

## **INTEGRATING SHARIA AND SCIENCE IN FIQH MUNAKAHAT LEARNING: DEVELOPMENT, VALIDITY, AND PRACTICALITY OF AN INTERACTIVE DIGITAL MODULE**

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### **ABSTRACT**

Fiqh Munakahat learning in higher education is often presented textually and normatively, while students need learning resources that connect sharia with relevant scientific perspectives. This study aimed to develop and examine the validity and practicality of the Science-Munakahat Interactive Digital Module for Fiqh Munakahat learning. Using a Research and Development (R&D) approach with the Plomp model, the study comprised preliminary research, prototyping, and assessment phases. Needs analysis involved 53 Islamic Family Law students. The prototype was validated by six experts: two content, two media, and two language experts. Practicality was assessed through a questionnaire involving 60 students from two classes at two Islamic higher education institutions. Data were analyzed using quantitative descriptive statistics and qualitative analysis of feedback. The module obtained an overall validity score of 4.10 on a five-point scale (Valid) and a practicality score of 86.55% (Very Practical). The five practicality indicators were ease of use (86.07%), visual display and design (86.53%), material quality and presentation (86.13%), interactive feature quality (86.93%), and educational usefulness (87.07%). The findings indicate that the module meets validity and practicality criteria as a supplementary digital learning resource that positions scientific perspectives as contextual support for understanding selected dimensions of Fiqh Munakahat. Its learning effectiveness remains to be examined in future studies.

**Keywords:** Fiqh Munakahat; interactive digital module; practicality; science integration; validity

### **INTRODUCTION**

Islamic higher education faces the continuing challenge of connecting Islamic legal knowledge with developments in science and technology while maintaining the distinctive epistemological position of each domain. This challenge is particularly relevant to the teaching of Fiqh al-Munakahat, because many topics concerning marriage and family life are related to biological, medical, psychological, and social realities. Topics such as marital prohibitions, waiting periods (iddah), reproductive health, and family relationships may therefore be discussed more meaningfully when students are provided with relevant

empirical contexts. Nevertheless, the incorporation of scientific knowledge into fiqh learning should not be understood as replacing dalil, usul al fiqh, or established legal reasoning with empirical evidence. Rather, scientific knowledge can function as contextual and explanatory knowledge that helps students understand the contemporary phenomena to which legal principles are applied and, where appropriate, appreciate selected dimensions of the wisdom associated with particular legal provisions.

This distinction is important because the integration of sharia and science involves more than placing scientific information alongside Islamic legal

materials. Pedagogically, integration requires a meaningful relationship between the two domains while preserving their respective epistemological characteristics. In this study, integration is conceptualized through three complementary functions. First, scientific knowledge provides an empirical context for understanding phenomena addressed by fiqh. Second, relevant biological, medical, and psychological perspectives provide explanatory information that can help students explore selected dimensions of the wisdom underlying legal provisions. Third, the integration provides a basis for multidisciplinary literacy by encouraging students to distinguish normative-legal reasoning from empirical explanation. Thus, scientific information is not presented as an independent source for determining Islamic legal rulings, but as complementary knowledge that broadens students' understanding of contemporary family issues. This conceptual position is consistent with broader discussions of integrating Islamic and scientific knowledge in Islamic higher education, where integration requires dialogue between different knowledge traditions while preserving the characteristics of each discipline ( (Suciati, 2022); (Wakit, Dacholfany, Suyitno, & Fauzi, 2026)).

In practice, however, Fiqh al-Munakahat learning remains largely textual and normative. Previous discussions of Fiqh learning materials have emphasized classical jurisprudential interpretations, differences among schools of Islamic law, and relevant legal provisions, while interdisciplinary scientific perspectives have received less systematic attention (Norcahyono., 2022). Consequently, students may encounter difficulties in connecting legal concepts with

contemporary empirical realities. The problem is therefore not simply the availability of scientific information, but the absence of a pedagogically structured mechanism for positioning scientific perspectives in relation to fiqh discussions without creating epistemological confusion between normative legal reasoning and empirical explanation.

A preliminary study involving 53 Islamic Family Law students indicated the need for such learning resources. A total of 77.4% of respondents perceived existing learning resources as lacking scientific integration, while 84.9% considered the integration of sharia and science necessary. Furthermore, 92.5% reported cognitive difficulties in understanding the underlying wisdom of classical rulings when topics were presented predominantly through normative texts, particularly in relation to family psychology (47.1%), genetic aspects of incestuous prohibitions (37.7%), and medical dimensions of menstrual prohibitions (33.9%). The technological dimension of the problem was also evident. Although 94.3% of students frequently accessed learning materials through smartphones or laptops, 67.9% reported that existing digital resources, mainly static PDF files and PowerPoint presentations, lacked interactive features. Consequently, 96.2% expressed a need for an interactive digital module.

The need for interactive digital learning resources is consistent with the characteristics of twenty first century learning, which emphasize flexibility, learner autonomy, multimodal representation, and interactive learning environments ( (Kustandi, 2021); (Puspitasari A. , 2019); (Wijaya, 2016)). Recent development research has likewise demonstrated the potential of interactive

digital modules when they are systematically designed and evaluated for product quality. For example, (Indriansu, Sauqina, & Irhasyuarna, 2025) developed an interactive Nearpod based e-module and evaluated its validity and practicality, illustrating the relevance of systematic product evaluation in the development of interactive digital learning materials. Previous studies have also demonstrated the potential of electronic modules in different educational contexts. (Firdani, 2024), for example, developed an Islamic-integrated science e-module concerning the human reproductive system, while (Sari N. H., 2024) developed an e-module for Fiqh learning at the secondary school level. (Apriadi, 2024) developed problem based Fiqh learning materials for elementary education. These studies demonstrate the potential of digital and integrated learning materials, but they do not directly address the pedagogical problem of integrating scientific perspectives into Fiqh al-Munakahat at the higher education level.

The research gap is therefore not limited to the lack of a particular digital module. More fundamentally, previous research has provided limited empirical discussion of how scientific knowledge can be pedagogically positioned within higher-education fiqh learning, particularly in relation to the distinction between normative Islamic legal reasoning and empirical scientific explanation. In addition, few studies have developed and evaluated a digital Fiqh al-Munakahat resource through a systematic educational design framework such as the Plomp model while simultaneously assessing content, media, language, and student practicality.

To address this gap, the present study developed the Science Munakahat Interactive Digital Module as a digital

learning resource for Fiqh al-Munakahat. The module integrates selected biological, medical, and psychological perspectives into relevant fiqh topics. The integration is designed primarily to provide empirical context, facilitate discussion of selected dimensions of legal wisdom, and provide a basis for multidisciplinary literacy, rather than to use scientific findings as direct determinants of Islamic legal rulings. The novelty of the study therefore lies in three related aspects: (1) the development of a higher education Fiqh al-Munakahat module that explicitly structures dialogue between fiqh and relevant scientific perspectives; (2) the translation of this integration into an interactive digital learning environment; and (3) systematic evaluation of the resulting product through expert based content, media, and language validity assessment and student practicality testing.

Accordingly, this study aims to examine the validity and practicality of the Science Munakahat Interactive Digital Module for Fiqh al-Munakahat learning. The study specifically investigates whether the developed module meets expert standards of content, media, and language validity and whether students perceive the module as practical for use in Fiqh al-Munakahat learning. The study does not aim to establish the effectiveness of the module in improving learning outcomes; such causal effects require a different research design and are therefore positioned as an important direction for subsequent research.

## **METHOD**

This study employed a research and development (R&D) approach using the Plomp model, which comprises three phases: preliminary research, prototyping,

and assessment (Plomp, 2013). The study focused on examining the validity and practicality of the Science-Munakahat Interactive Digital Module developed for the Fiqh Munakahat course. It was not designed to evaluate the module's effectiveness through experimental comparisons or measurements of learning gains.

The evaluation of validity and practicality is consistent with the broader practice of educational product development research. For example, (Hasyim, Lamangantjo, & Pikoli, 2024) developed an ethnoscience based science learning module and assessed its validity and practicality using a different development model, namely the 4-D model. Their study provides a relevant comparison regarding the evaluation of instructional product quality, although it does not establish the procedures used in the present study. In this research, the Plomp model guided the development process, while expert validation and student responses provided the principal evidence for evaluating the module.

The preliminary research phase involved a needs analysis with 53 Islamic Family Law students. The analysis examined students' learning needs, difficulties in understanding Fiqh Munakahat materials, and expectations regarding learning resources that connect sharia with relevant scientific perspectives. A curriculum review and literature review were also conducted to inform the module's learning objectives, content, and instructional design.

The integration framework positioned scientific perspectives as empirical and contextual support for understanding selected dimensions of Fiqh Munakahat. Relevant biological, medical,

and psychological information was considered where appropriate to the subject matter. However, scientific explanations were not intended to replace Islamic legal sources, dalil, or methods of *usul al-fiqh*. The module was designed to distinguish empirical explanations of relevant phenomena from normative Islamic legal reasoning. The results of the preliminary research informed the selection and organization of learning materials and the features incorporated into the initial prototype.

The module prototype was developed using Google Sites as a browser based digital platform. It incorporated instructional materials, videos, interactive quizzes, supplementary learning resources, and pretest and posttest features. These components were designed to organize learning content and provide students with opportunities to interact with the material through a digital learning environment.

The prototype was reviewed by six experts: two content experts, two media experts, and two language experts. Three validation instruments were used: a 27 item content validation instrument, a 26 item media validation instrument, and a 16 item language validation instrument. Together, the instruments comprised 69 items. Each item was rated using a five point Likert scale.

Content validation examined the alignment of learning objectives, the depth and breadth of the material, the integration of scientific perspectives with fiqh content, presentation techniques, learning activities, and the accuracy of jurisprudential content. Media validation addressed visual design, navigation, interactive features, technical performance, and accessibility related aspects. Language validation examined the accuracy of Indonesian, readability and

clarity, specialized terminology, and the communicative quality of the text.

Expert feedback was used to identify revisions required before the student field test. A total of 20 revision points were recorded: 10 related to media and visual presentation, four related to fiqh content, and six related to language. All 20 revision points were incorporated into the prototype before the practicality assessment.

The practicality assessment involved 60 students from two classes at two Islamic higher education institutions (PTKI) offering the Fiqh Munakahat course. The participating students used the module and provided responses concerning its practicality as a supplementary learning resource.

The study information available for reporting identifies the number of participants, their course context, and the involvement of two institutions. The specific sampling technique should be reported only if it can be verified from the actual recruitment procedure and research records. Accordingly, the findings are interpreted descriptively in relation to the participating students and are not intended to represent all students enrolled in Fiqh Munakahat courses at Islamic higher education institutions.

A separate small group usability trial was not conducted before the field test. Instead, the prototype underwent expert validation and revision before being assessed by the 60 participating students. Expert validation provided feedback on content, media, and language quality, whereas the field test provided student response data concerning practicality. These procedures serve different purposes, and expert validation cannot fully substitute for preliminary usability testing with a small group of intended users.

Consequently, usability issues that might have emerged during an earlier small group trial may not have been identified before the field test. This procedural limitation is considered when interpreting the findings.

The study used expert validation instruments and a student practicality questionnaire. The expert validation instruments consisted of 27 items for content, 26 items for media, and 16 items for language. All items were rated on a five point Likert scale.

Student responses were collected using a 25 item practicality questionnaire organized into five indicators: ease of use, visual display and design, material quality and presentation, interactive feature quality, and educational usefulness. Each indicator comprised five items. The questionnaire assessed students' perceptions of the module's usability and practicality as a supplementary digital learning resource. It was not designed to measure learning achievement, changes in conceptual understanding, or the effectiveness of the module.

Data were analyzed using quantitative descriptive statistics complemented by qualitative analysis of open-ended feedback. For validity analysis, scores from the six experts were averaged using the formula  $\bar{x} = \frac{\sum x_i}{n}$ , where  $\bar{x}$  represents the mean validity score,  $x_i$  is the score from validator  $i$ , and  $n$  is the total number of validators. The mean scores were then categorized based on adapted validity criteria (Yulianto, 2021): Very Valid ( $\bar{x} > 4.20$ ), Valid ( $3.40 < \bar{x} \leq 4.20$ ), Fairly Valid ( $2.60 < \bar{x} \leq 3.40$ ), Less Valid ( $1.80 < \bar{x} \leq 2.60$ ), and Invalid ( $\bar{x} \leq 1.80$ ). The product was declared valid if it achieved a minimum overall category of "Valid" ( $\bar{x} > 3.40$ ) (Plomp, 2013). For

practicality analysis, student response scores were converted into percentages using  $x = \left( \frac{\text{Obtained Score}}{\text{Maximum Score}} \right) \times 100\%$ , and interpreted against adapted practicality criteria (Riduwan, 2018): Very Practical ( $80\% < x \leq 100\%$ ), Practical ( $60\% < x \leq 80\%$ ), Fairly Practical ( $40\% < x \leq 60\%$ ), Less Practical ( $20\% < x \leq 40\%$ ), and Impractical ( $x \leq 20\%$ ). The module met the practicality benchmark if student responses achieved at least the "Practical" threshold ( $x > 61\%$ ) (Plomp, 2013). Qualitative feedback from validators and students was analyzed to justify product revisions.

This study adhered to strict ethical principles regarding participant protection. Students were fully informed about the study objectives and the scope of their involvement prior to participation. Participation was voluntary and had no bearing on students' academic evaluation or course grades. No unnecessary personal identifying data were collected, and all survey findings are reported in aggregate form to maintain participant confidentiality.

## RESULTS AND DISCUSSION

### Results

#### 1. Product Revisions Based on Expert Validation

Prior to field testing, the interactive digital module underwent systematic revisions based on feedback from six expert

validators. Revisions encompassed three main areas: media/visual design (10 items), fiqh content substance (4 items), and language (6 items). Media adjustments included simplifying cover elements to improve readability, embedding institutional logos, unifying typography, placing pretest/posttest links in accessible locations, applying soft background colors to reduce eye fatigue, converting text instructions into visual flowcharts, adding subtle textures representing shariah-science integration, embedding learning videos directly into menus, and harmonizing color palettes.

Content adjustments involved removing duplicate links under positive law sub-topics, refining wording to preserve textual authority (changing "could be wrong" to "appears less relevant in modern contexts"), ordering scholars' opinions chronologically (Maliki, Shafi'i, and Hanbali), and updating cognitive indicators to standard cognitive level terms. Linguistic corrections focused on standardizing Indonesian spelling and Islamic terms (konfirmasi, Hadis, al-daruriyat, maqasid, qasdu, and baligh). All 20 revision points were fully incorporated before the field trial.

#### 2. Validity Test Results

The validity of the Science Munakahat Interactive Digital Module was evaluated by six experts using a 5 point Likert scale.

**Table 1.** Content validation results per indicator

| No | Aspect              | Indicator                          | V1   | V2   | Mean ( $\bar{x}$ ) | Category   |
|----|---------------------|------------------------------------|------|------|--------------------|------------|
| 1  | Content Feasibility | Alignment with learning objectives | 4.40 | 4.60 | 4.50               | Very Valid |
|    |                     | Content depth and breadth          | 3.50 | 3.75 | 3.62               | Valid      |
|    |                     | Science and fiqh integration       | 4.00 | 4.00 | 4.00               | Valid      |
|    | Sub-average         |                                    | 4.00 | 4.14 | 4.07               | Valid      |
| 2  | Presentation        | Presentation technique             | 3.60 | 3.80 | 3.70               | Valid      |
|    | Feasibility         | Learning activities                | 4.67 | 4.67 | 4.67               | Very Valid |
|    | Sub-average         |                                    | 4.00 | 4.12 | 4.06               | Valid      |

|   |                               |                                                   |      |      |      |       |
|---|-------------------------------|---------------------------------------------------|------|------|------|-------|
| 3 | Jurisprudence Accuracy        | Accuracy of <i>fiqh</i> principles and references | 3.60 | 3.60 | 3.60 | Valid |
|   | Sub-average                   |                                                   | 3.60 | 3.60 | 3.60 | Valid |
|   | Overall Mean Content Validity |                                                   |      | 3.91 |      | Valid |

**Table 2.** Media validation results per indicator

| No | Aspect                      | Indicator                      | V1   | V2   | Mean ( $\bar{x}$ ) | Category   |
|----|-----------------------------|--------------------------------|------|------|--------------------|------------|
| 1  | Media Feasibility           | Visual design and aesthetics   | 3.60 | 3.60 | 3.60               | Valid      |
|    |                             | Navigation and ease of use     | 3.80 | 3.80 | 3.80               | Valid      |
|    | Sub-average                 |                                | 3.70 | 3.70 | 3.70               | Valid      |
| 2  | Interactivity               | Primary interactive features   | 3.60 | 3.60 | 3.60               | Valid      |
|    |                             | Quality of interactive quizzes | 4.50 | 4.25 | 4.38               | Valid      |
|    |                             | External resource integration  | 4.67 | 4.33 | 4.50               | Very Valid |
|    | Sub-average                 |                                | 4.17 | 4.00 | 4.08               | Valid      |
| 3  | Technical Components        | Performance and accessibility  | 4.75 | 4.75 | 4.75               | Very Valid |
|    | Sub-average                 |                                | 4.75 | 4.75 | 4.75               | Very Valid |
|    | Overall Mean Media Validity |                                |      | 4.17 |                    | Valid      |

**Table 3.** Language validation results per indicator

| No | Aspect                         | Indicator                              | V1   | V2   | Mean ( $\bar{x}$ ) | Category   |
|----|--------------------------------|----------------------------------------|------|------|--------------------|------------|
| 1  | Linguistic Feasibility         | Indonesian language accuracy           | 3.75 | 4.00 | 3.88               | Valid      |
|    |                                | Readability and clarity                | 4.50 | 4.75 | 4.62               | Very Valid |
|    |                                | Utilization of specialized terminology | 3.75 | 4.00 | 3.88               | Valid      |
|    |                                | Communicative and interactive tone     | 4.50 | 4.50 | 4.50               | Very Valid |
|    | Overall Mean Language Validity |                                        | 4.12 | 4.31 | 4.22               | Very Valid |

**Table 4.** Recapitulation of product validity

| No | Validation Domain   | Total Items | V1   | V2   | Mean ( $\bar{x}$ ) | Category   |
|----|---------------------|-------------|------|------|--------------------|------------|
| 1  | Content Validation  | 27          | 3.93 | 4.04 | 3.91               | Valid      |
| 2  | Media Validation    | 26          | 4.08 | 4.00 | 4.17               | Valid      |
| 3  | Language Validation | 16          | 4.12 | 4.31 | 4.22               | Very Valid |

### 3. Practicality Test Results

**Table 5.** Recapitulation of practicality scores per component ( $n = 60$ )

| No | Component                              | Obtained Score | Maximum Score | Percentage | Category       |
|----|----------------------------------------|----------------|---------------|------------|----------------|
| 1  | Ease of Use (K1)                       | 1291           | 1500          | 86.07%     | Very Practical |
| 2  | Visual Display and Design (K2)         | 1298           | 1500          | 86.53%     | Very Practical |
| 3  | Material Quality and Presentation (K3) | 1292           | 1500          | 86.13%     | Very Practical |
| 4  | Interactive Feature Quality (K4)       | 1304           | 1500          | 86.93%     | Very Practical |
| 5  | Educational Usefulness (K5)            | 1306           | 1500          | 87.07%     | Very Practical |
|    | Overall Cumulative Practicality        | 6491           | 7500          | 86.55%     | Very Practical |

## Discussion

This study developed and evaluated the validity and practicality of an interactive Science Munakahat module designed to integrate scientific perspectives into the Fiqh Munakahat course. Following (Plomp, 2013) research and development model, the process involved preliminary research, prototyping, and assessment. The

evaluation focused on expert validation and students' perceptions of practicality. Accordingly, the findings provide evidence concerning the quality and usability of the developed learning resource, rather than its effectiveness in improving students' learning outcomes. This distinction is essential because a learning product that meets validity and practicality criteria

cannot automatically be considered effective in enhancing knowledge, critical thinking, or academic achievement. The development process was informed by principles of instructional media and learning material design, which emphasize the alignment of content, learning objectives, presentation, and intended users ((Arsyad, 2017); (Prastowo, 2015)).

The overall mean product validity score was 4.10, exceeding the predetermined validity threshold of 3.40. The mean scores for content, media, and language validation were 3.91, 4.17, and 4.22, respectively. These results indicate that the module met the established validity criteria across the three evaluated dimensions, although differences between component scores point to aspects requiring further attention. Content validation obtained the lowest overall mean, at 3.91. Within this component, the accuracy of fiqh principles and references scored 3.60, content depth and breadth scored 3.62, and presentation technique scored 3.70. These relatively lower scores should not be interpreted as proof of substantive errors; rather, they identify areas in which the content and its presentation require careful consideration. In an interdisciplinary learning resource, the challenge is not simply to provide extensive information but to select material that is sufficiently comprehensive, accurate, relevant to the learning objectives, and coherently organized. This interpretation is consistent with instructional design principles that emphasize the relationship between content selection, presentation, and learning purposes ((Arsyad, 2017); (Prastowo, 2015)). The use of appropriate evaluation criteria and transparent interpretation of scores is also important when determining the extent to which a developed product

meets predetermined standards ((Sudjana, 2010); (Riduwan, 2018)).

The relatively lower score for the accuracy of fiqh principles and references highlights a conceptual challenge in integrating science and Islamic jurisprudence. Scientific knowledge can provide contextual explanations of certain biological, psychological, and social dimensions of marriage and family life. However, scientific explanations should not replace Islamic legal evidence, the principles of *usul al fiqh*, or the normative reasoning through which legal rulings are established. Scientific findings should not be presented as independently proving the validity of a particular legal ruling. Instead, the two knowledge domains need to be connected carefully while maintaining clarity about their respective foundations, methods, and purposes. The four content revisions undertaken in this study including removing duplicated links, refining wording concerning textual authority, arranging scholarly opinions chronologically, and standardizing cognitive indicators addressed aspects of content organization and presentation that could affect conceptual clarity. This approach positions scientific knowledge as a contextual resource for learning about fiqh munakahat, rather than as a substitute for the textual and methodological foundations of Islamic jurisprudence. The earlier studies cited in the original manuscript, including ((Yenti, 2024); (H, Hakim, & Wahid, 2021); (Ihsanudin, 2024); (Herawati & Muhtadi, 2018); (Firdausi, 2024); (Murtalib, 2022); (Wakit, Dacholfany, Suyitno, & Fauzi, 2026)), should be connected to this argument only where their original publications explicitly address the relevant relationship between contextual learning, knowledge integration,

and instructional design. Their inclusion should not imply that they directly investigated the Science Munakahat module or established the validity of its particular approach.

The media validation results produced an overall mean of 4.17. Technical performance and accessibility obtained the highest indicator score, at 4.75, followed by external resource integration at 4.50 and the quality of interactive quizzes at 4.38. By comparison, visual design and aesthetics scored 3.60, navigation and ease of use scored 3.80, and primary interactive features scored 3.60. This pattern suggests that technical acceptability and the availability of supporting resources do not necessarily ensure that every aspect of the learning experience is equally well developed. The relatively lower scores for visual design and primary interactive features indicate that the organization of visual information and the educational function of interactive elements deserve attention alongside technical operation. (Mayer, 2021), multimedia learning principles provide a relevant framework for interpreting this pattern because instructional visuals and multimedia elements should help learners select, organize, and integrate information rather than introduce unnecessary processing demands. Interactivity is therefore most useful when it supports a clear learning purpose, rather than merely increasing the number of clickable elements. The revisions made to the module including simplifying the cover, standardizing typography, relocating pretest and posttest links, softening background colors, converting textual instructions into flowcharts, and embedding videos within learning menus were intended to improve presentation and navigation. These

revisions represent design responses to expert feedback; the study did not separately test the effect of each revision on students' learning.

(Septiani, Vitasari, & Taufik, 2025) developed a Google Sites-based learning website oriented toward digital literacy and reported an expert validity score of 92.98% and a readability score of 90.66%. Their study is particularly relevant because it examined a website-based learning resource, although its subject matter, evaluation instruments, and scoring system differ from those used in the present research. (Kurniawan, Leksono, Nestiadi, & Kurniasih, 2026) reported a validity score of 93% for a website developed as an IPA learning resource through an Education for Sustainable Development approach. Similarly, (Maftukhah, Sakinah, & Fikri, 2023) reported content and media validation scores of 88% and 98.4%, respectively, for the Android based PeTRIK interactive learning medium. These studies illustrate the use of expert assessment to evaluate digital learning products with different instructional purposes. However, their numerical results should not be directly ranked against the present mean validity score of 4.10 because the instruments, scales, and assessment criteria are not equivalent. The appropriate comparison is that these studies, like the present research, treat product validation as an important stage in the development and refinement of learning resources.

Further comparisons can be drawn from studies of module practicality and user responses. (Hasyim, Lamangantjo, & Pikoli, 2024) developed an ethnoscience based science learning module and reported a validity mean of 3.74, implementation practicality of 92.5%, and a student response score of 83.67%. (Meutiasari,

Indriaty , & Mahyuny, 2026) reported content, media, and language validation percentages of 80.77%, 97.14%, and 94.67%, respectively, as well as practicality scores of 96.00% from teachers and 95.74% from students. These findings provide examples of how product validity and practicality can be assessed as related but distinct dimensions of development research. They also demonstrate why differences in assessment instruments and reporting conventions must be considered when comparing results across studies. In the present study, the overall validity mean of 4.10 and the practicality score of 86.55% indicate that the module met the specified criteria within the evaluation framework used. They do not establish that the module is superior to the products developed in other studies, nor do they demonstrate that the same evaluation results would be obtained in other educational settings.

The practicality assessment involved 60 Islamic Family Law students from two Islamic higher education institutions. The overall practicality score was 86.55%, categorized as Very Practical. Of the participants, 45 students (75.0%) rated the module Very Practical, 13 (21.7%) rated it Practical, and 2 (3.3%) rated it Less Practical. Among the five practicality indicators, educational usefulness obtained the highest score of 87.07%, followed by interactive feature quality at 86.93%, visual display and design at 86.53%, material quality and presentation at 86.13%, and ease of use at 86.07%. The relatively small differences between these scores suggest broadly consistent student evaluations across the dimensions measured. Nevertheless, the lower scores for ease of use and material quality and presentation indicate that favorable overall practicality ratings do not eliminate the need for further

usability refinement. These results should be interpreted as students' reported experiences of using the module under the conditions of the study. They do not establish that all potential users will experience the same level of usability or that the module improves learning outcomes. In line with the principles of educational assessment, the interpretation should remain tied to the constructs actually measured by the instrument ((Sudjana, 2010 ); (Riduwan, 2018)).

( Hasanah, Kuncoro, & Nusantara, 2025), who compared structured and unstructured digital differentiated learning, reported better learning performance in the structured condition. Their findings highlight the importance of instructional organization rather than digital delivery alone. ( Elysia & Wicaksono, 2026) reported validity of 91%, practicality of 91.4%, and an N-Gain score of 0.63 in the development of an environment based science e module. (Yuanaantari & Rezanah, 2026) reported an increase in students' mean scores from 54.50 to 68.96 following digital literacy habituation, with a reported significance value of  $p = .000$ . (Hasyim, Lamangantjo, & Pikoli, 2024) also reported learning outcome results for their ethnoscience based module. These studies assessed outcomes or instructional conditions beyond the primary scope of the present research and therefore cannot be used to claim that the Science Munakahat module improves achievement, scientific creativity, or digital literacy. Rather, they demonstrate that digital learning research can examine different constructs and that claims must correspond to the outcomes measured in each study. A balanced interpretation is also supported by (Sailer, Maier, Berger, Kastorff , & Stegmann, 2024) whose review of technology-

enhanced learning in higher education emphasizes the importance of the learning activities supported by technology, and (Forsström, 2025) whose review examines the impact of digital technologies on students' learning. Taken together, this literature cautions against assuming that the presence of technology alone guarantees educational improvement. For the present module, further outcome focused research would be necessary before any claim of effectiveness could be justified.

Google Sites offers a practical web-based environment for organizing learning materials, videos, links, and interactive activities within a single learning structure. Nevertheless, its suitability may depend on conditions that were not directly measured in this study. These include internet connectivity, the availability and characteristics of students' devices, digital literacy, accessibility requirements, and the continued availability of external services embedded in the website. Such factors are potential boundary conditions rather than findings established by the current data. Consequently, the media validation score of 4.17 should not be interpreted as proof that the module is equally accessible or performs consistently for every user under all technical conditions. Similarly, the high overall practicality score reflects the experiences of the participating students and should not be generalized automatically to users with different devices, levels of digital competence, or internet access. Future research could investigate these conditions explicitly by documenting device types, connectivity constraints, users' digital competencies, and accessibility needs. It could also examine how students access the module when embedded videos or external resources are unavailable. This would provide a more

detailed understanding of the circumstances under which the platform remains usable and of the support required for implementation in different institutional settings.

The revision process also demonstrates the role of expert feedback in refining the product before its field assessment. Six validators two content experts, two media experts, and two language experts assessed a total of 69 validation items, comprising 27 content items, 26 media items, and 16 language items. Twenty revision points were incorporated before the field trial: ten related to media and visual presentation, four to fiqh content, and six to language. These revisions addressed readability, institutional identity, typographic consistency, navigation, visual comfort, instructional flow, resource placement, content duplication, the presentation of scholarly opinions, and terminology. The practicality assessment therefore examined a product that had undergone expert-based refinement. This sequence is consistent with the iterative logic of development research, in which evaluation and revision inform subsequent assessment (Plomp, 2013). However, no small group trial was conducted between expert validation and the field trial. The study consequently lacks a separate intermediate stage of user testing that might have identified usability or comprehension difficulties before broader implementation. This should be acknowledged as a methodological limitation rather than treated as evidence that the development process was unsuccessful. Future research could include staged usability testing before a larger field trial to obtain more detailed evidence of how users navigate the module and interpret its content.

Overall, the findings indicate that the Science Munakahat interactive module met the predetermined validity and practicality criteria applied in this study. Its overall validity mean of 4.10 and practicality score of 86.55% support its use as a developed learning resource within the evaluated context. At the same time, the indicator-level results identify aspects requiring continued attention, particularly content depth, the accuracy of fiqh principles and references, visual design, primary interactive features, navigation, and ease of use. The module's contribution lies in providing an organized digital environment in which scientific perspectives can be introduced as contextual resources for studying fiqh munakahat while preserving the distinct foundations of scientific inquiry and normative Islamic legal reasoning. The findings should not be interpreted as evidence that the module has already improved students' understanding or academic achievement. Further studies are needed to investigate its educational effectiveness, usability under varying technical conditions, and potential contribution to conceptual understanding. Until such evidence is available, the module is best characterized as valid and practical according to the criteria applied in this study, rather than as an intervention whose effectiveness has been established.

## CONCLUSION

The development of the Science-Munakahat Interactive Digital Module successfully addresses the need for an interdisciplinary, technology enhanced teaching tool for the Fiqh Munakahat course. Overall, the module satisfies the core criteria of educational quality, demonstrating strong empirical validity and practicality. The expert validation process

confirmed that integrating Islamic jurisprudence with contemporary scientific insights within a cloud-based digital framework creates an instructionally sound, cohesive, and accessible learning resource. Furthermore, student evaluations established that the module is highly practical, facilitating flexible self directed learning, enhancing student engagement through interactive features, and clarifying complex legal-scientific concepts across various digital devices.

Despite these positive outcomes, this study has certain limitations. The scope of evaluation focused primarily on product validity and practicality during initial field testing, without comprehensively measuring learning effectiveness or long-term knowledge retention. Additionally, structural constraints inherent to default web layouts present ongoing challenges for visual customization and presentation alignment. To advance this line of research, future studies should employ experimental or quasi-experimental designs to empirically evaluate the module's impact on cognitive achievement and critical thinking skills. Continuous refinements targeting visual UI/UX design and the precision of jurisprudence formatting are also recommended to further optimize product quality for broader institutional adoption.

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