



Teaching Materials for Algebra and Linear Programs Based on Pancasila Student Profile

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ABSTRACT

The aims of this study were: 1) to develop a textbook based on the Pancasila student profile for Algebra and Linear Programming courses; and 2) to develop instruments to measure the achievement of the dimensions of the Pancasila student profile. The quality of the products developed is assessed based on: 1) validity aspects, 2) practical aspects, and 3) effectiveness aspects of students' mathematical creative and critical thinking abilities. The research method used was the ADDIE Research and Development (R&D) model. The research subjects were 19 students in the first semester of the Mathematics Education Study Program. The instruments used to obtain the quality of the textbook being developed were: 1) textbook assessment sheets to measure validity, 2) response questionnaires and observation sheets to measure practicality, and 3) critical thinking skills and mathematical creative questions to measure effectiveness. The validity quality of the textbook fulfilling the valid criteria is shown by the average score of 3.53 out of a maximum score of 4 which means that it is very valid. For the practicality quality, an average score of 3.32 is obtained out of a maximum score of 4 which means that the material is practical. For the quality of effectiveness; in terms of students' critical thinking skills and creative mathematical reasoning, the score average of 58% shows a "sufficient" category, while that of 67.27 for critical and creative thinking skills shows the category of "quite effective". The textbook and teaching module are suitable for use in classroom lectures.

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INTRODUCTION

The Pancasila student profile is a format to translate the goals and visions of education into a formulation that is easier to understand by all educational stakeholders (Rahayuningsih, 2021). By referring to the Pancasila student profile, lecturers who teach courses can develop and design student learning experiences and manage class activities in the instructional process. A comprehensive profile of Pancasila students contains three keywords: 1) lifelong learning, 2) competences, and 3) Pancasila values. The focus of the Pancasila student profile is on the cognitive abilities, attitudes, and behaviors as it is an Indonesian nation is based on Pancasila. The Pancasila student profile has six key dimensions, which include: 1) faith, fear of God the Almighty

and noble characters, 2) global diversity, 3) work together, 4) independence, 5) critical reasoning, and 6) creative thinking (Nurihayanti, 2021); (NurInayah, 2021).

Among these six dimensions they are interrelated by not only focusing on the cognitive aspect, but also the affective aspect which includes attitudes and behaviors in accordance with the constitution of the Republic of Indonesia, Pancasila. Integration of the Pancasila student profile in Algebra and Linear Program courses is one of the right formulas in producing prospective teachers who excel in science and technology and have characters. Algebra and linear programming are courses that discuss in depth the algebraic formal sigma, sequence, and series notation; system of linear equations; matrices, exponential equations, and logarithms; exponential and logarithmic functions; and linear programming. Applications of algebra and linear programming are common in economics, physics, computer sciences, and other fields of sciences. Algebra is a field of mathematics that is widely used in everyday life so that it is learned right from the elementary school level even though only conceptually. The idea of algebra for school mathematics in Indonesia begins at the junior high school level (Permata, Wijayanti, & Masriyah, 2019). In addition, Dumairy (1986) dan Lumbantoruan (2020), linear programming is a linear equation optimization model with respect to the linear inequalities encountered, such as finding the optimum (maximum or minimum) values of a linear function in a system of linear inequalities.

The importance of the Pancasila student profile, which includes these 6 dimensions, is so prominent that the six core dimensions of the profile are the priority ideals of the main goals of education and also the commitment of education providers in building Indonesian human resources. Further, in the Law of the Republic of Indonesia Number 20 Year 2003 concerning the national education system, the profile of the Indonesian school graduates is indicated that students must acquire education such that they become human beings who believe in and fear God the Almighty; have noble characters; are healthy, knowledgeable, capable, creative, and independent, and become citizens of a democratic and responsible country.

As a result of the study, the profile of the Pancasila students in algebra and linear program courses is expected to be able to manifest Pancasila students. Several diversions that are widely practiced such as related to radicalism have entered the world of education and among young people (Rahayuningsih, 2021). Students, who are still in the process of searching for self-identities and the stage of learning to know many things, can become the most strategic target to nourish this religious radicalism movement, rampant treatments of intolerance, discrimination, actions taken by a group in the name of the interests of the people and religion, etc. (Kurniawaty & Widayatmo, 2021). The profile of Pancasila students that is applied in prospective teacher lectures is not taught in special courses, but is internalized in the existing courses in the Study Program; in reality, however, there are lecturers who still have not integrated Pancasila student contents into the courses they teach.

According to Kurniawaty and Widayatmo (2021), especially in the world of education in Indonesia, one way to apply Pancasila values is by its application in the curriculum, teaching methods, so that Pancasila values will become parts of students' daily lives. A prospective teacher student must be able to apply the Pancasila student profile in everyday life. Regarding the Pancasila student profile, it is known from the six dimensions that there are two dimensions that are very closely related to the abilities that prospective teachers must have, especially prospective teachers of mathematics, namely the fifth dimension: 5 and 6, critical and creative reasoning.

Based on the results of the research study by Tahir, *et al* (2022), it is revealed that many students are still unable to formulate problems into mathematical models and strategic abilities, and draw conclusions, which are parts of the indicators of critical thinking skills. The critical thinking ability is one of the student abilities needed in future competencies (Salehha, Khaulah, & Nurhayati, 2022). Furthermore, mathematical creative thinking is a priority ability in facing the 5.0 era of society (Putri E. Y. & Suripah, 2022).

The present study is aimed at developing a textbook of algebra and linear programming based on Pancasila student profiles and tools. Algebra and Linear Program courses can hone students' cognitive abilities and simultaneously shape characters, all of which are included in the six dimensions of the Pancasila student profile.

METHOD

The method used in this study was development research. The development steps used in the study were adapted from the ADDIE model. Pribadi (2014) stated the ADDIE development model consists of five stages, namely: analysis, design, development, implementation, and evaluation. In the analysis stage carried out, a needs analysis is conducted in the form of an analysis of the syllabus and materials. The curriculum analysis carried out determines the Learning Outcomes (CP/Capaian Pembelajaran), the CP of the courses, and the objectives and adds to the Pancasila Student Profile and student character analysis based on Pancasila student profiles as targets for developing textbooks and lecture tools.

Two kinds of data are obtained in this study, namely qualitative data and quantitative data. (1) Qualitative data are descriptive data during the development process. These data were obtained from input, responses, criticism, suggestions and improvements from lecturers and students. The data were used to describe the processes and constraints experienced during the development of the textbook and lecture tools. (2) Quantitative data are data used to obtain validity, practicality, and effectiveness of the textbook and lecture tools. These data were obtained from the results of lecturer assessments, student response questionnaire results, and test results.

The subjects of the study were divided into two groups, namely validation subjects and trial subjects. The validation subjects included four experts on lecture material content, and the trial subjects were first-semester students of the Mathematics Education Study Program, totaling 19 students. The data collection techniques used included (1) validation assessment sheets given to the assessor lecturers in the form of a rating-scale questionnaire and used to measure the validity of the resulting textbook and lecture tools; (2) response questionnaires given to lecturers and students to find out the practicality of textbook; and (3) learning achievement tests used to measure students' learning completeness. The student learning completeness is used as an indicator of the effectiveness of the textbook (Sitepu, 2019). Guidelines for product validation and practicality can be seen in Tables 1 and 2.

Table 1. Developed Product Validation Guidelines

Aspect	Indicator
Format	Clarity of instructions for using the textbook and lecture tools Format suitability Harmony among colors, writing, and pictures in the textbook Compatibility of pictures and writing in practice questions Compatibility of the cover illustration with the material
Content quality	Conformity of material with the CP and Course Outcomes The suitability of the material with the approach used The clarity of the appropriateness of the concept of the materials in the textbook Availability of feedbacks on practice questions Diversity of stimuli through collaborative activities Conformity of the order of the material with the level of student's ability Development of critical thinking skills Development of creative thinking skills
Language	Good and correct use of Indonesian The suitability of the questions used with the abilities being measured Ease of understanding the language used The suitability of references with student's abilities Clarity of the CP and learning objectives

Aspect	Indicator
	The effectiveness of the language used
	Ease of understanding the language used

Source: [Kurniawan's modification \(2014\)](#)

Table 2. Practicality Guidelines for Products developed

Aspect	Indicator
Assessted	Students are helped in understanding the material by using the textbook Students are assisted in lectures
Ease/difficulty	The use of the textbook is easy/difficult Ease of attending lectures
Pancasila Student Profile	Have faith, fear God the Almighty and have noble characters Global diversity Work together Independent Critical reasoning Creative thinking

Source: [Kurniawan's modification \(2013\)](#)

Lecture sets, algebra textbooks, and linear programs based on Pancasila student profiles that are developed are said to be valid if the products developed are in accordance with the classification scores obtained. The score classification can be seen in Table 3.

Table 3. Product Validity Classification

Total average	Classification
$3.4 < \bar{x} \leq 4.0$	Very Valid
$2.8 < \bar{x} \leq 3.4$	Valid
$2.2 < \bar{x} \leq 2.8$	Valid Enough
$1.6 < \bar{x} \leq 2.2$	Invalid
$0 \leq \bar{x} \leq 1.6$	Very Invalid

Source: [Widoyoko \(2012\)](#)

Practicality lecture sets and algebra textbook and linear programs based on Pancasila student profiles that are developed are tested based on lecturers and students' assessments. The score classification of the results can be seen in Table 4.

Table 4. Practicality Classification of Products

Total Average	Classification
$3.4 < \bar{x} \leq 4.0$	Very Practical
$2.8 < \bar{x} \leq 3.4$	Practical
$2.2 < \bar{x} \leq 2.8$	Practical Enough
$1.6 < \bar{x} \leq 2.2$	Less Practical
$0 \leq \bar{x} \leq 1.6$	Strongly Less Practical

Source: [Widoyoko \(2012\)](#)

Meanwhile, the effectiveness of the product developed is measured from the results of the learning outcome test on students' mathematical critical and creative thinking abilities. Learning outcomes are said to be effective if at least they meet a "good" classification category. The effectiveness classification of the product developed can be seen in Table 5.

Table 5. Product Effectiveness Classification developed

Completeness Presentation	Classification
$p > 80$	Very good

$60 < p \leq 80$	Good
$40 < p \leq 60$	Enough
$20 < p \leq 40$	Not Enough
$p \leq 20$	Very Inadequate

Source: Widoyoko (2012)

RESULTS AND DISCUSSION

Analysis Stage

The analysis stage is divided into three, namely needs analysis, curriculum analysis, and student characteristics analysis. (1) Needs analysis. One of the problems encountered in lectures is currently the limited availability of textbooks, especially textbooks that facilitate students to think creatively, critically, independently, and collaboratively which are component parts of the Pancasila student profile to build student's knowledge. Books available on the market are still separated between algebra and linear programming; so a textbook is needed that accommodates/fulfills both of these materials. Based on the observations that the researchers conducted during classroom activities in algebra and linear programming, the lecturers have used material handouts. Even so, the handouts prepared by the lecturers contain too much material and there is no specific question for critical thinking, creative mathematics, and independence. In addition, students more often just imitate what is given by the lecturer, which results in students' critical and creative thinking skills being less developed. There is also the demand of the 21st-century learning that states that the profile of Pancasila students be used as a learning guide. Therefore, it is necessary to conduct research on the development of textbooks on algebra and linear programming based on Pancasila student profiles.

(2) Curriculum analysis. The results of the curriculum analyses show that the Mathematics Education Study Program at a private University in Palembang uses the *Kurikulum Merdeka* (the name of the curriculum) starting in 2021. The learning process in is a manifestation of the student-centered learning which is an essential characteristic to adopt. The focus of the first curriculum analysis is the achievement of Programme Learning Outcomes (CPL/*Capaian Pembelajaran Lulusan*); the second is the fulfillment of the number of credits; and the third is the CPL. Learning scheme provides challenges and opportunities for developing creativity, capacity, personality and student needs, as well as developing independence in seeking and finding knowledge through field realities and dynamics such as ability requirements, real problems, social interaction, collaboration, self-management, performance demands, and targets and achievements (Team 1 for Curriculum, UNILA, 2020), as well as encouraging active learning to foster critical thinking and responsibility, where students can find their strengths and weaknesses and lead themselves to knowledge construction.

(3) Analysis of student characteristics. Based on the observation results during class lectures, students have not been able to discover the concepts of lecture material independently and are also less active in finding something new in the lectures. This situation leads to a state of learning mathematics that is only memorizing, and the students' potentials are not well explored. As a result, students find it difficult to solve problems in various ways, let alone in a way that is different from the example or from their friends; thus, critical and creative thinking skills are not well developed.

Design Stage

The design phase is also divided into three, namely the preparation of textbook designs, the preparation of lecture device designs (teaching module, mid-term questions, and final-term questions), and the preparation of instruments. (1) Preparation of the Textbook design. The design for the algebra and linear program courses with a total of seven learning activities includes the beginning, the content, the end, and the reference selection. (2) Preparation of lecture-device design. This phases consists of teaching module, mid-term questions, and final-term questions which are prepared based on Course Outcomes which have been prepared to measure critical and creative thinking skills. (3) Preparation of instruments. The preparation of the the textbook

instruments include a lesson plan assessment, textbook assessment, lecturer and student response assessment, and Pancasila student profile questionnaires.


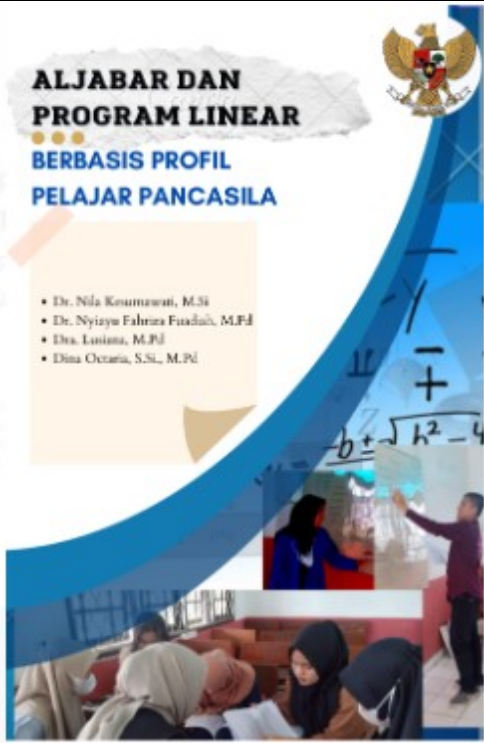
Development Stage

The development stage is the product realization stage which is realized in the forms of (1) textbooks which are divided into seven learning activities; and (2) development of learning tools consisting of teaching module, mid-term questions, and final-term questions. The results of the development stage are the algebra textbook and linear programs based on the Pancasila student profiles seen in the activities carried out in accordance with the six aspects contained in the Pancasila student profile because, in these textbooks, between the beginning and the end of the lecture in the form of prayer reciting, there are critical and creative thinking exercises, discussion forums, and self-test exercises. In addition, at the end of each learning activity, there are formative questions along with answer keys at the end of the textbook to see the completeness of learning for each learning activity. If students' mastery is still less than 80%, it means they must go back back to studying the material again.

The development of the teaching module refers to the *Kurikulum Merdeka* that is implemented in the Mathematics Education Study Program. The teaching module structure consists of identity, learning outcomes (CP) which consist of Subject CP and sub Course Outcomes, course description, study materials, and references. The learning steps carried out are adjusted to the components of the Pancasila student profile.

The textbook draft and teaching module development results are validated by four mathematics lecturers. The validation results of textbook and lesson plan show that the developed textbooks and lesson plan are feasible to be tested in the field with revisions according to the suggestions and inputs given. The validators' comments can be seen in Table 6.

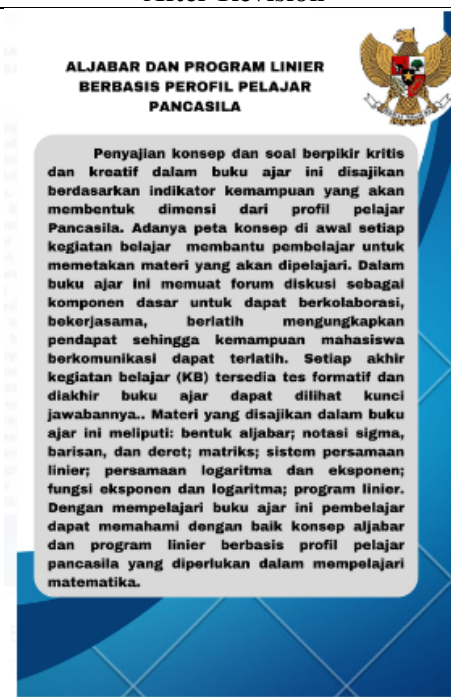
Table 6. Validation and Revision Comments

Before Revision	After Revision
	
<p>The Pancasila symbol is placed at top right</p>	

Before Revision



After Revision



Add a description of the book and the Pancasila symbol, adjust the cover

d. Suku sejenis dan tidak sejenis

Untuk mengetahui gambaran tentang suku sejenis dan suku tak sejenis, kita perhatikan ilustrasi berikut. Misalnya, Ibu pergi ke toko alat tulis untuk membeli 5 spidol dan 3 pena. Kemudian ibu kembali membeli 7 pensil dan 4 pena. Dapatkah kalian menyebutkan alat tulis yang sejenis diantara semua alat tulis yang dibeli? Jika spidol dituliskan sebagai x dan pena adalah y , maka kegiatan Ibu yang pertama adalah dapat menulis bentuk aljabar, yaitu $5x + 3y$. Kemudian jika pensil dimisalkan sebagai z , maka kegiatan Ibu yang kedua juga dapat dinyatakan dalam bentuk aljabar, yaitu $7z + 4y$. Suku-suku sejenis yang ditemukan dalam ilustrasi tersebut adalah $3y$ dan $4y$. Suku $5x$ dan $7z$ merupakan suku tak sejenis.

Suku-suku yang mempunyai faktor literal (variabel) yang sama disebut suku sejenis.

6

Karena persamaan jadi sama saja? Kemudian spidol sama baru.

d. Suku sejenis dan tidak sejenis

Untuk mengetahui gambaran tentang suku sejenis dan suku tak sejenis, kita perhatikan ilustrasi berikut. Misalnya, Ibu pergi ke toko alat tulis untuk membeli 5 spidol dan 3 pena. Kemudian ibu kembali membeli 7 pensil dan 4 pena. Dapatkah kalian menyebutkan alat tulis yang sejenis diantara semua alat tulis yang dibeli?

Jika spidol dituliskan sebagai x dan pena adalah y , maka kegiatan Ibu yang pertama adalah dapat dinyatakan dalam bentuk aljabar, yaitu $5x + 3y$. Kemudian jika pensil dimisalkan sebagai z , maka kegiatan Ibu yang kedua juga dapat dinyatakan dalam bentuk aljabar, yaitu $7z + 4y$. Suku-suku sejenis yang ditemukan dalam ilustrasi tersebut adalah $3y$ dan $4y$. Suku $5x$ dan $7z$ merupakan suku tak sejenis. Suku-suku yang mempunyai faktor literal (variabel) yang sama disebut suku sejenis.

Correct writing

Textbook and lesson plans have been declared feasible by the validators and can be directly tested for improvement through the revision stage according to the suggestions given.

Implementation Stage

This stage was conducted to try out the learning tools (textbooks, mid-term, and final term tests) in classroom activities. This device was tested in the teaching-learning processes of algebra and linear programming courses of Semester 1 students of the Mathematics Education Study Program. The experiment was carried out for one semester of the 2022/2023 odd semester of the academic year. Each learning activity that has been developed was given to students through the online WA platforms, material for each learning activities given three days before the research schedule, with the intention that students had studied the material before the research classroom activity was carried out. During the process, students in groups were actively involved in their groups as can be seen in Figure 1.



Figure 1. Students doing discussions in their groups

Apart from that, students were also enthusiastic in lectures; this can be seen during the presentation. Most of them also wanted to present the results of their group work. This can be seen in Figure 2.



Figure 2. Enthusiastic students in group presentations

After every learning activity, students independently worked on formative questions. This was done as an evaluation for students whether or not they had completed each learning activity. Tests for critical thinking skills and creative thinking were carried out to determine the effectiveness of the learning tools. Meanwhile, the results of the student response questionnaires were used to determine students' responses to the learning tools (coursebooks and lesson plans).

Evaluation Stage

After the series of testing, the next step was to evaluate the product. During the trial process, suggestions or inputs from students and lecturers had been used for Phase-II improvements. The various improvements made were related to the textbook and lesson plans. Some of the things that were corrected included the following: (1) In learning activity 2, the sigma, sequence, and series notations for practice questions were revised for their lay-out so that they became more ordered. (2) Addition of material was given before practice questions that needed additional materials as well as examples. (3) Materials were added to the matrices that needed various ways of solving the inverse of a matrix. (4) In the linear-program material, the typing order of the material was revised.

At this stage, an analysis of the quality of the textbook and lesson plans was also carried out including the aspects of validity, practicality, and effectiveness.

Validity analysis

Validity analysis was carried out to determine the quality of textbooks and lesson plans which were developed based on the assessments carried out by lecturers during the validation process. Assessment was carried out on aspects of format, breadth of content, and language. In brief, the results of the textbook assessment can be seen in Table 7.

Table 7. Textbook Assessment Results

No	Assessment Aspect	Max score	Average score	Category
1	Format		3.50	Very Valid
2	Content Breadth	4.00	3.56	Very Valid
3	Language		3.54	Very Valid
	Conclusion		3.53	Very Valid

The lecturers' assessment can also be said, in this case, to be an expert judgement, on the developed textbook shows an average score of 3.53 which can be categorized as "very valid". This shows that the textbook developed has fulfilled the requirements for a valid textbook. Just providing a text is not enough because students must actually use textbooks and the teaching staff knows how to add material to learning.

Assessment of the validity of the teaching module that has been developed includes the aspects of subject identification, CP formulation, selection of materials, selection of references, and language. The results of the assessment can be seen in Table 8.

Table 8. Teaching Module Assessment Results

Assessment Aspect	Maximum score	Average score	Classification
Course ID		3.81	Very Valid
CP formula		3.50	Very Valid
Material selection	4.00	3.58	Very Valid
Reference selection		3.50	Very Valid
Language		3.63	Very Valid
Conclusion		3.60	Very Valid

The experts' assessment of the developed teaching module shows an average of 3.60. based on this classification guideline, the teaching module assessment can be included in the "very valid" category. This shows that the teaching module developed is in accordance with the principles of teaching module development as stated in the *Kurikulum Merdeka*. In addition, the teaching module technically meets the minimum requirement for developing teaching module in accordance with the guidelines for preparing teaching module on the basis of the profile of

Pancasila students (Hidayat & Yusnidah, 2020). The classification of both the textbook and the teaching module meets the “very valid” criterion indicating that textbook and teaching module meet the very valid qualification.

Practicality Analysis

The practicality of the textbooks and lesson plans developed was assessed based on the responses of the lecturers and students as well as the results of observations of the implementation of the classroom learning. Results of the Pancasila student profile questionnaire and students and lecturers’ responses can be seen in Table 9.

Table 9. Results of Assessment of Student and Lecturer Responses

No	Assessment aspect	Lecturer average score	Student average score	Category
1	Ease	3.42	3.35	Practical
2	Assessted	3.22	3.25	Practical
3	Pancasila Student Profile	3.38	3.31	Practical
	Conclusion	3.34	3.30	Practical

The responses of the lecturers and students to the textbook developed and implemented in successive lectures obtained an average score of 3.34 and 3.30 based on the practicality classification guidelines for practical criteria. This shows that the textbook helps and facilitates students in understanding the material and developing the ability to think critically, creatively, independently, and collaboratively in discussion forums, which are part of the Pancasila student profile. Therefore, it can be said that the developed textbook is in accordance with the functions of textbooks in lectures Mbulu & Suhartono, (2004). This means that the textbook can increase motivation, as feedback about the correctness of exercises, and provide orientation towards theory, theoretical reasoning, and ways of how to apply the theory.

Meanwhile, the response results regarding the profile of Pancasila students given by the mathematics lecturers obtained an average score of 3.31, out of the maximum score of 4.00, which can be included into the “practical” category. This is because the lecturing activities are carried out less efficiently than the time of execution and work on exercises to determine critical and creative thinking skills have not fully facilitated students to improve their abilities. The ability to think creatively is very widely used in knowledge, especially mathematics which aims to discover new ideas that are different, not universal, so that results can be certain (Putri E. & Suripah, 2022).

The results of the lecturers’ responses to the use of the textbook from the aspect of convenience and assistance show that the lecturers’ responses to learning using the developed textbook can be said to be practical. The average score obtained on this item is 3.32 out of a maximum score of 4.00 which is included in the “practical” category. This score indicates that there are students who are still not familiar with critical thinking exercises that require explanations, algorithms, generalizations, and problem solving. In this case, the lack of success of the participants in learning mathematics is due to the low critical thinking skills of the students (Melgusmayenti & Isnaniah, 2021) (Mustika, et al., 2022).

Effectiveness Analysis

Effectiveness analysis was carried out to determine the quality of the developed textbook based on the results of tests of students' mathematical creative and critical thinking skills. The test results can be seen in Table 10.

Table 10. Results of tests of mathematical critical and creative thinking skills

Test Results (Score ≥60)	Critical thinking	Creative thinking	Percentage average (%)
complete	11	11	58
incomplete	8	8	42

The percentage of completeness is 58%. Based on the completeness qualification guidelines. In this case, the effectiveness qualification of the textbook is in the category of the “sufficient” classification. This means that the Algebra and Linear Program textbook has not met the criterion for effectiveness. In general, the percentage of student completeness in the critical and creative thinking skills test is only 58%, included in the “sufficient” classification. It can be said to be effective if, at least, it achieves the “good” classification. This is in line with the results of the research study by Fahlevi (2022) which states that there are main aspects in the *Kurikulum Merdeka*, namely growing the profile of Pancasila students, especially on the independence, critical thinking, and creative profiles.

In more details, the assessment for each aspect of the mathematical critical and creative thinking skills can be seen in Table 11.

Table 11. Scores of Mathematical Critical and Creative Thinking Ability

Aspects that are measured	Measured indicators	Average	Category
Critical thinking	Identify and justify concepts	72.88	Good
	Generalize	65.13	Sufficient
	Solve problems	70.94	Good
	Analyze algorithms	72.37	Good
	Average	70.33	Good
Creative thinking	Elaboration	78.95	Good
	Sensitivity	76.32	Good
	Fluency	60.53	Sufficient
	Flexibility	63.16	Sufficient
	Originality	42.11	Not Sufficient
	Average	64.21	Sufficient

It can be seen in Table 11 that the average students' critical and creative thinking ability is 67.27. Based on the qualification guidelines, this can be included in the “sufficient” category. The mathematical critical thinking ability score generalizes the average value obtained of 65.13 which is included in the sufficient classification and the other indicators are included in the good classification. One of the factors that causes students to think that mathematics is difficult to learn is due to a lack of ability to think critically (Rohmat, 2019), (Salehha, Khaulah, & Nurhayati, 2022). Confidence in critical thinking is also required to be motivated to apply critical thinking skills. A person with high self-confidence believes in the effectiveness of his abilities in good problem solving abilities, making the right decisions, and seeing himself as a good thinker (Barta, Fodor, Tamas, & Szamoskozi, 2022).

CONCLUSION

Based on the results of the study, it can be concluded that: (1) the textbook for Algebra and Linear Programming courses developed on the basis of the Pancasila Student Profile by way of the ADDIE development model (Analysis, Design, Development, Implementation, and Evaluation) in the present study can be stated to be very valid as indicated by an average score of 3.53 out of a maximum score of 4. The textbook can also stated to be practical as indicated by an average score of 3.32 out of a maximum score of 4. (2) Subsequently, the book can also stated to be quite effective in terms of student learning completeness with a percentage of 58% and an average score of critical and creative thinking skills of 67.27. (3) Finally, the lecture tools for Algebra and Linear Programming courses developed on the basis of Pancasila student profiles in the present study can be said to be valid and suitable for use in classroom lectures.

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