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DEVELOPMENT OF ELEMENTARY LINEAR ALGEBRA COURSE E-MODULES BASED ON FLIP BOOK MAKER WITH INTEGRATED ISLAMIC VALUES

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Abstract:
The aims of this study were (1) to find out the process of developing an e-module for elementary linear algebra courses based on a flip book maker that integrates Islamic values. (2) to determine the characteristics of the e-module. (3) to determine the level of validity, practicality, and effectiveness of e-modules. The type of research used is Research and Development concerning the Plomp development model which consists of 5 stages. The product developed is an e-module course on elementary linear algebra based on a flip book maker. The test subjects in this study were second-semester students at UIN Alauddin Makassar, in the academic year 2021/2022. The instruments used were expert validation sheets, lecturer response questionnaires, observation sheets on the ability of lecturers to manage to learn, learning implementation observation sheets, student response questionnaires, student activity sheets, and learning achievement tests. Based on the trial results, it was found that (1) the product development process referred to as the Plomp development model was not fully implemented until the implementation stage due to time constraints, (2) the characteristics of the e-module are digitally designed with the flip book maker application which can be accessed using Android or Android. laptop, load learning videos, load examples of contextual questions integrated with Islamic values, and presentation of material using a scientific approach, (3) e-modules are categorized as valid with an average validity of 4.25, declared practical because all aspects are fully implemented, and declared effective because the level of completeness reached 96.3%.

Keywords: E-Module, Elementary Linear Algebra, Flip Book Maker, Islamic Values

PENGEMBANGAN E-MODUL MATA KULIAH ALJABAR LINEAR ELEMENTER BERBASIS FLIP BOOK MAKER YANG TERINTEGRASI NILAI-NILAI KEISLAMAN

Abstrak:
Tujuan penelitian ini adalah (1) untuk mengetahui proses pengembangan e-modul mata kuliah aljabar linear elementer berbasis flip book maker yang terintegrasi nilai-nilai keislaman. (2) untuk mengetahui karakteristik e-modul. (3) untuk mengetahui tingkat kevalidan, kepraktisan dan keefektifan e-modul. Jenis penelitian yang

digunakan adalah Research and Development dengan mengacu pada model pengembangan Plomp. Model Plomp terdiri dari 5 tahapan yaitu investigasi awal, desain, realisasi, tes evaluasi dan revisi, serta implementasi. Produk yang dikembangkan berupa e-modul mata kuliah aljabar linear elementer dengan memanfaatkan media flip book maker. Subjek uji coba dalam penelitian ini adalah mahasiswa semester 2 UIN Alauddin Makassar, tahun ajaran 2021/2022. Instrumen yang digunakan adalah lembar validasi ahli, angket respon dosen, lembar observasi kemampuan dosen mengelola pembelajaran, lembar observasi keterlaksanaan pembelajaran, angket respon mahasiswa, lembar aktivitas mahasiswa, dan tes hasil belajar. Berdasarkan hasil uji coba, diperoleh bahwa (1) proses pengembangan produk mengacu pada model pengembangan Plomp dimulai dari tahap investigasi awal sampai tahap tes evaluasi dan revisi dengan kata lain penelitian yang dilakukan tidak terlaksana seluruhnya sampai pada tahap implementasi dikarenakan keterbatasan waktu, (2) karakteristik e-modul yang dikembangankan adalah didesain berbasis digital dengan menggunakan aplikasi flip book maker yang bisa diakses menggunakan android maupun laptop, memuat video pembelajaran, memuat contoh soal kontekstual yang terintegrasi nilai-nilai keislaman, serta penyajian materi menggunakan pendekatan saintifik, (3) e-modul dikategorikan valid dengan rata-rata kevalidan sebesar 4,25, dinyatakan praktis karena seluruh aspek terlaksana sepenuhnya, serta dinyatakan efektif karena tingkat ketuntasannya mencapai 96,3%.

Kata Kunci: E-Modul, Aljabar Linear Elementer, Flip Book Maker, Nilai Keislaman

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INTRODUCTION

Education in tertiary institutions, especially on Islamic campuses which refer more to Islamic education, is certainly education that is relevant to national education goals. Therefore, Islamic education is one of the strengths of national education. The Mathematics Education Study Program, in particular, has Islamic characteristics contained in its vision, namely to become a center of excellence in developing mathematics education and educational staff who shape human beings with Islamic civilization. Being a center of excellence in developing mathematics education means that the mathematics education study program hopes to become an institution that produces educators in the field of mathematics who are able to produce innovative products that reflect the values of Islamic civilization and produce educators who are also able to apply the values of Islamic civilization in their

daily activities -day. However, in learning mathematics, it has been identified that students perceive mathematics as less interesting learning. Some people also assume that mathematics has nothing to do with religious knowledge (Kapofu & Kapofu, 2020).

One aspect that causes this statement is the study of mathematics which is abstract in nature. Therefore, mathematics should be taught interestingly and use more concrete examples. When students think that mathematics is one of the components of life, then mathematics will be an interesting thing for students, because what is taught in all mathematics material must be able to show limited components that convey the values of life. Two of them are moral and moral values in life. With the internalization of various virtues that are used and believed to be the basis for acting, behaving, or thinking (Rahmat, 2010). One of the efforts in teaching mathematics is to synchronize and integrate mathematics lessons with Islamic values.

Gunawan (2014) argues that by synchronizing and integrating mathematics with Islamic values, a society that is noble, tolerant, competitive, cooperative, has a patriotic spirit, develops dynamically, is resilient, and focuses on science and technology (IPTEK) will be created. The whole is explored by faith and piety to God Almighty based on Pancasila. The same thing was also expressed by Sugilar, Rachmawati, and Nuraida (2019) that the integration of mathematics with religion creates learning that is not only a transfer of knowledge, but a transfer of experience so that it is able to interpret what the meaning contained behind the substance of the material and what values can be implemented. after learning.

In higher education, the branch of mathematics is broken down into various aspects such as calculus, trigonometry, algebra, geometry, and arithmetic. Elementary linear algebra is a closely related science and is a collection of fields of mathematical knowledge. In addition, Zulhendri (2016) revealed that linear algebra can be applied in many scientific fields, be it in the natural, social sciences, or technology fields, specifically information and communication technology (Infocomm), which is growing rapidly even today.

After understanding elementary linear algebra, students are expected to have the skills to solve problems related to elementary linear algebra and be able to apply them in real life. Elementary linear algebra skills are the root for mastering various other materials, for example, differential equations, initial value,s and boundary conditions, and numerical methods. Student success in learning elementary linear algebra is influenced by various elements in

teaching and learning, namely the existence of links between learning resources, lecturers, and students in a learning activity. With the encouragement/support that accompanies the linked factors/elements, learning can work optimally.

A preliminary analysis has been carried out to obtain initial data related to the analysis of the needs of students of the Mathematics Education Study Program, Tarbiyah and Teacher Training Faculty of UIN Alauddin Makassar regarding elementary linear algebra courses. This data was obtained by giving a questionnaire via Google form to 31 students with several questions and it was clear that the largest percentage was shown in the "limited and less innovative learning resources" option, namely 71% or 22 students who chose this option. Meanwhile, as many as 38.7% or 12 students chose the boring lecture process, and as many as 22.6% or 7 students chose the material to be very large and difficult to understand. So, what can be concluded is that the majority of students who responded to the questionnaire stated that learning resources were limited and less innovative as long as they attended elementary linear algebra lectures.

This view of the origins of learning is because elementary linear algebra courses contained in textbooks so far have not included accurate procedures regarding a series of material, real procedures regarding the explanation of material content along with examples of questions that can form students' understanding of material concepts, as well as the expression material that has not been integrated with Islamic values.

Basically, imaginative e-Modules can be produced by lecturers by maximizing the use of interesting information technology and can be carried and read by students anytime and anywhere. This is supported by the current condition of students who generally have smartphones so that this can be used by lecturers in learning by making e-Modules. In making this e-Module it is also necessary to pay attention to the use of software that must be adapted to the Android platform. One example of software that is commonly used is flip book makers, which is an electronic book application that is facilitated with video, sound, and pictures. This software can create and change pdf documents into a physical book or album when the page is opened. By using this software, students will be more interested in learning because it looks more attractive (Rasiman, 2014).

The use of e-modules in the teaching and learning process of mathematics which are integrated with Islamic values can stimulate students

to link discussions in mathematics in the form of examples of cases, phenomena, and problems that exist in everyday life, especially in implementation of practices. worship services (Diana, Netriwati, & Suri, 2018). The fusion of mathematical ideas with Islamic values is essential to be applied in learning. As revealed by Maarif (2015), every lesson should provide benefits for students both cognitively, affectively, and psychometrically, and provide noble values to form morals.

All learning programs in the process of teaching and learning mathematics that are integrated with Islamic values can be in the form of using several Islamic terms, mentioning the name of Allah, using real cases or Islamic examples, inserting verses from the Al-qur'an or hadith that are in harmony, Islamic history, and symbols Kauniyah verse (Isandespha, 2015). For example, in the elementary linear algebra e-module, it can be implemented by adding the "who is he?" which contains an Islamic scientist who discovered the concept of algebra. In addition, it can also be applied to examples of questions and assignments.

Based on the description above, the realization of a pleasant learning atmosphere for students is very important besides the methods applied or interesting patterns must be supported by interesting reference sources. Therefore, interesting teaching materials are needed so that they can support student learning achievements both in cognitive and spiritual terms or teaching materials that support the vision and mission of the study program itself and strive to integrate Islamic values in these teaching materials. In this case, research was conducted to develop e-modules that integrate Islamic values based on electronic book applications.

METHODS

This type of research is research and development using the Plomp development model which consists of 5 stages, namely initial investigation, design, realization, evaluation and revision tests, and implementation. The product being developed is teaching material in the form of an e-module for elementary linear algebra courses using flip book maker media based on Islamic values.

This research was conducted at UIN Alauddin Makassar, Faculty of Tarbiyah and Teacher Training, Department of Mathematics Education. Experiments and product trial tests are aligned with the course agenda for semester 2 students in the 2021/2022 academic year. The E-Module that has

been developed was tested on 27 semesters 2 mathematics education students at UIN Alauddin Makassar. The implementation of product trials was carried out in eight meetings including the provision of learning outcomes tests.

The instruments used in this study were expert validation sheets, lecturer response questionnaires, observation sheets on the ability of lecturers to manage to learn, learning implementation observation sheets, student response questionnaires, student activity sheets, and learning achievement tests.

Trials were conducted to see the validity, practicality, and effectiveness of the products that have been developed. The product being tested is teaching material in the form of a flip book maker-based learning e-module that integrates Islamic values in linear algebra courses. The validity test was carried out to determine the feasibility of the e-module for elementary linear algebra courses based on a flip book maker with research instruments. Testing the feasibility of research products and instruments was carried out by a team of experts in the form of material expert lecturers, media experts, and language experts. A practicality test was carried out to determine the practicality level of the e-module for elementary linear algebra courses based on a flip book maker that integrates Islamic values. Product practicality was tested using instruments such as lecturer response questionnaires, observation sheets on the ability of lecturers to manage to learn, and observation sheets on the implementation of learning. The effectiveness test was carried out to measure competency after using the e-module in Elementary Linear Algebra learning.

RESULTS AND DISCUSSION

The development of learning e-modules for elementary linear algebra courses based on flip book maker that integrates Islamic values in this study uses the Plomp development model. One of the aims of this study was to produce teaching materials in the form of flip book maker-based learning e-modules that integrate Islamic values in elementary linear algebra courses that are valid, practical, and effective.

1. Development of E-Module Learning for Elementary Linear Algebra Courses Based on Flip Book Maker Integrated with Islamic Values

The flip book maker-based elementary linear algebra learning e-module integrated with Islamic values developed in this study refers to the Plomp development model which consists of five stages as follows.

a. Preliminary Investigation

The things analyzed include the needs of Mathematics Education students class of 2021 and Course Teaching Units that are appropriate for elementary linear algebra courses. The process carried out in the initial investigation stage is the material analysis and student needs analysis. In the material analysis phase, the researcher analyzed the material in elementary linear algebra courses, namely System of Linear Equations, Euclidean Vector Spaces, and General Vector Spaces, whether these materials are related to one another and which one will be discussed first. At this stage, the researcher also added and subtracted material by considering the material contained in the elementary linear algebra course guidebook. As for the analysis stage of student needs, the teaching materials for elementary linear algebra courses are still inadequate, this can be seen from the absence of changes in the preparation of teaching materials, the books used do not show the characteristics of Islamic campuses and not all students have handbooks so it is difficult to understand the material, and the learning process is always carried out with a discussion process without any variations in new learning models. Therefore, the learning process for elementary linear algebra courses, requires support for the availability of teaching materials to improve student learning outcomes, namely through flip book maker-based learning e-modules that integrate Islamic values.

b. Design

The design process at this stage was carried out by the researcher by starting to design the e-Module framework, Lecture Program Units (SAP), Student Worksheets (LKM), learning achievement tests, and the necessary supporting instruments. The design of the e-module consists of the cover of the module, the contents of the e-module which includes the title, preface, information on the contents of the e-module, instructions for using the e-module, table of contents, concept map, biography, history, material description, did you know (integration material with Islamic values), independent training, competency test, and bibliography.

Figure 1. e-Module Cover

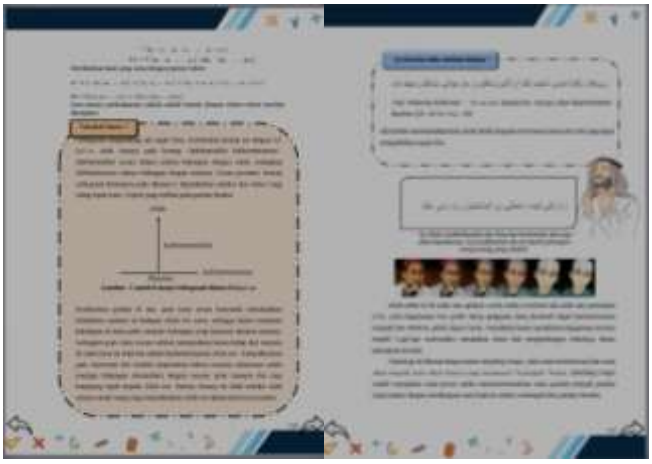

Figure 2. Material Integration with Islamic Values

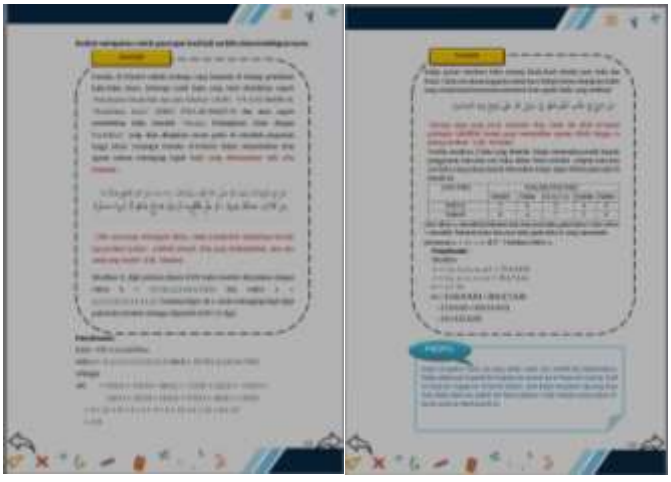

Figure 3. Examples of Contextual Problems Integrated with Islamic

This e-module is made different from other teaching materials, this e-module uses a flip book maker application that contains elementary linear algebra material that has been integrated with Islamic values and contains learning videos to provide additional explanations related to the material. In addition, this e-module is covered in attractive colors and the material in this e-module is arranged systematically.

c. Realization

The realization stage is where the researcher begins to create a flip book maker-based e-module that integrates Islamic values, supporting devices, and instruments in accordance with the structure that has been designed at the design stage in the form of the prototype I. This prototype includes several aspects, namely e-module, SAP, LKM, student response questionnaire, lecturer response questionnaire, student activity, lecturer ability to manage learning, lecture program units, student activities, implementation of e-modules, and learning achievement tests.

d. Test, Evaluation, and Revision

The next stage after realization is the test, evaluation, and revision stage. In the previous stage, the prototype I was produced in the form of e-modules, supporting tools, and instruments (validity, practicality, and effectiveness). This stage includes validation and testing activities.

1) Validity

To determine the feasibility of the e-module and research instruments used, it is necessary to calculate the validity by referring to the criteria according to Arsyad (2016) as follows.

Table 1. Validity Criteria

Score of Validity	Criteria
$\mathbf{4,3 \leq M \leq 5}$	Very Valid
$\mathbf{3,5 \leq M < 4,3}$	Valid
$\mathbf{2,7 \leq M < 3,5}$	Valid Enough
$\mathbf{1,9 \leq M < 2,7}$	Invalid
$\mathbf{M < 1,9}$	Invalid

The feasibility of e-modules and instruments will be determined by expert validators based on validation criteria to be corrected. The expert assessment of e-modules and instruments can be seen in the following table.

Table 2. Description of Expert Assessment Results of e-Modules and Research Instruments

Validation Sheet	Average Score	Information
E-module	4.25	Valid
Student Response Questionnaire	4.25	Very Valid
Lecturer Response Questionnaire	4.50	Very Valid
The ability of lecturers to manage to learn	4.33	Very Valid
SAP (Lecture Program Unit)	4.32	Very Valid
Student Activity	4.37	Very Valid
Implementation of teaching materials	4.10	Valid
Student Worksheet (LKM)	4.37	Very Valid
Learning Outcome Test	4.18	Valid
The average of the total validity of the instrument	4.30	Very Valid

Table 2 above shows that e-modules, student response questionnaires, lecturer response questionnaires, SAP, student activities, student response questionnaires, lecturers' ability to manage to learn, lecture event units, student activities, implementation of teaching materials, student worksheets, and learning achievement tests Judging from the indicators, they are in a very valid category because every aspect for each type of device achieves an average of more than or equal to 4.30, which is in the interval $4.3 \leq M \leq 5$. In addition, the four validators conclude that the e-modules used developed along with the assessment instrument are good and can be used with minor revisions.

Table 3. The Results of The Validation Carried Out in The First Validation Process Include Suggestions From The Validator Team

Validated Device	Validation Results
E-Modul	➢ Make a sheet of explanation about the flipbook maker-based e-module that integrates Islamic values before the e-Module content information page. ➢ For heather further, make your designs that have more interesting mathematical and Islamic elements. ➢ Arrange as best as possible so that one page is not full of material, as well as other similar pages. ➢ The terms habluminannas and habluminallah explain the meaning. ➢ Adjust the pictures on the e-Module with the age of the student. ➢ The display needs to be improved to make it more attractive. ➢ Improve the writing of the translation into the translation. ➢ Correct the writing of the word al-Qur'an to Al-Qur'an. ➢ Improve writing, especially typo words.
SAP	➢ Adjust the description of the course achievements with the RPS. ➢ Clarify the learning media used.
LKM	➢ Use a footer header that you will design more attractively. ➢ Pay attention to the writing of the verses of the Qur'an and Hadith. ➢ Pay attention to the time allocation for each question.
THB	➢ Score each Step. ➢ The test questions are more varied as well as the Islamic character stimulus.

Furthermore, revisions were made based on notes and suggestions from the validator in the first validation process. After revising the e-module and research instruments, they are then brought back to the validator to be validated again.

Table 4. The Results of The Validation Carried Out in The Second Validation Process Include Suggestions From The Validator Team

Validated Device	Validation Results
E-Modul	➢ Change the example questions and questions to be contextual ➢ The background color needs to be changed ➢ Insert the translation of the verse or the meaning of the hadith that is relevant to the context of the question

From the results of the validation in the third stage, the validation team has provided an assessment of the elementary linear algebra learning e-module that integrates Islamic values through a validation sheet.

Table 5. Summary of Validation Results

Source	Average Score	Criteria
E-Module	4,25	Valid
SAP (Lecture Program Unit)	4,32	Very Valid
Student Worksheet (LKM)	4,37	Very Valid
Learning Outcome Test	4,18	Valid
Student Response Questionnaire	4,25	Valid
Student Activity	4,37	Very Valid
E-module implementation	4,10	Valid
Lecturer Response Questionnaire	4,50	Very Valid
The ability of lecturers to manage to learn	4,33	Very Valid
Average Total Instrument Validity	4,29	Valid

Based on the table above, it can be concluded that the average assessment of the validator team for e-Modules, SAP, response questionnaires, THB, and observation sheets are in the "Valid" category. This indicates that the e-module, THB, SAP, response questionnaire, and observation sheet according to the validator are feasible to be tested.

2) Practicality

Data on the practicality of teaching materials in the form of the Linear Elementary Algebra Course e-Module integrated with Islamic values were obtained from the implementation sheet of the e-module, the lecturer's ability

to manage to learn, and the lecturer's response questionnaire. The results of observing the implementation of the e-module, the lecturer's ability to manage to learn, and the lecturer's response questionnaire were analyzed to see the practicality level of the e-module that had been prepared.

The level of practicality of an e-module can be seen based on the results of the analysis of the lecturer's response questionnaire, the observation sheet on the implementation of the e-module, and the observation sheet on the lecturer's ability to manage to learn. Based on the results of the questionnaire analysis the lecturers' responses were at a percentage of 100%. Then the results of the analysis of the implementation of the e-module observation sheet include the components of syntax, social interaction, reaction principles, and support systems.

Data on the practicality of the e-modules made were obtained from observations of the module's implementation in general. The criteria used to decide that the e-module has an adequate level of implementation is that M is at least in the partially implemented category, which means it is not revised. The following are the implementation criteria according to Arsyad (2016).

The average value for these four aspects has an average value of 1.9 which is in the $1{,}5 \leq M \leq 2$ intervals in the fully implemented category. Then the results of the analysis of the observation sheet on the lecturer's ability to manage to learn to show that the average lecturer's ability to manage to learn with a value of 4.57 is in the very good category because the value is in the range of $3{,}5 \leq KG \leq 4$ (Bloom, 1981). Thus, the high percentage of lecturer responses is 98.52% and the results of the analysis of the implementation of the e-module are at intervals of $1{,}5 \leq M \leq 2$, or are in the fully implemented category, as well as the results of the analysis of the observation sheet of the lecturer's ability to manage to learn with a value of 4.57 is in the very category good because the value is in the range of $3{,}5 \leq KG \leq 4$ (Bloom, 1981). This proves that the flip book maker-based learning e-module that is integrated with Islamic values that have been tested meets practical criteria.

3) Effectiveness

E-module can be said to be effective if it meets several criteria, namely: the achievement of student learning outcomes, namely 85% of students are in the very good and good category (earned A and B predicates). The effectiveness of e-modules can also be seen in student activities during the learning process and in student responses to learning. Based on the results of

the analysis of the learning outcomes test, it is known that of the 27 students who took the test, 6 students were in the very good category with a percentage of 22%, 18 students were in the good category with a percentage of 67%, 2 students were in the moderate category with a percentage of 7.4% and 1 student is in the less category with a percentage of 3.7%. This shows that students gain a varied understanding of the material presented by using teaching materials in the form of flip book maker-based e-Modules that are integrated with Islamic values. If student learning outcomes are analyzed, the percentage of student learning completeness after applying the e-module for elementary linear algebra courses based on flip book maker which integrates Islamic values can be seen in the following table.

Table 6. Description of Completeness of Achievement of Student Learning Outcomes

Interval	Predicate	Category	Frequency	Percentage (%)
0,00-74,00	C and D	Not Completed	1	3.7%
75,00-100	A and B	Complete	26	96.3%

Table 6 shows that out of 27 students, 1 student is in the incomplete category with a percentage of 3.7% and 26 students are in the complete category with a percentage of 96.3%. Thus the mastery of student learning outcomes tests has met the standard of completeness. Effectiveness can also be seen from the student response questionnaire with a percentage of 98.52%.

Based on the results of observations of student activities, it was found that the average student activity with a value of 90.25% was in the very good category because the scores were in the range of 80≤Si≤100, and the student response was 98.52%. Thus, it can be concluded that the flip book maker-based elementary linear algebra e-module integrated with Islamic values is said to be effective.

e. Implementation

Activities at this stage are the application of the products produced through trial activities to a wider scope. However, this research did not reach the implementation stage as intended by Plomp due to time constraints. The implementation process in the broad scope referred to, for example, is applied to the same courses and study programs at different tertiary institutions, then you have to wait for the elementary linear algebra course to be reprogrammed the following year. Likewise, if the implementation process in the broad scope

in question is implemented in different study programs and courses, it will take time to develop the appropriate model supporting tools.

2. Characteristics of e-Modules

After the e-module design stage, the characteristics of the e-module being developed are: (1) The e-module is designed on a digital basis using the flip book maker application so that it is more flexible and more accessible to students using both Android and laptops, (2) This e-module has an attractive appearance and the pages can be flipped like a printed book, (3) the e-module is also equipped with learning videos that contain additional information related to the material, (4) the presentation of material in the e-module uses a scientific approach and is equipped with examples questions that are contextual and integrated with Islamic values. The use of a scientific approach to e-modules not only makes learning dominated by students but through this approach can form students' skills in solving problems systematically and students' ability to communicate the ideas they get (Machin, 2014; Aniyati, 2019).

Several studies that are relevant to this research are research conducted by Tia Akawati et al. (2019) "Development of an e-module for Mathematics Learning on Statistics Materials Integrated with Islamic Values". Based on the results of validity, practicality, and validity tests, it is found that the product developed can be said to be valid, practical, and effective so that it is feasible to use. Research conducted by K Mawardi et al. (2019) "Developing Islamic-Nuanced Linear Algebra E-Module with Guided-Inquiry approach in the Matrix Material". Based on the trial results, it was found that the product developed met the validity criteria and was suitable for use. Research conducted by Cut Intan Salasiyah (2017) "Development of Elementary Linear Algebra E-Modules for Mathematics Education Students" shows that the developed e-Modules meet valid, practical, and effective criteria.

From the several relevant studies above, there are differences in research conducted by researchers. As in the research of Tia Akawati et al and Nanang Supriadi who developed mathematics teaching materials that were integrated with Islamic values, both in the form of e-Modules and interactive electronic teaching materials (BAEI). While in this research an e-Module will also be developed that integrates Islamic values in elementary linear algebra courses on Systems of Linear Equations, Euclidean vector spaces, and general vector spaces. Furthermore, K Mawardi et al's research on the development of

e-Modules in Islamic mathematics and linear algebra using certain approaches or methods such as the inquiry approach and the scaffolding method, while this research also developed e-Modules for elementary linear algebra courses based on flip book maker which integrated Islamic values. Likewise, with research conducted by Cut Intan Salasiyah who also developed a linear algebra e-Module, in this study, the developed linear algebra e-Module was integrated with Islamic values (Islamic nuance) and based on a scientific approach.

CONCLUSION

Based on the results and discussion of this study, the product development process refers to the Plomp development model starting from the initial investigation stage to the evaluation and revision test stage. In other words, the research conducted was not fully implemented until the implementation stage due to time constraints.

The characteristics of the e-module being developed include a digital-based designed module using the flip book maker application so that it is more flexible and easily accessible by students using both Android and laptops, loading learning videos as additional information about the material, loading examples of questions that are contextual and integrated values -Islamic values, as well as the presentation of material in e-modules using a scientific approach.

Based on the results of the trials conducted, it was found that the e-module and research instruments had an average validity of 4.25, which was in the valid category. The e-Module developed was stated to be practical by looking at the lecturer response questionnaire analysis at 100%, the lecturer's ability to manage to learn was 4.57 in the very good category and the e-module implementation sheets for the four aspects were in the fully implemented category. The effectiveness of the e-Module is seen from the analysis of learning outcomes tests which show that the percentage of student learning completeness is 96.3% and the percentage of incompleteness is 3.7%. In addition, the percentage of student activity was 90.25% and student responses were 98.52%.

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