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Design of Website-Based E-Modules for Islamic Religious Education Courses in Public Universities

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Abstract

The purpose of this essay is to provide website-based e-modules for online learning resources for Islamic religious education courses at public universities. Many learning procedures are currently built online, especially for remote learning, in the digital era. As a result, technology-enhanced innovation in education is required. One of them is the incorporation of technological resources into educational content. in order to make instructional materials interactive and accessible from each student's home. Students may learn independently wherever they are and anytime they want by fusing educational resources with technology. We combined the Rowntree model, the Hannafin model, and the Dick and Cary model of adaption development research design in this work. The steps of needs analysis, design, product creation, and evaluation are also included in the research process. Experts in learning design, material/content expertise, and learning media expertise served as the study's subjects. 100 pupils altogether, including (4) linguists and (5) students from the science and technology faculty. The distribution of questionnaires to the research subjects is the method used to acquire the data for this study. Following that, descriptive statistics were used to examine the data collected by the checklist questionnaire. The findings of this study show that the built website-based e-module is practical and useful for usage in the learning process

Keywords: Website, E-module, self-study, online courses, public colleges

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INTRODUCTION

According to the advancement of technology and information, as well as the current stage of the fourth industrial revolution, it has an impact on all disciplines. In the field of education, there is no exception. Technology-enhanced innovation in education is therefore necessary. Information and communication technology (ICT) has advanced swiftly, and its application can increase the autonomy, adaptability, proactivity, and participation of student learning.(Tran et al., 2020) The use of new learning technology in higher education programs has enhanced student learning.(Hanif et al., 2019) The use of technology in education greatly enhances the learning experience. Consider how technology is used in educational materials.

Learning materials in the past employed encyclopedias or other works of literature as references, and illustrations only consisted of pictures. Students may become less motivated to learn as a result of this. Learning materials can now be created using websites, Android, and other platforms thanks to modern technology.

Because they are tailored to students' needs and interests, web-based applications help to enhance learning in many different ways. This web-based tool is simple to use, accessible from anywhere, and offers opportunity for students to learn in real-world contexts through actual activities.(Kefalis & Drigas, 2019) Videos of animation or simulations can be used as illustrations to add interactivity to educational content. It is envisaged that the availability of engaging instructional resources that include technology will encourage students to participate more actively in autonomous learning and provide worthwhile learning outcomes. Students can learn freely, anywhere, at any time, and are not restricted by time or space thanks to the integration of technology and educational materials. Based on this description, the authors are interested in creating electronic modules (e-modules) that are accessible via websites to support autonomous learning for students.

LITERATURE REVIEW

Learning design and the creation of educational resources go hand in hand. The process of converting learning ideas and steps into the designing of instructional materials, activities, resources, and learning evaluations is known as learning design.(H. Brown & D. Green, 2016) Learning design, also known as instructional design, is a science and art that aims to produce high-quality instructional systems by using an analytical, methodical, systemic, effective, and efficient process to achieve learning outcomes that are in line with students' instructional needs.(S.Putrawangsa, 2019)

More than only generating knowledge is encompassed by instructional design. This relates to the more general idea of methodically analyzing human performance issues, pinpointing their underlying causes, considering various solutions to address those issues, leveraging organizational and personal strengths, and putting interventions in place to lessen unintended consequences of an issue. action.(Rothwell et al., 2016) Instructional design is commonly defined as a systematic procedure in which educational and training programs are developed and composed aiming at a substantial improvement of learning.(M. Seel et al., 2017)

Additionally, the process of creating learning materials involves creating a conceptual framework of knowledge that is organized systematically to accomplish learning goals in order to make learning effective and efficient. Certain developments can be used to create systematic and efficient learning materials.(Magdalena, Sundari, et al., 2020)

A systematic, planned, and directed procedure to help increase the effectiveness of learning by creating a product can be concluded from the previous description of the development of learning materials. The development-stage products have undergone a number of stages, including design, development, and review.

There are numerous well-known models of instructional design in learning systems with various orientations. Gustafson and Branch categorize it into three

groups depending on how it will be used: (1) Classroom-Oriented Models, (2) Product-Oriented Models, and (3) System-Oriented Models. [6] In order to choose the best model to utilize to solve a problem, an analysis demonstrating the compatibility of the existing model category with the issues that arise is required.(Magdalena, Septiarini, et al., 2020)

The category that suits the product-oriented paradigm is appropriate if the learning problem calls for the innovation of a product. The four fundamental assumptions that define the product development model are as follows: (1) There is a need for instructional products, (2) What needs to be generated instead of chosen from or modified from current materials, (3) Trial and error is prioritized, and (4) Students should work with a facilitator.(Maulana et al., 2021)

Based on behaviorism learning theory, cognitivism theory, Albert Bandura's social cognitive theory, learning experience theory, and communication theory, electronic modules for Islamic religious education courses have been created using websites.

Islamic religious education also involves a deliberate effort to prepare students to recognize, understand, appreciate, believe in, have honorable character, and practice Islamic teachings from the primary sources of the holy book Al-Qur'an and al-Hadith, through guidance activities, teaching exercises, and the use of experience.(Ramayulis, 2012)

The characteristics of Islamic religious education courses in public universities are as follows:

1) Islamic religious education courses are mandatory courses that must be followed by all Muslim students in all public universities, both public and private.(Zaki, 2015)
2) Islamic Religious Education courses are cross-Faculty and Study Programs.(Budianto et al., 2016)
3) The PAI learning process at PTU is sought to be interactive, holistic, integrative, scientific, contextual, thematic, effective, collaborative, and student-centered.(Kemendikbut, 2020)

There isn't much time for traditional learning, which involves instructors and students speaking face to face. Learning materials that enable autonomous learning are required to close this gap. developed with the latest technological advancements and student needs in mind. Learning resources created for students' needs and in line with information and technological advancements take the form of electronic modules, also referred to as (e-modules).

The learning module is a comprehensive instructional unit created for independent usage by students with the goal of facilitating learning.(Smaldino et al., 2011) Additionally, e-modules are a method of delivering independent learning materials that are methodically arranged into specific learning units and presented in an electronic format. Each learning activity in it is connected with a link as a navigation, making students more interactive with the program. It also includes video tutorials, animations, and audio presentations to enhance the learning experience. Textbooks and modules have quite distinct purposes. The differences between the modules go beyond only the way they are formatted, laid out, and presented. but also on the preparation's orientation and method. afterwards, the generated modules will be interactive. The developer must also be aware of the

characteristics of the module that will be created, the students who will be enrolled in it, and the courses that will be included in it. The modules created ought to be capable of assisting in the creation of an excellent student learning environment on their own.

Additionally, the website is a system that is connected in a document in the form of hypertext and contains several types of information, including written, visual, auditory, and multimedia information. A web browser is used to access the website over the internet.(Ambarita, 2016) The context or learning environment should influence how web-based learning is designed. The design of instructional materials for these various methodologies must differ greatly, and this is crucial for web-based instructional designers.(Dewi et al., 2022)

RESEARCH METHOD

This study can be categorized as research and development in accordance with the study's aims. Development research's inherent focus on innovation creates a wide range of opportunities for the creation of goods, models, tactics, and services, as well as new strategies and methods that are more creative, effective, and efficient.(Wibawa et al., 2014) Additionally, the method used in this development research is a systematic product-oriented learning approach employing the Rowntree and the Hannafin and Peck model in combination with the Dick and Cery combination design model. Students are anticipated to be able to learn independently using an electronic module that is hosted on a website based on the findings of the development of these learning resources (e-module). Following are the developmental stages:

rowntree model for module development

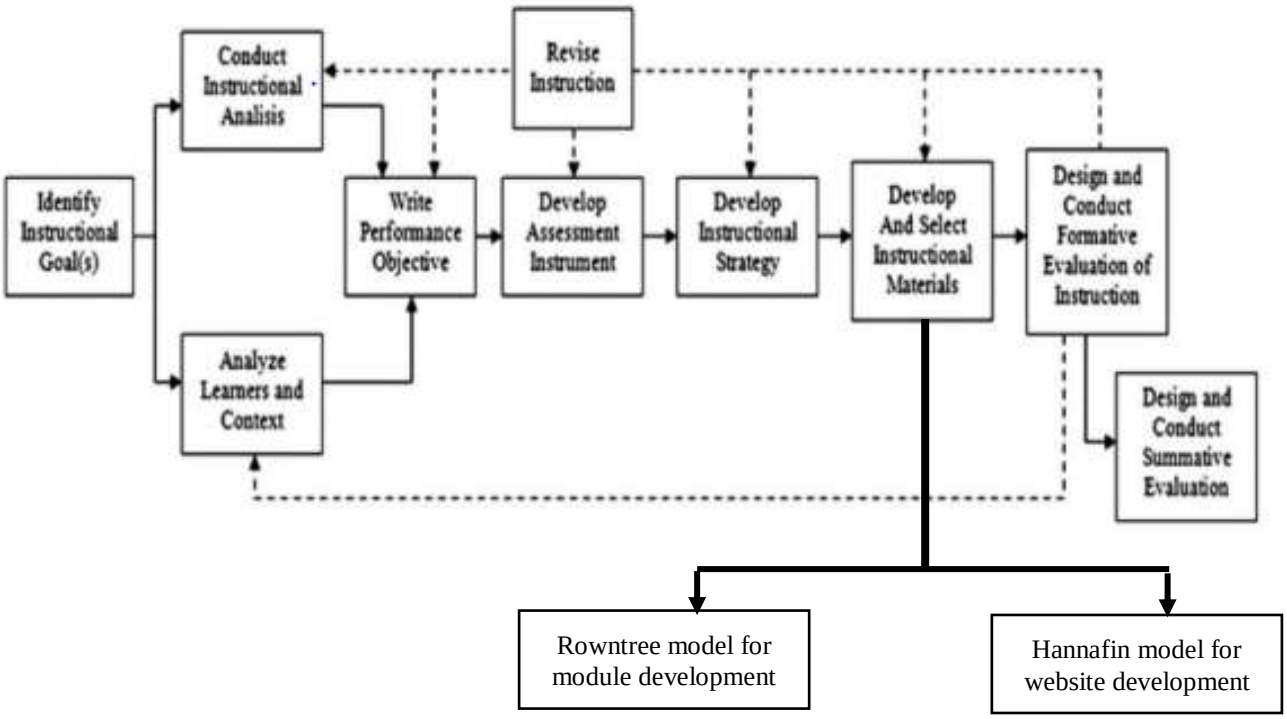

Figure 1. Dick and carey Development Model combined with Rowntree and Hannafin Model

RESEARCH RESULTS AND DISCUSSION

Results of Research

Results of Product Development With the PAI-PTU E-module

The URL for the finished online e-module product, which takes the shape of a website, is https://www.emodul-paiptu.com/index.php?module=. The website address is https://www.emodul-paiptu.com/index.php?module= to be as follows:

Figure 2. https://www.emodul-paiptu.com/index.php?module=

Figure 3. Menu on e-modul

Results of Product Feasibility Testing created

After the final product has been created, a product feasibility test process developed by learning design experts, learning material or content experts, learning media experts, and linguists is then implemented. Additionally, product feasibility tests developed for students who will use those who are used to being a one-on-one student feasibility test, as well as small group student tests, are also implemented. According on the outcomes of the produced product's feasibility test:

Instructional Design Expert Assessment Results

The results of the assessment by learning design experts include presentation systematics and presentation feasibility. In the systematic indicator of

presentation, it gets a value of 90% and on the feasibility of presentation it gets a value of 92%. So that the average product rating becomes 91%. The results of the assessment can be seen more clearly in the image below:

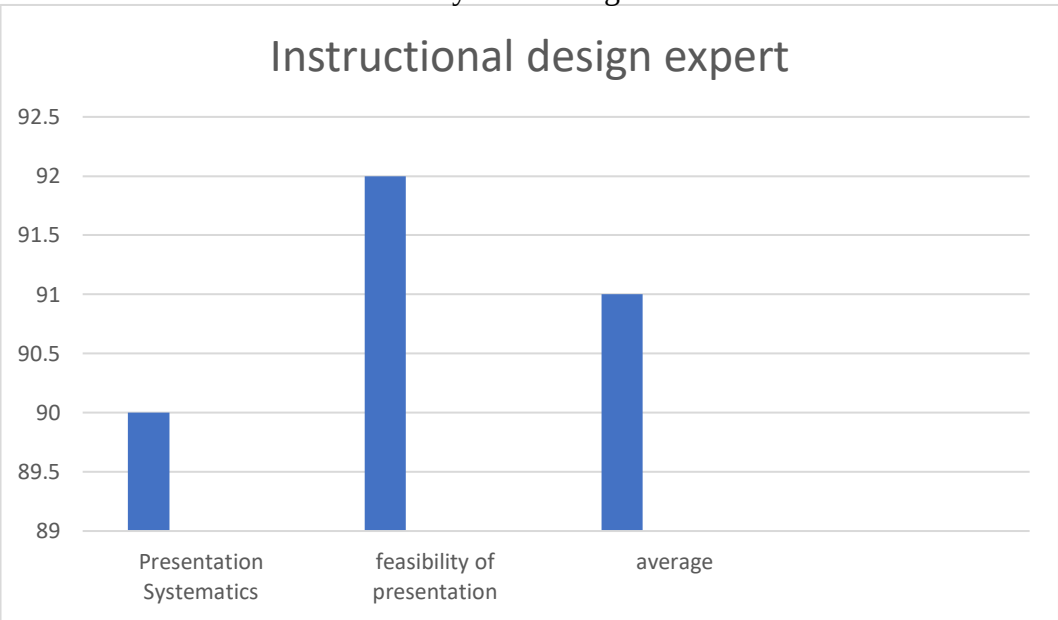

Figure 4. Instructional Design Expert Assessment Results

Material Expert Assessment Results

Assessment by material experts consists of learning objectives, completeness of material, breadth of material, and accuracy of material. On the indicators of learning objectives, the score is 93.40%, the completeness of the material is 100%, the breadth of the material is 80%, the accuracy of the material is 93.40%. So that the average rating of the product developed is 91.20%. The results of the assessment can be seen more clearly in the image below:

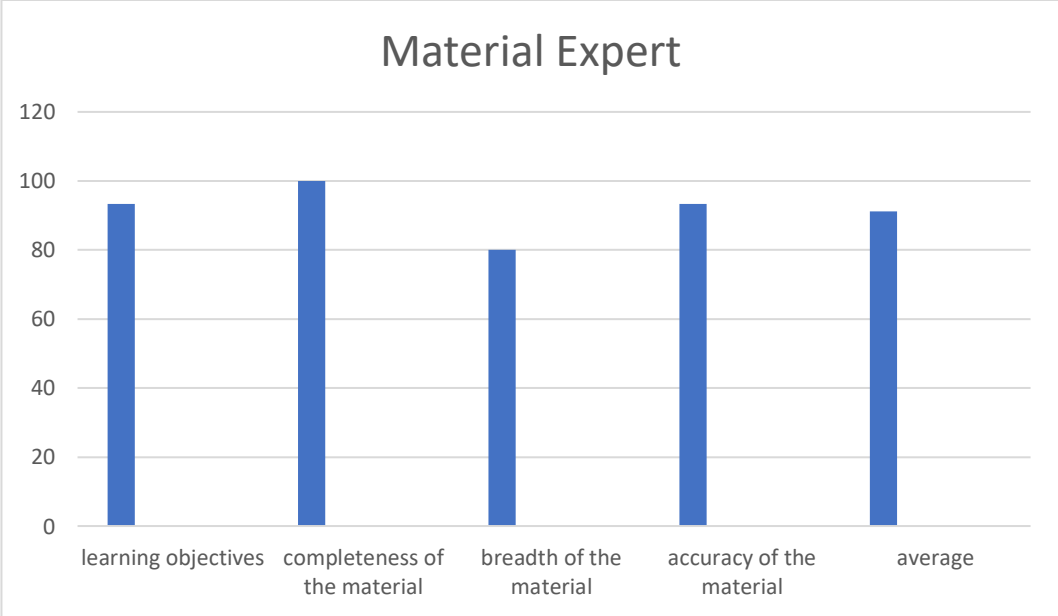

Figure 5. Material Expert Assessmen

Media Expert Assessment Results

Assessment by media experts consists of learning objectives, presentation of e-modules, evaluation of e-modules, display of e-modules, procedures for using e-modules, and visual communication. The indicators of learning objectives obtained a score of 86.60%, presentation of e-modules 86.60%, evaluation 100%, display of e-modules 86.40%, procedures for using e-modules 91.20% and visual communication 92%. So that the average product rating becomes 90.60%. The results of the assessment can be seen more clearly in the image below:

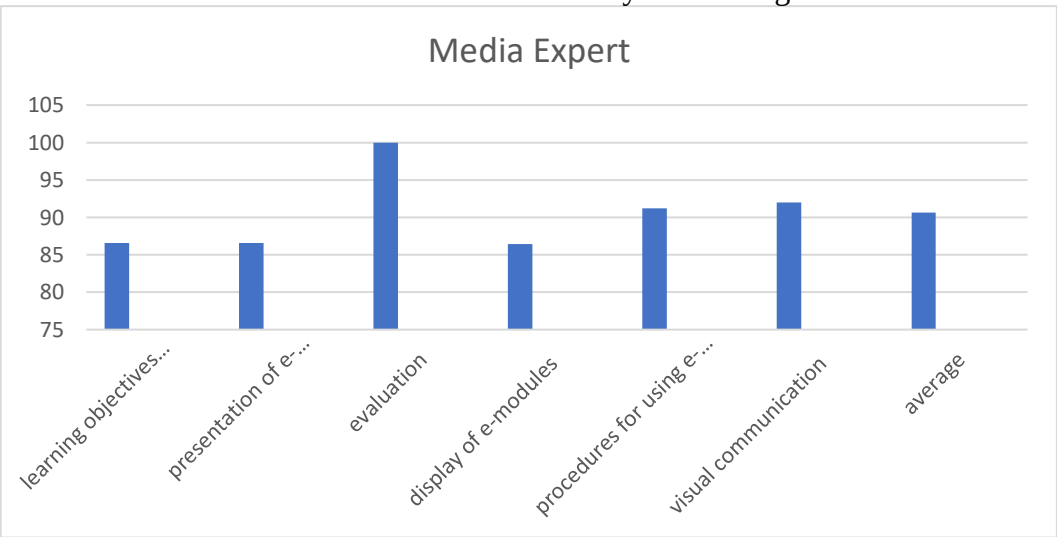

Figure 6. Media Expert Assessment Results

Language Expert Assessment Results

Assessment by media experts consists of straightforward, communicative, dialogical and interactive, according to the level of development of students, coherence and coherence of the flow, and according to Indonesian language rules. In the straightforward indicator, the score is 93.40%, communicative 100%, dialogical and interactive 80%, conformity with the level of student development 80%, coherence and coherence of the flow of thought 100%, and conformity with Indonesian language rules 80%. So that the average product rating becomes 91%. The results of the assessment can be seen more clearly in the image below:

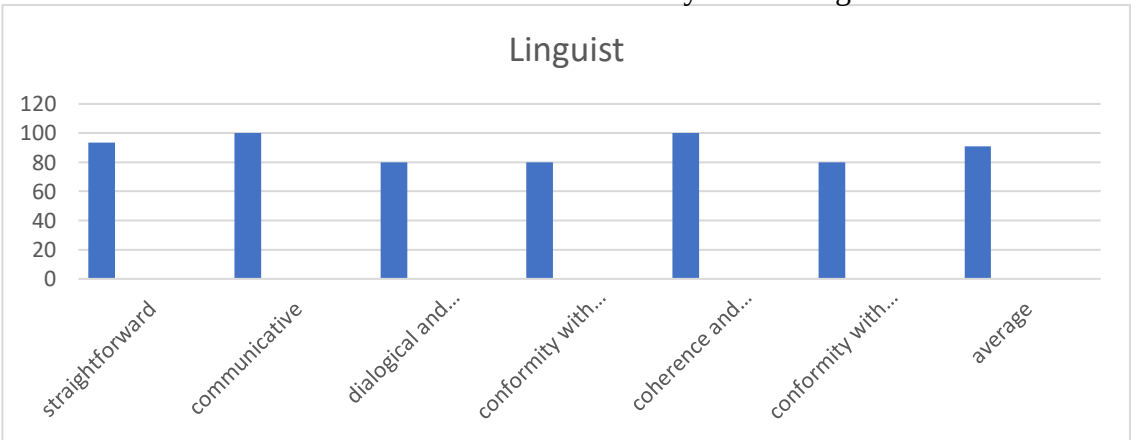

Figure 7. Linguist Assessment Results

One to One Student Assessment Results

The results of the one to one test are assessed by five students who have high, medium, and low abilities. Student assessment of the developed e-module product includes appearance, introduction, content / material, assignment (evaluation), summary and benefits. The display indicators score 90.60%, introduction 91%, content / material 90.56%, Tasks / Evaluation 85.60%, Summary 95.20% and benefits 93%. So that the average rating of the developed e-module product is 91%. The results of the assessment can be seen more clearly in the image below:

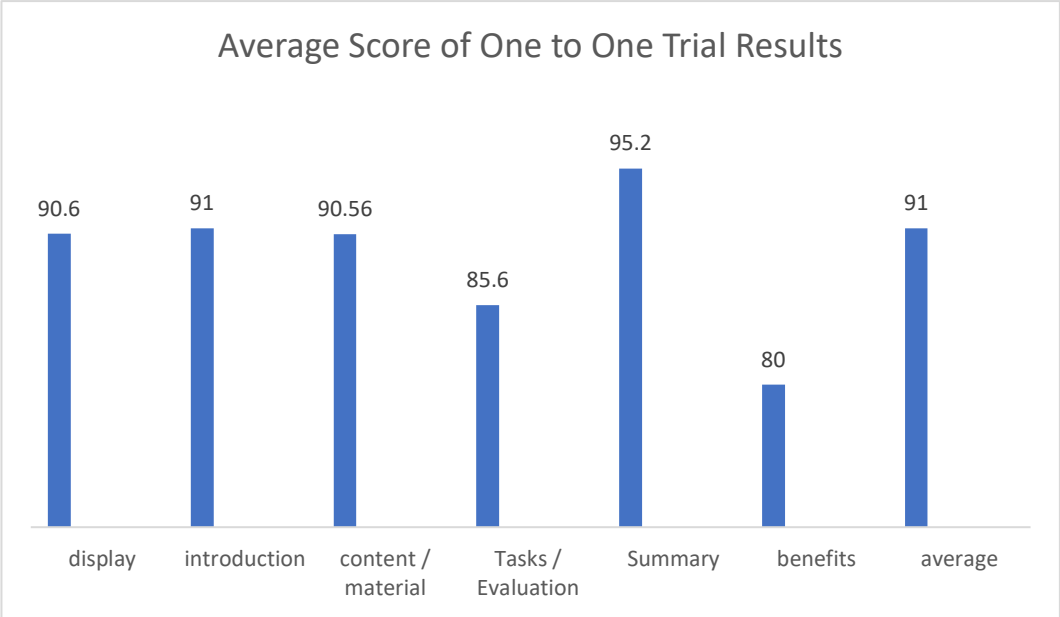

Figure 8. The Average Score of One to One Student Assessment Results

Small Group Assessment Results

The results of the small group assessment are assessments by 15 students who have high, medium, and low abilities. Student assessment of the developed e-module product includes appearance, introduction, content / material, assignment (evaluation), summary and benefits. The display indicators score 92.29%, introduction 92%, content / material 94.41%, Tasks / Evaluation 91.20%, Summary 96.27% and benefits 97%. So that the average rating of the developed e-module product is 93.86%. The results of the assessment can be seen more clearly in the image below:

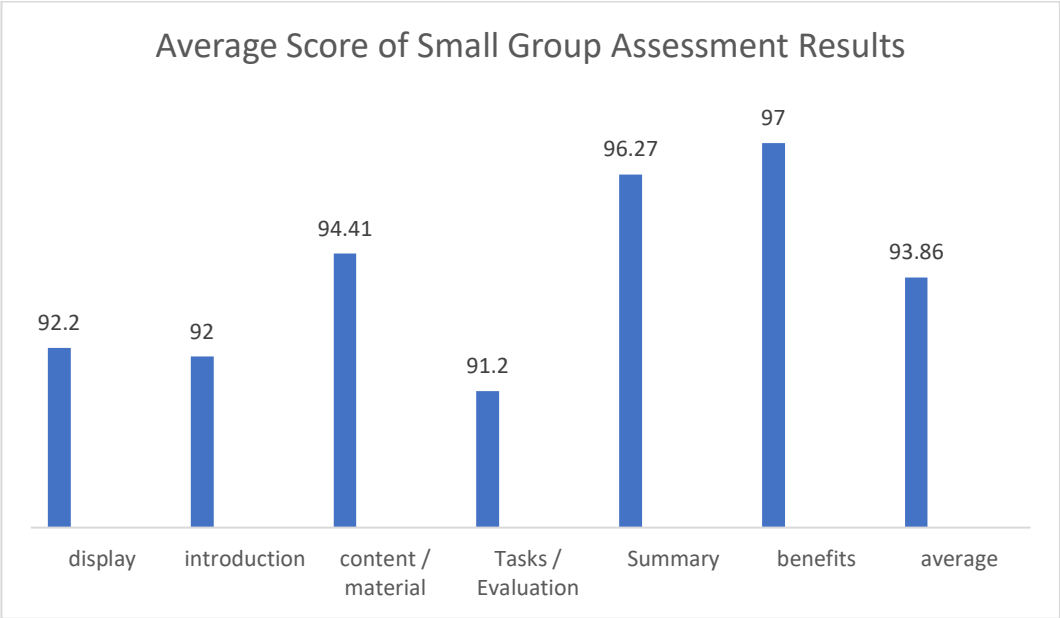

Figure 9. Small Group Assessment Results

Extensive Assessment Results

The results of the assessment are broadly an assessment by 100 students who have high, medium, and low abilities. Student assessment of the developed e-module product includes appearance, introduction, content / material, assignment (evaluation), summary and benefits. The display indicators score 94.41%, introduction 96.27%, content / material 97%, Tasks/Evaluation 94.41%, Summary 97% and benefits 97%. So that the average evaluation of the developed e-module product is 96.2%. The results of the assessment can be seen more clearly in the image below:

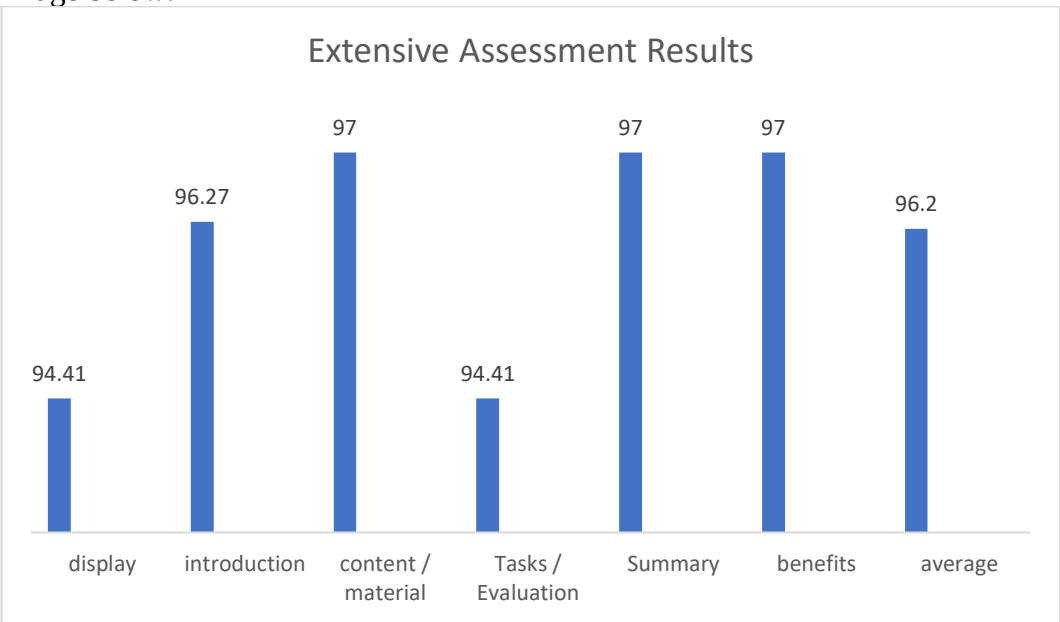

Figure 10 Extensive Assessment Results

Discussion

In accordance with the results of the assessment descriptions by experts and users, it can be seen that the electronic module (e-module) product that the author developed is feasible and effective to be used as an independent learning material for Islamic religious education courses in public universities. The assessment of the learning design expert obtained a value of 91%, which means the product is suitable for use without revision. Then the assessment from linguists obtained a score of 90.60% which means that the product is suitable for use that meets the rules of good and correct language and is in accordance with the level of student development. . Furthermore, the media expert's assessment got a value of 90.60% which means the product is feasible to use with minor improvements. After the product is declared suitable for use by experts, both learning design experts, linguists, material experts and media experts, and has been revised according to expert input, then it is tested on prospective users one by one against 5 students who have high, medium and low abilities. And from the results of the one to one assessment, it gets a value of 91% which means the product developed is feasible to use. After the one to one student test was carried out and it was declared suitable for use and had been revised, it was continued with a small group trial of 15 prospective user students. From the small group test, scores and suggestions were obtained, while the small group test value was 93.86%, which means it is feasible to use with a little revision. After the revision of the small group test, then proceed with a large-scale test to see the feasibility of the product if it is used in the field or the use of the product on a large scale. The results of the field test get an average value of 96.2% which means the product is suitable for use. It is possible to employ autonomous learning resources created in the form of website-based electronic modules (e-modules) for Islamic religious education courses at public universities, according to the findings of research by experts and potential users.

CONCLUSION

Universities have approved the use of website-based e-modules for individual study as being practical and productive. A website-based electronic module is created after it is determined via an analysis of the needs that electronic learning materials are required. The finished output is next examined and evaluated by linguists, media experts, material / content experts, and instructional design specialists. It was deemed suitable for usage with a few modifications after professional examination. Following revisions made in accordance with professional guidance, each prospective user is tested individually. The evaluation of potential users conducted during the one-on-one test is deemed suitable for usage with minor adjustments. A small group test is also conducted following a one-on-one test that is modified in response to user feedback. It was decided that the small group test's findings may be put to good use. Website-based e-module goods were deemed practical to use after conducting the expert test, one-on-one user test, small group test, and field test.

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