential approach that identifies how every student learns differently. When educators adapt their teaching approaches and materials to meet the different ways students learn and what they can accomplish, student engagement and academic success can improve (Tomlinson, 2017). This is especially important in classes these days, which are filled with a diverse range of cultural, linguistic, and socio-economic backgrounds. Nevertheless, effective use of differentiated learning and teaching strategies still presents a struggle for teachers, especially in contexts where the socio-cultural factors greatly affect students' learning experience (Hattie & Donoghue, 2016). This is especially challenging with the added need to consider socio-cultural implications of practical applications in the classroom; educators, after all, are currently navigating a system that is arguably far removed from the needs of their students, as mandated standards rarely reflect lesson requirements.

This is particularly urgent given the increasing diversity of classrooms throughout the world. This requires a more sophisticated pedagogical perspective that recognizes and embraces the socio-cultural backgrounds of students. Although existing literature has long been emphasizing the positive association of socio-cultural contexts with learning outcomes (Banks, 2018), a significant gap remains in relevant literature regarding the construction of a practical context-based instructional facet and its integration into differentiated learning tasks. While a number of frameworks exist, they are often not diagnostic enough or specific enough for educators to implement effectively in the variety of classrooms they serve. These limitations include the limited number of studies that examine statewide outcomes of culturally responsive differentiated instruction and the lack of studies that examine culturally responsive differentiated instruction and its impact on targeted outcomes (Gay, 2018a).

Despite the consideration of socio-cultural factors, recent research often leaves teachers with little more than platitudes. For example, although researchers (Gloria Ladson-Billings, 1995; Gay, 2018b) have developed frameworks of culturally

relevant pedagogy, research on the actual module creation and execution of differentiated instruction modules that specifically draw upon socio-cultural contexts is sorely lacking. There are limited, easily accessible, evidence-based resources available to educators to help them combat the ongoing dilemmas they feel in effectively using differentiated instruction to meet the diverse needs of their students. Previous research has mainly concentrated on theoretical bases, with a notable absence of a practical approach and evaluation of these bases in different classrooms.

To bridge this gap, the present research responds to the following central research question: How is a differentiated instruction module based on Socio-Culture to be developed to increase teachers' understanding in implementing differentiated learning? What you will learn from this study: This study aims to offer a practical, measured instructional module and test teachers' aptitude on differentiated teaching practices as culturally based instruction. The expected result is a well-founded, well-tested model that is theoretically principled and practically valuable for differentiated teaching in diverse socio-cultural settings.

METHODS

This study constitutes a form of research and development (R&D). R&D methodologies are employed to create specific products and assess their efficacy (Ramot & Bialik, 2022). In this context, the developed product is a science teaching module incorporating an integrated character problem-solving model. The development framework utilized is the ADDIE model, which encompasses five primary phases: analyze, design, develop, implement, and evaluate (Gagne, *et al*, 2005; Morrison, 2010; Rayanto & Sugianti, 2020).

The research population consisted of three material validators: head masters, school supervisors, teachers, and students. The validation of the module is coming from the Quality Assurance Centre of South Sulawesi (BBPMP), the Teachers' Movement Centre of South Sulawesi (BBGP), the Assessor of the National Accreditation for Early Childhood Education (Ban-PDM), and the facilitator of the School Movement. After the first revision from the validators, the module is repaired again and moved to the implementation phases, which involve 1 school supervisor, 2 head masters,10 teachers, and 185 students. Next, continue with evaluation phases, which use classroom observation, interviews, and a questionnaire to collect data to measure the

effectiveness of the teaching module.

The instrument used in this research included validation sheets, Interviews, and a questionnaire. The implementation phases of this research include three main phases, namely: analyse, design, develop, implement, and Evaluation.

Analysis is the initial stage, which involves examining the demands of the product being built. The define step includes investigating the curriculum, assessing the teachers' issues of implementing differentiated learning under the *Merdeka Belajar* curriculum, interviews, analysing learning outcomes, and analysing materials.

Design is the process of making a design or draft for the product to be developed by following the following stages:
a) Search for various references or make materials for making teaching modules.
b) Determining the layout of the teaching module by adjusting the layout and components or format of the teaching module so that it is easily understood by teachers.
c) Determining the right colour, type, and font size for the teaching module.
d) Improving the content or components in the teaching module, which are generally taken from various other reference sources and then designed into the teaching module.
e) Determining the teaching module specifications.
f) Creating and developing a teaching module related to the concept of differentiated learning, integrating socio-cultural factors.

Development is a series of activities in developing a product, followed by making it a real product, testing the validity of the product repeatedly, and making revisions according to recommendations until it can produce a product that is in line with predetermined specifications. The product is then tested to assess its level of practicality. The purpose of this stage is to determine the feasibility and produce a differentiated learning through a socio-cultural module with nuances of solution reasoning that has been revised according to suggestions from experts and data obtained in the assessment activities carried out by experts and field trials. At this stage, the steps mentioned below are taken:
a) Validation of the first draft of the product by the three validators
b) Revising the product based on the feedback from the validators in stage 1 to produce the second draft.
c) Conducting the first trial of the teaching module product involving 2 Headmasters, 2

school supervisors, and 10 teachers.

d) Validating the second draft by the three validators

e) Revise the product based on feedback from validators in stage 2, if still needed.

f) Conducting a second trial of the product after obtaining validation from validators and seeing the practicality of using the product through filling out the teacher questionnaire.

g) Analyse the results of product validity data and product practicality to determine the quality of the development results and the feasibility of the teaching module.

The data analysis techniques in this study were descriptive analysis to identify common themes and guide revisions, descriptive statistics to summarize questionnaire responses, and inter-rater reliability to ensure consistency in validation scores. The practicality and usability of the module were assessed through usability testing to evaluate the effectiveness of revisions. This iterative refinement process, involving multiple stages of validation and trials, ensured the development of a feasible and high-quality differentiated instruction through socio-culture under the Merdeka Curriculum with solution reasoning nuances.
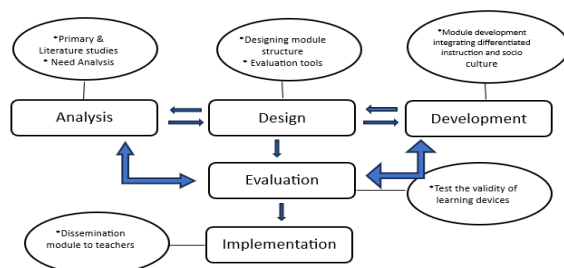
Figure 1. Research Flow Framework

RESULTS AND DISCUSSION

Analysis

In terms of developing a differentiated teaching module for junior high school with a socio-cultural approach, the analysis stage involves two main aspects: problem analysis and need analysis. Further explanation regarding each of these aspects is discussed in more detail below.

Problem Analysis

Problem analysis is the main crucial part in method of the ADDIE model. This stage focuses on identifying and thoroughly understanding existing learning problems, which becomes the basis for developing a relevant and effective instructional teaching module. This involves diagnosing issues

that may hinder effective teaching methods and learning implementation. Understanding and determining the main causes of these issues can provide a better solution; in this case, the module can be created can cope with the issues. Main activities of this stage include classroom observation to identify issues of teachers applying differentiated instruction in the classroom, ineffective teaching, inefficient process of learning, and acceptance of students' materials. The outcome of this analysis is in-depth insight into the specific challenges teachers face related to differentiated instruction, such as students' learning gaps, ineffective differentiated instructional approach, and teachers' limitations in applying differentiated instruction. Identified the root causes of the implementation of differentiated instruction in class determined the next steps for creating the module.

Need Analysis

The objective of need analysis systematically gather information about what is required of teachers and students for differentiated instruction through problem analysis and the desired future state. This stage is often referred to as a bridge between problems and expectations. In this case, teachers' and students' issues and expectations in implemented differentiated instruction. Key activities include identifying teachers' potential for teaching, knowledge, skills, resources, and school supports, while for students, identifying students' background, interest, and culture. The outcome of this analysis is a clear understanding of teachers' and students' needs, including an additional approach of implementing differentiated instruction, which uses socio-cultural context. Need analysis, on the other hand, is about determining what teachers and students require to overcome these problems and succeed through learners' background, culture, prior experience, and motivations.

Design

The second phase of the ADDIE development model is design. Design is the process of making a design or draft for the product to be developed, which is based on the previous stages. The module was developed by using Microsoft Word and Canva, featuring some photos, bright colours, and creative elements from the internet to make the module more interesting. The content of the module is divided into 10 chapters, which start from introduction, planning and preparation, lesson implementation, stages of implementing differentiated learning with a socio-cultural

approach, interaction and classroom dynamics, assessment and feedback, classroom management, reflection and self-improvement, and evaluation.

Development

In the development phase, the validation phase included four aspects: utility, feasibility, accuracy, and propriety. The first draft of the module was given to three experts from the Quality Assurance Centre of South Sulawesi (BBPMP), the Teachers' Movement Centre of South Sulawesi (BBGP), the Assessor of the National Accreditation for Early Childhood Education (Ban-PDM), and a facilitator of the School Movement. There are 21 questions from the questionnaire that cover 4 aspects to measure the acceptance rate of the module. While the level of marking criteria is divided into three levels, as shown below:

Table 1. Level of Marking Criteria

Score	Marking Criteria
1	not appropriate, not feasible, not polite, not important, not useful
2	less appropriate, less feasible, less polite, less important, less useful
3	appropriate, feasible, polite, useful

This development stage is carried out by validating the first draft of the product that has been designed at the design stage. There are four aspects that need to be validated from the differentiated Instruction module, namely utility, feasibility, accuracy, and propriety. This validation procedure was assisted by three validators with the result table 2.

Based on the recapitulation of the assessment of four aspects from the three experts as validators of the differentiated instruction module, Table 2 regarding feasibility. It is explained that from the utility aspect, which is represented by four question points from the questionnaire, the result is 94% satisfaction from three validators. Then continued

with feasibility aspects reached a higher 98% satisfaction from validators. While for the accuracy and propriety aspects of the differentiated instruction module, the maximum score is 100%, where all validators agree that this book meets the rules of accuracy and propriety aspect.

In line with the second instrument that was given to the validators. This instrument attempts to measure differentiated instruction module by writing down suggestions and improvements that have been represented through the previous questionnaire sheet. This feedback is also divided into four aspects, namely utility, feasibility, accuracy, and propriety. Based on the utility aspect found that the module is considered important, useful, and informative for teachers, especially in implementing differentiated learning with a socio-cultural approach. However, there is a need to clarify the practical steps of implementation and provide more diverse examples. In detail, comments from validators can be seen clearly from the table below, along with the revised form to improve the teaching module showed in table 3.

Implementation

The implementation phase involves the practicality and feasibility of the developed teaching module of differentiated instruction through socio-cultural context for junior high school. the implementation process involved two schools at Soppeng: SMPN 1 Liliriaja and SMPN 3 Liliriaja. After some revisions based on the experts' reviews, the module was tested by 10 teachers with different subjects from two schools and 185 students as part of teachers' classroom implementation of the module. Before teachers were implemented in the classroom, there was a session for module socialisation and discussion between the researcher, teachers, head masters, and school supervisors. This socialisation aims to equate perceptions of the use of this teaching module in the classroom, as well as suggestions for

Table 2. Recapitulation of Development Stages

NO	Aspects	Question Items	Score Actual	Total Score	%
1	Utility	Q1, Q2, Q3, Q4	34	36	94
2	Feasibility	Q5, Q6, Q7, Q8, Q9, Q10, Q11	62	63	98
3	Accuracy	Q12, Q13, Q14, Q15, Q16, Q17	54	54	100
4	Propriety	Q18, Q19, Q20, Q21	36	36	100
	TOTAL		**186**	**189**	**98.4**

Table 3. Validator Evaluation and Recommended Improvements for the Teaching Module

No	Aspects	Comments	Revisions
1	Utility	The module is considered important, useful, and informative for teachers, especially in implementing differentiated learning with a socio-cultural approach. However, there is a need to clarify the practical steps of implementation and provide more diverse examples.	To enhance the module's utility, the steps for differentiated instruction have been elaborated in a more operational manner, supplemented with implementation examples across various classroom contexts The module now presents a variety of case studies to strengthen teachers' understanding of the practical application of the socio-cultural approach to teaching
2	Feasibility	The validators stated that the guidebook is considered easy to understand, and the language used is good. However, typos need to be corrected so that they do not interfere with understanding.	The module's structure has been refined with the addition of clear navigation guidelines, facilitating ease of access and use for teachers The module now provides alternative instructional strategies to accommodate diverse student ability levels, as per the expert validator's suggestion
3	Accuracy	In general, there are no specific notes on content inaccuracies. However, the expert gave suggestions to deepen the understanding of less-understood knowledge and reflect on the essence of each action.	The module's content has been updated with examples and case studies that are relevant to current socio-cultural issues The discussion of key concepts related to differentiated instruction, and the socio-cultural approach has been deepened to improve teachers' conceptual accuracy
4	Propriety	The module is ethical to use and has positive value for learners. The language used is polite, but needs to ensure conformity with Indonesian writing	The module has undergone a thorough proofreading process to ensure the absence of grammatical and typographical errors, aligning with the expert's recommendation Visual representations within the module have been reviewed and adjusted to ensure appropriateness and sensitivity to cultural diversity

the effectiveness of classroom use.

Evaluation

The evaluation phase continues from the implementation phase. Both teachers and students are asked to provide a review of the teaching modules that they have implemented in the classroom.

1) Evaluation aspects from the perspectives of teachers, headmasters, and school supervisors

The result from the implementation of the teaching module from teachers, head masters, and schools' supervisor perspective in Table 4.

Based on the recapitulation of the evaluation stages of the four aspects converted into Table 2 regarding feasibility, it is explained that the teaching module developed by the researcher received a high acceptance from 10 teachers, 2 head masters, and 2 school supervisors. Utility and feasibility aspects of the teaching module received 100% acceptance from all respondents. It indicates that the teaching module is extremely useful and

Table 4. Recapitulation of Evaluation Results on Utility, Feasibility, Accuracy, and Propriety Aspects of the Teaching Module

NO	Aspects	Questions Items	Score Actual	Total Score	%
1	Utility	Q1, Q2, Q3, Q4	156	156	100
2	Feasibility	Q5, Q6, Q7, Q8, Q9, Q10, Q11	273	273	100
3	Accuracy	Q12, Q13, Q14, Q15, Q16, Q17	231	234	99
4	Propriety	Q18, Q19, Q20, Q21	155	156	99
TOTAL			815	819	99.5

meets its intended purposes, while looking for feasibility aspects, which also reach 100%, indicates that the module is realistic to implement and suited to the classroom context. In terms of accuracy, aspects received 99% very accurate which indicates minor room for improvement, but content aligns well with objectives. While for propriety aspects received 99% of highly appropriate in terms of ethically and contextually suitable for learners.

Overall, the results strongly indicate that the teaching module is highly effective and well-received across all evaluator groups. It shows from four aspects indicated highly that teaching module is highly usable and feasible in real classroom settings; shows strong alignment with learning goals; meets ethical and contextual standards, and has a nearly perfect total evaluation score of 99.5%.

In terms of qualitative findings from evaluation stages, from the utility aspects, the module is considered very useful and beneficial in supporting teachers to understand and implement differentiated learning that is relevant to the socio-cultural context. It is also effective in helping students recognize, understand, and appreciate cultural diversity. As shown from respondents' statements;

"In terms of usefulness, this module has been very effective because students can better recognize, understand, and appreciate the importance of preserving their own culture and the culture of others".
"The module is very useful in providing teachers with an understanding of the application of differentiated learning".
"This module is relevant and applicable to socio-culture, which is very useful to be implemented in learning".

While for the feasibility aspects, respondents found the module easy to use with a systematic

presentation and easy to implement. The module is also considered appropriate for the learners' ability level. Which is stated below:

"The learning module is feasible in terms of content quality, learning design, learner engagement, availability of effective assessment, and the module is very feasible because it can adjust to the ability level of the learners, because they can understand and follow the material taught easily".
"This module is very feasible because the presentation is very systematic".
"This module is very easy to implement in the classroom".

In terms of accuracy, the materials in the module are considered appropriate, relevant, and in line with the needs of teachers and students. The socio-cultural differentiated learning approach is considered very useful, particularly in the Indonesian cultural context. As respondents pointed out,

"The materials are appropriate to the needs".
"It is very appropriate because the differentiated learning approach from the socio-cultural side is very useful for Indonesian society, which has cultural diversity".
*"This guide is very appropriate for teachers to learn and implement, and suits the current needs of teacher's and students".*

For propriety aspects, the module uses language that is kind, polite, courteous, and easy to understand. The module's language style is also considered easy to understand and acceptable in various circles. As stated by respondents,

"It uses good language and respects cultural

Student Satisfaction with Teachers' Delivery using differentiated Instruction in a Socio-Culture Context
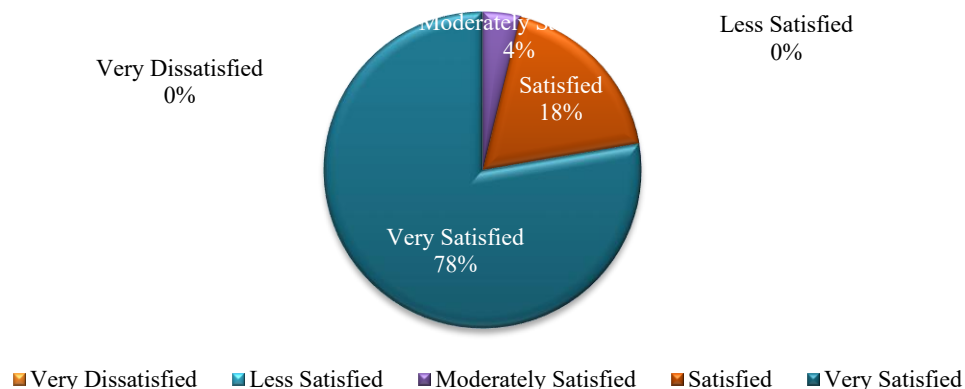
Figure 2. Student Satisfaction Toward Socio-Cultural-Based Teaching Approach

difference".
"The language used is polite and easy to understand".
"Packed with polite language".
"The language used is polite and easy to understand".

The evaluation result from quantitative and qualitative findings that it supported by both statistical scores 99.5% overall and consistent qualitative insights, affirm that the teaching module is highly useful and relevant for differentiated learning, feasibility and adaptable to classroom realities, accurate and appropriate to educational and cultural contexts, and proper and respectful in language use.

2) Evaluation aspects from the Students' Perspective

Regarding evaluation aspects from students' satisfaction related to teachers' delivery using a social culture approach to differentiated instruction. The pie chart below shows the results of the level of student satisfaction from 184 total respondents.

It shows that a dominant 78% of students expressed they were very satisfied regarding the way the teachers delivered the material with a socio-cultural approach in learning, while 18% felt satisfied. It is bringing the total positive responses to 96%. No dissatisfaction from students, which showed 0% of students reported being either "less satisfied" or "very dissatisfied," which is a strong indicator of teaching effectiveness. While only 4% of students felt "moderately satisfied", possibly indicate areas for minor improvement or student-specific needs.

This pie chart strongly supports the conclusion that the teaching module of differentiated instruction through socio-cultural context is highly effective, well-received by students, and appropriate for diverse learners within the cultural context. The absence of dissatisfaction indicates that the instructional approach aligns well with student expectations and needs, particularly in relation to socio-cultural relevance and personalized learning.

The triangulation between quantitative scores and qualitative data strongly validates the module's quality and effectiveness. It showed this student's satisfaction data complements the previous evaluation by providing learner-centered validation. It confirms that evaluation score from educators and school leaders' level of students' acceptance of the teaching method of teaching when implemented differentiated instruction with socio-culture approach is highly useful and relevant for differentiated learning, feasible and adaptable to classroom realities, accurate and appropriate to educational and cultural context and proper and respectful in language use. It can be assumed that the teaching module is beneficial for both teachers and students in the implementation of differentiated instruction for any subject in junior high school.

CONCLUSION

Based on the development and testing of the differentiated instruction teaching module based on socio-cultural context for junior high school, following the ADDIE method, very positive results. The module was specifically designed to support differentiated instruction within a socio-cultural context. The teaching module demonstrated strong

utility, feasibility, accuracy, and propriety aspects from the evaluation phases from teachers and school leaders. These outcomes were further supported by student feedback, where 78% expressed a high level of satisfaction with the instruction delivery utilizing the socio-cultural approach. In summary, the teaching module demonstrates strong validity, practicality, and acceptability. Accordingly, the module is recommended for wider dissemination and strongly endorsed for broader implementation and replication in similar educational settings.

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