



## ICT MEDIA PRODUCT DEVELOPMENT IN HISTORY OF ISLAMIC CULTURE LEARNING

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### ABSTRACT

This study aims to analyze active learning strategies based on Information and Communication Technology (ICT) media in learning Islamic Cultural History (ISH) in Islamic educational environments. The main focus of this study is to examine the benefits of using ICT media, its types and applications, the validity of development through the ADDIE model, and the challenges and mitigation strategies for its implementation. The method used is library research with a qualitative descriptive approach. Data were collected from various primary and secondary scientific sources, such as reference books, national and international journal articles, research reports, curriculum documents, and relevant Islamic education regulations in the last ten years. The analysis was carried out using thematic synthesis techniques on active learning theories, ICT media, and SHI learning implementation practices. The results of the study indicate that ICT media can increase student participation, enrich learning experiences, and facilitate understanding of Islamic history visually and contextually. The use of the ADDIE model has proven effective in designing valid and applicable media. However, challenges such as limited infrastructure, teacher competence, and suitability of Islamic values remain obstacles that need to be overcome with collaborative and contextual strategies.

## 1. Introduction

History of Islamic Culture (IS) is one of the important subjects in Islamic education that has a strategic role in shaping the identity, character, and insight of students into the history of the Muslim community. Through IS learning, students are not only introduced to historical events, but are also expected to be able to take valuable lessons from the dynamics of struggle, civilization, and noble values of Islam throughout time.

However, in practice, IS learning is often still dominated by traditional methods such as lectures and memorization, which tend to be one-way and passive. This results in low active student participation, minimal emotional and intellectual involvement in the learning process, and reduced attraction to the historical material itself. The limitations of this traditional method pose their own challenges in achieving optimal learning objectives, especially in the context of the current digital generation which tends to be more responsive to interactive and technology-based approaches.

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To answer these challenges, active learning strategies are a relevant and effective alternative approach. Active learning encourages direct student involvement in the learning process, either through discussions, simulations, projects, problem solving, or the use of various media. In the current context, Information and Communication Technology (ICT) can be utilized as a means of supporting active learning strategies, which not only present materials in a more interesting and interactive way, but also allow for the integration of broader and contextual learning resources. ICT media refers to digital devices and technology platforms (such as learning videos, interactive presentations, educational applications, and online resources) that are used to improve the effectiveness of the teaching and learning process. This study aims to analyze active learning strategies in SKI learning, with a focus on: 1). Knowing the form and implementation of active learning strategies in SKI subjects. 2). Assessing the effectiveness of the use of ICT media in supporting these strategies. 3). Identifying challenges and opportunities for implementing active learning strategies in the context of SKI learning in schools.

### *1.1. ICT Media and Its Theoretical Basis*

Information and Communication Technology (ICT) media in learning is a set of tools, applications, and digital infrastructure used to strengthen the teaching and learning process, create an interactive learning environment, and increase accessibility to educational information. ICT media includes various forms such as digital presentations, learning videos, e-learning platforms, simulation applications, interactive multimedia, to social media that are managed for educational activities. In the view of Heinich et al. (2005), ICT learning media has the potential to stimulate students' senses, facilitate understanding of abstract concepts, and make learning more contextual and enjoyable.

Theoretically, the use of ICT media is rooted in the theory of constructivism which emphasizes that knowledge is built through active and meaningful learning experiences (Piaget, 1970; Vygotsky, 1978). In this case, ICT media allows students to explore, collaborate, and reflect on material through personalized and dynamic learning experiences. In addition, the theory of cognitivism supports the idea that ICT can help the process of information processing through visualization, memory strengthening, and organizing concepts. Furthermore, the theory of connectivism developed by Siemens (2005) strengthens the relevance of ICT in the digital era, because knowledge now not only resides within individuals, but is also spread across various digital and social networks that can be accessed through technology.

The use of ICT media is also closely related to the active learning approach, which is an approach that places students as active subjects in the learning process. Strategies such as problem-based learning, cooperative learning, and discovery learning are greatly assisted by the existence of ICT media that allow students to be involved in projects, simulations, data searches, and presentations of learning outcomes creatively and collaboratively (Bonwell & Eison, 1991).

### *1.2 Review of Studies on ICT Media in Islamic Cultural History Learning*

A number of studies have shown that the integration of ICT media in Islamic Cultural History (ISH) learning can increase the effectiveness and relevance of learning, especially in conveying abstract or chronological historical narratives to be more concrete and visual. Research by Nurlaili and Mulyani (2020) found that the use of Islamic history documentary video media can help students understand the chronology of events and foster empathy for the values of the struggle of Muslims. Meanwhile, Fitriani (2019) showed that interactive digital media allows students to build connections between historical events and contemporary realities, so that learning is not only cognitive but also affective and spiritual.

A study by Mardiah and Hidayat (2021) highlighted the importance of ICT integration based on online platforms such as Google Classroom and Edmodo in supporting collaborative and reflective ISH learning activities, especially during the pandemic. ICT media has been proven to not only help in delivering material, but also strengthen the process of discussion, questions and answers, and reflection on Islamic values through virtual forums. However, the study also noted challenges such as low digital literacy of teachers and limited technological facilities in some schools.

Another study by Azmi and Wahyuni (2022) emphasized that the use of visual media such as historical infographics and digital maps can increase students' memory retention of important figures and events in

Islamic history. However, they also noted that SKI learning is still often considered "dry" or less interesting when only delivered narratively without the support of interactive media.

### **1.3 Research Gaps**

Although various studies have revealed the benefits of using ICT media in Islamic Education learning, there are several gaps that have not been explored in depth and systematically. First, the majority of existing studies focus more on technical descriptions of media use or student perceptions, without directly linking them to a structured active learning strategy framework. In fact, ICT media can provide optimal added value if designed within a specific pedagogical framework, not just as a visual aid or information.

Second, there are not many studies that discuss how ICT media can be integrated with Islamic values in Islamic Education learning explicitly. Islamic Education learning is not only about transferring historical information, but also the process of internalizing values, spiritual meaning, and building Islamic character. Therefore, it is important to evaluate the types and content of ICT media that are not only technically interesting, but also in line with the goals of Islamic education.

Third, there is still minimal research that identifies the correlation between certain types of ICT media and specific active learning strategies. For example, how Islamic history videos can be linked to a problem-based learning approach or how digital infographics can support cooperative learning in Islamic Education classes. This gap becomes a contribution space for this research, namely analyzing theoretically and conceptually how active learning strategies can be designed more effectively and contextually in SKI learning through the support of appropriate ICT media.

## **2. Methodology**

The method used in this study is library research, which is a method carried out by collecting, documenting, and analyzing various scientific sources that are relevant to active learning strategies in the context of learning Islamic Cultural History (IS). As a researcher, the researcher does not collect data through field observations or interviews, but rather through a review of scientific literature such as reference books, journal articles, previous research results, curriculum documents, and educational theories that are directly related to the topic of active learning and IS teaching. The approach used is descriptive qualitative, because the data collected are in the form of conceptual descriptions, scientific narratives, and expert views that are analyzed systematically without involving numerical or statistical data.

Proses pengumpulan data dilakukan dengan terlebih dahulu mengidentifikasi dan menyeleksi relevant sources from various platforms, including digital libraries, academic repositories, and journal databases such as Google Scholar, Garuda, and ResearchGate. The sources used include Islamic education textbooks, literature on active learning strategies such as cooperative learning, problem-based learning, and discovery learning, as well as official curriculum and syllabus documents for Islamic Education subjects. To ensure the quality and credibility of the information, the selection of sources is based on several criteria, including: the reputation of the author and publishing institution, year of publication (preferably within the last five to ten years), scientific level (prioritized journals that have gone through a peer-review process), and direct relevance to the research theme. After the sources were collected, the researcher conducted a content analysis to explore the main concepts of each source. This analysis includes identifying active learning strategies that have the potential to be applied in Islamic Education, the use of information and communication technology (ICT) in education, and the suitability of these strategies to the values and goals of Islamic education.

The data that has been analyzed is then synthesized using a descriptive approach, namely by presenting the relationship between ideas narratively and thematically. This synthesis process is carried out by grouping data into themes such as the characteristics of SKI, effective active learning strategies, the potential of ICT media, and implications for student activity and meaning in learning.

To maintain the validity of the results, the researcher compared several views from various sources to find common ground or differences that can enrich the analysis perspective. Conclusions are drawn based on strengthening consistent theory and literature evidence, not just personal assumptions. With this approach, it is hoped that this study can provide conceptual and practical contributions in the development of active

learning strategies that are not only pedagogically effective, but also relevant in terms of values and objectives in Islamic education, especially in SKI learning.

### **3. Results**

#### ***3.1 Benefits of ICT Media in Islamic Cultural History Learning***

The results of the literature review show that the use of Information and Communication Technology (ICT) media in Islamic Cultural History (IS) learning makes a significant contribution to improving the quality of the process and learning outcomes of students. ICT media has been proven to be able to overcome the limitations of conventional lecture methods which tend to be one-way and monotonous, by presenting visual, interactive, and contextual content. Some of the identified benefits include increased learning motivation, active student involvement, and memory of historical material.

A study by Atiqoh et al. (2023) showed that the use of educational YouTube media was significantly able to build students' interest in learning and understanding of Islamic historical figures and events. This finding was reinforced by Ulin Ni'am and Yuni (2024), who concluded that interactive video media based on historical narratives was able to form a more personal and meaningful learning experience. Thus, ICT media not only facilitates cognitive understanding, but also supports the internalization of Islamic values affectively.

##### ***3.1.1. Increasing Student Motivation and Engagement Affectively and Cognitively***

One of the main benefits of using ICT media in learning Islamic Cultural History (IS) is its ability to trigger internal motivation and student engagement. Through various forms of audiovisual media such as documentary videos, animations, and interactive presentations, historical materials become alive and meaningful. A study by Atiqoh et al. (2023) showed that the use of educational YouTube in IS learning significantly increased students' enthusiasm in studying Islamic historical figures, which they previously considered "abstract" or "too far." This is where ICT media functions as an emotional bridge; visualizations and narratives seem to bring students directly into historical events, creating empathy and emotional bonds that deepen the understanding of Islamic values in a historical context.

The activation of gamification elements such as interactive quizzes and point systems based on e-learning platforms strengthens students' intrinsic motivation. Hariyadi et al. (2023) found that students were more motivated to complete IS modules when there were elements of challenge and recognition (eg "badges" or rankings). This shows that ICT media can facilitate the transition from passive learning to active, dynamic, and emotional learning processes.

##### ***3.1.2. Facilitating Understanding and Retention of Material through Multisensory Processing***

ICT media allows the presentation of material in a multisensory manner through text, images, sound, and animation that work synergistically to improve students' understanding and memory. Cognitive theories such as the Cognitive Theory of Multimedia Learning (Mayer, 2005) support the idea that a combination of visuals and audio helps students build richer and more durable mental representations. For example, a video about the Prophet Muhammad's dakwah journey featuring narrative text, travel maps, and voice narration leads students not only to read it, but to "experience" the event.

A study by Ulin Ni'am & Yuni (2024) who developed an interactive SKI video showed that students were able to remember more facts and chronological sequences, compared to if they only read the text. This happens because visual and audio memory work together, facilitating the re-encoding of information in a number of cognitive channels. As a result, Islamic history material is not only believed cognitively, but also experienced emotionally and the Islamic values in it are absorbed more deeply.

##### ***3.1.3. Developing Analytical and Critical Skills Through Interactivity***

ICT media, when designed properly, can encourage the development of students' critical thinking competencies, abilities that are very important in making SKI learning not just memorizing events, but also encouraging reflection on the historical context and Islamic values.

E-learning platforms, for example, can be equipped with reflective quiz features, case study-based assignments, and online discussion forums. Diana et al. (2023) showed that SKI web-based media equipped with quizzes handling historical events requires students to analyze cause and effect, compare events, and find the relevance of values to today's life. This condition fosters critical and reflective habits, where students not only ask "what" and "who," but also "why" and "how".

Interactive infographics also facilitate the analysis of historical data in visual form, for example, a timeline diagram of the development of Islamic dynasties, or an interactive map of trade routes and preaching. ICT media with this visualization encourages students to explore the complex interrelationships, socio-economic patterns, and impacts of religious values on Islamic civilization. This is an active learning that is critical, inquisitive, and scientific in accordance with the paradigm of modern education and Islamic values that emphasize knowledge and the integration of rational-spiritual thinking.

### *3.2. Types of ICT Media and Their Applications*

The types of ICT media used in SKI learning vary widely, depending on learning objectives, student characteristics, and school infrastructure. The study results identified four main categories: (1) educational video media (e.g. YouTube, historical animations), (2) web-based e-learning applications (such as Moodle, Google Classroom, Haistudent.com), (3) interactive multimedia (infographics, digital simulations, and interactive presentations), and (4) educational social media (WhatsApp Group, Telegram Edu, etc.). A study by Diana et al. (2023) highlighted the effectiveness of web-based learning media in delivering SKI material for grade X, which not only presents text, but also includes video features, online evaluations, and discussion forums. In addition, Hariyadi et al. (2023) stated that the integration of gamification elements in the learning platform can generate a sense of competitiveness and collaboration in SKI learning. The diversity of this media allows teachers to adjust teaching strategies to students' learning styles, while encouraging active learning approaches based on projects, discussions, and exploration.

The application of Information and Communication Technology (ICT) in learning Islamic Cultural History (ISH) presents a broad spectrum of learning media that is adaptive to various student learning styles. In the context of modern Islamic education, ICT media not only functions as an aid, but also as a facilitator of interactive, reflective, and integrated learning interactions with Islamic values. The types of ICT media used in ISH learning can be categorized into four main groups: audiovisual media, online learning platforms, interactive multimedia, and educational social media. Each type of media has unique characteristics, strengths, and application strategies in conveying Islamic history material effectively.

#### *3.2.1. Audiovisual Media: Contextual Historical Narrative Visualization*

Audiovisual media such as documentary videos, historical animations, and podcasts are one of the most widely used forms of ICT in Islamic Education learning. The main advantage of this media is its ability to convey information through a combination of sound and moving images, thus creating a multisensory learning experience. For example, a video of the Prophet Muhammad's journey from Mecca to Medina can be dramatically visualized through animations that show a map of the journey, social conditions at that time, and its impact on the spread of Islam.

Atiqoh et al. (2023) studied the use of YouTube-based videos in Islamic Education subjects and found that visualization of historical figures and events made it easier for students to understand complex narrative flows. The use of Islamic history animations such as in the Muslim Kids TV application or Sirah Nabawiyah Interactive has also been shown to increase early childhood understanding of the chronology and character of Islamic figures in a fun and in-depth way. This approach utilizes the Dual Coding theory (Paivio, 1991) which emphasizes the importance of combining verbal and visual codes in learning, so that students not only remember textually, but also build a richer conceptual understanding.

#### *3.2.2. Online Learning Platforms: Facilitating Accessibility, Collaboration, and Evaluation*

Online learning platforms such as Google Classroom, Moodle, Quipper School, and local Learning Management Systems (LMS) provide a systematic digital framework for managing SKI learning. Through this platform, teachers can upload historical materials in various formats (PDF, video, presentation), create

assignments and quizzes, and conduct online evaluations. This convenience supports the principle of flexibility in time and place of learning, which is very relevant to 21st-century learning.

A study by Diana et al. (2023) showed that the integration of Google Classroom in SKI learning allows teachers to present project-based historical materials and facilitate online discussions that broaden students' perspectives on Islamic historical events. In addition, the online assessment feature provides direct feedback that encourages students to improve their understanding independently. In the context of the independent curriculum, LMS is also a strategic medium for differentiated learning because it allows teachers to adjust materials and assignments based on students' interests and abilities.

### *3.2.3 Interactive Multimedia: Active Visualization Interventions That Facilitate Exploration*

Interactive multimedia includes digital infographics, historical simulations, interactive maps, digital timelines, and educational games. The main characteristic of this media is that it provides students with learning control through click, drag, or non-linear navigation features, thus enabling exploratory learning. In SKI learning, this approach is very effective in strengthening the cause-and-effect relationships between historical events and showing the dynamic development of Islamic civilization.

For example, the use of an interactive timeline to trace the history of the development of the Abbasid Dynasty allows students to explore scientific, cultural, and political achievements through interactive visual paths. Some teachers also develop Kahoot! or Quizizz-based quizzes that include reflective questions about the values of the struggles of Islamic figures. This supports the constructivist principle, where students actively construct meaning from their learning experiences. Research by Prasetyo & Widhayati (2022) found that students who used SKI media based on interactive simulations showed higher conceptual understanding scores than the control group.

Furthermore, historical infographics such as maps of the spread of Islam, charts of the prophet's lineage, or illustrations of the structure of the caliphate government become important visual tools in simplifying complex information. These infographics not only help visualize, but also trigger critical discussions, especially when related to the contemporary socio-political context.

### *3.2.4. Educational Social Media: Social Interaction and Collaborative Knowledge Construction*

Social media such as WhatsApp Group, Telegram Edu, and Facebook Group are now widely used in SKI learning as a medium for informal communication and collaboration. Teachers and students can share materials, discuss historical topics, or hold online Islamic reflection sessions. Flexibility and speed of access are the main advantages, although discipline challenges and disruptions from non-academic content also need to be anticipated.

According to research by Kurniawan & Wati (2021), the use of WhatsApp as a supporter of SKI learning has succeeded in creating a learning community that shares reflections on Islamic historical values found from their readings or experiences. In this model, SKI learning shifts from the classroom to a digital dialogue space, which opens up opportunities for integration between historical, social, and spiritual values collectively.

The use of social media also allows for the emergence of student initiatives as content producers, not just consumers. For example, students are assigned to make short videos containing summaries of the struggles of Islamic figures and then upload them to the digital class platform. This practice is in line with the principles of digital pedagogy and the heutagogy (self-directed learning) approach that emphasizes students' active participation in creating knowledge.

The use of various types of ICT media in SKI learning should not stand alone, but rather be integrated into a single active learning strategy. The combination of educational videos to spark initial interest, the LMS platform for delivering materials and evaluation, interactive multimedia for concept exploration, and social media for reflection and collaboration, creates a learning environment that is balanced between cognitive, affective, and social. This integrative approach is known as blended learning or hybrid pedagogy.

In the context of Islamic education, ICT media must remain oriented towards moral values and integrity. Teachers need to be content curators and facilitators of the learning process, not just those who switch the function of the blackboard to a digital screen. With the right strategy, ICT media can be a means (intermediary)

that fosters students' love of Islamic history and forms an understanding of history that is not only informative but also spiritually and socially transformative.

### *3.3. ADDIE Model Stages and Validation*

The design of ICT-based learning media development generally follows the ADDIE instructional approach (Analysis, Design, Development, Implementation, Evaluation). Based on literature synthesis, the Analysis stage is carried out by identifying student learning needs and obstacles to SKI learning in the field, including minimal interest and limitations of visual media.

The Design stage involves content planning, material flow, and selection of media formats that are in accordance with the SKI curriculum. In the Development stage, various media are developed, ranging from narrative videos, historical infographics, to interactive quizzes. In the Implementation stage, the media is tested on a limited basis to see the level of effectiveness, student engagement, and suitability for active learning strategies. Finally, the Evaluation stage is carried out to assess the quality of the media through expert validation instruments and user feedback. A study by Istiqomah and Mahbubi (2024) noted that the validation of ADDIE-based electronic media in SKI learning showed a high level of validity in the pedagogical, technical, and Islamic values aspects. This approach proves that the ADDIE model is effective in producing ICT media that is contextual and adaptive to learning Islamic history.

The ADDIE (Analysis, Design, Development, Implementation, Evaluation) model is a systematic framework in developing learning tools, including Information and Communication Technology (ICT)-based media. In the context of learning Islamic Cultural History (IS), this model offers a structured approach that allows the development of ICT media that are not only visually appealing, but also pedagogically and contextually relevant according to the characteristics of IS material which is narrative, historical, and full of values.

The use of the ADDIE model in IS learning is very appropriate because of its iterative and flexible characteristics. By following the ADDIE stages systematically, the resulting ICT media can be validated in terms of content, design, and the effectiveness of its use in the classroom. Below is an in-depth discussion of each ADDIE stage in developing IS learning ICT media and its scientific validation strategy.

#### *3.3.1. Analysis Stage: Needs, Characteristics, and Context of SKI Learning*

The first stage of the ADDIE model is analysis, which focuses on identifying learning needs, learner profiles, and challenges faced in SKI learning. At this stage, researchers or media developers need to analyze the curriculum, SKI syllabus, and learning objectives to be achieved. For example, in the KD that discusses "The Development of Islam during the Khulafaur Rasyidin Era," teachers need to know whether students have difficulty understanding the political, social, or spiritual context of that era.

Student analysis is also crucial, including age level, dominant learning style (visual, auditory, kinesthetic), and digital literacy. Students at the MTs or SMA level, for example, tend to be more responsive to interactive visual media, so the development of digital timeline-based media or 3D historical simulations is relevant.

Researchers also conduct technology analysis, namely identifying available devices (smartphones, projectors, internet connections) and ICT competencies of teachers and students. This data was obtained through observation, interviews, and literature studies on SKI learning in various Islamic education contexts. This stage determines the direction of development so that the media created truly answers actual needs in the classroom.

#### *3.3.2. Design Stage: Planning Relevant, Meaningful, and Islamic Media*

The design stage is the process of designing the structure and elements of ICT media based on the results of the analysis. This is where the type of media (interactive video, e-module, historical simulation, infographic, etc.), delivery strategy, interactivity flow, and form of learning evaluation are determined.

The design must consider the theory of active learning and the integration of Islamic values. For example, for the topic "The Struggle of the Prophet's Preaching in Mecca and Medina," the media is designed with a narrative that emphasizes the values of patience, strategy, and monotheism. Visualizations are arranged in such a way as to arouse students' affection, not just present historical facts.

Mayer's Multimedia Learning Principles (2005) are widely used in this stage: for example, the principles of "coherence" (avoiding irrelevant visual elements), "modality" (combining audio narration with animation), and "segmenting" (presenting information in small units). Planning the navigation and user interface of digital media must also be intuitive and user-friendly.

In the context of SKI, the design must also consider the sensitivity of Islamic content. The use of illustrations of religious figures, representations of holy places, or quotes from hadith must follow the manners and principles of Islamic education. Therefore, developers work with teachers and experts in Islamic jurisprudence or history to ensure the validity of the content.

### *3.3.3. Development Stage: Media Production and Expert Validation*

This stage includes the ICT media production process based on the design that has been prepared. Production can use various software such as Canva, Adobe Spark, Interactive PowerPoint, Articulate Storyline, or other authoring applications according to the type of media designed. For example, if the media is in the form of an interactive SKI e-module, the developer compiles historical narratives, visual illustrations, audio narratives, and interactive questions in one platform. The development stage does not only focus on technical production, but also includes validation of content and appearance by experts. Content validation is carried out by SKI material experts (for example, Islamic History lecturers), while design validation is carried out by learning media experts or instructional designers. The validation instrument is usually in the form of a validation sheet containing aspects of content clarity, appropriateness of historical content, integration of Islamic values, interactivity, visual appearance, and ease of use. This validation is important to ensure that the media developed is not only attractive in appearance, but is truly pedagogically and value-oriented. The validation results are generally arranged in the form of quantitative scores and qualitative comments. Media is declared feasible after reaching the category of "good" or "very good" with a validity index of  $\geq 75\%$ . If the score is still below standard, then revisions are made to aspects that are considered weak before entering the implementation stage.

### *3.3.4. Implementation Stage: Limited Trial and Initial Reflection*

The initial implementation is carried out in the form of a limited trial with students in a controlled environment, such as in one class or small group. The purpose of this stage is to find out how students interact with the media, whether the navigation flow runs smoothly, whether they understand the historical content presented, and whether there is an increase in interest in learning. In the trial, the teacher or researcher makes direct observations and distributes student response questionnaires. This instrument assesses aspects of involvement, perception of usefulness, understanding of the material, and visual satisfaction. Data from the trial becomes material for reflection for minor improvements before the final evaluation is carried out.

### *3.3.5. Evaluation Stage: Assessment of Learning Effectiveness and Impact*

Evaluation is the final stage in ADDIE and includes two types: formative and summative. Formative evaluation is carried out at each previous stage (especially design and development), while summative evaluation measures the success of media use on learning outcomes. Evaluation instruments are usually in the form of pre-tests and post-tests to see the increase in SKI understanding before and after media use. Simple statistical analysis such as gain scores are used to measure its effectiveness. In addition, teacher and student satisfaction questionnaires are used as complementary qualitative data. Research by Arif & Noviana (2023) who used ADDIE in developing SKI e-modules found that ADDIE-based media not only significantly improved learning outcomes, but also built student independence and fostered interest in Islamic history.

### **3.4. Challenges and Mitigation in the Implementation of ICT Media in SKI Learning**

The implementation of Information and Communication Technology (ICT)-based media in learning Islamic Cultural History (SKI) is an innovative step to answer the demands of the digital age. However, this transformation is inseparable from various multidimensional challenges, both in terms of infrastructure, pedagogy, culture, and personal. These challenges, if not handled strategically, can hinder the achievement of the ideal SKI learning objectives, namely internalizing Islamic historical values holistically and contextually. Therefore, a critical analysis of the obstacles that arise and appropriate mitigation strategies are needed so that the integration of ICT in SKI learning runs effectively, sustainably, and in line with Islamic values.

#### **3.4.1. Challenges in Infrastructure and Technology Access**

One of the most fundamental obstacles in the implementation of ICT media is the inequality of infrastructure, especially in madrasah-based schools located in rural or underdeveloped areas. Based on the report of the Ministry of Religion (2022), more than 40% of madrasahs in Indonesia still experience limited technological devices, such as computers, projectors, stable internet connections, and adequate electricity sources. This directly limits teachers from accessing or using digital media optimally in SKI learning.

In addition, not all students have personal digital devices such as smartphones or laptops that are compatible with running interactive ICT media. In the context of online learning or blended learning, this condition widens the gap in access to education.

The government, through the school and madrasah digitalization program, needs to accelerate the distribution of ICT facility assistance evenly, not only in big cities. In addition, the development of SKI learning media must consider lightweight and offline-accessible formats, such as HTML5-based Android applications, short videos that can be downloaded, or interactive e-modules in PDF format. The use of social media or WhatsApp as a replacement platform for LMS can also be an emergency solution in areas with minimal internet access.

#### **3.4.2. Teacher Digital Competence Gap**

The use of ICT media requires sufficient pedagogical and technological competence from SKI teachers. However, many teachers still have difficulty in designing, selecting, or integrating digital media in learning due to limited ICT training or age that is not familiar with technology. A study by Maftuh & Rachman (2021) showed that 53% of SKI teachers at the madrasah level were not accustomed to using graphic design applications, video editors, or Learning Management Systems (LMS). As a result, the media used tends to be static and less interactive. In addition, the lack of time to develop media independently is a separate obstacle. The high administrative burden and limited SKI teaching hours often delay learning innovations or are carried out incidentally.

Mitigation strategies require ongoing training programs (in-service training) that specifically discuss the development of ICT media for religious education teachers, including SKI. This program should be based on direct practice (learning by doing) and use an andragogical approach that suits the needs of teachers. In addition, the formation of a digital-based SKI teacher community (such as an online MGMP forum) can be a means of sharing media, good practices, and learning resources. Schools can also form collaborative teams between ICT teachers and SKI teachers to support media production.

#### **3.4.3 Media Inconsistency with Islamic Values**

One of the main challenges in implementing ICT media in SKI learning is the emergence of content or visual elements that are not in accordance with Islamic ethics and teachings. The use of images of living creatures, narratives that deviate from the authentic sirah nabawiyah, or illustrations that are too vulgar in depicting wars and historical conflicts are the main concerns. Digital media originating from external sources are often less contextual with the principles of Islamic manners or students' local culture.

This inconsistency not only impacts the effectiveness of learning, but can also lead to biased understanding of history and the potential for religious misinformation. It is important for developers and educators to conduct strict content curation before it is used in class. Validation of content by Islamic historians, ustaz, or

religious education lecturers is an important step in ensuring the accuracy and appropriateness of Islamic values in the media. In addition, the development of local media by SKI teachers themselves will better guarantee the appropriateness of context and values. The application of Islamic ethical principles in instructional design such as etiquette in visualization, use of polite language, and emphasis on the value of monotheism should be the main guidelines in the production of Islamic-based ICT media.

#### 3.4.4. Low Active Student Participation

Although ICT media is designed to increase interactivity, the reality in the field shows that students do not always respond actively to the media. Some students only become passive viewers when watching history videos or are not fully involved in digital quizzes. This can be caused by boredom, lack of intrinsic motivation towards history lessons, or media design that is less interesting in terms of personalization.

According to the ARCS (Attention, Relevance, Confidence, Satisfaction) theory from Keller (2010), learning motivation is greatly influenced by the relevance of the media to the needs and interests of students. If SKI media only re-presents textbook material without innovative approaches, then student participation will remain low even though the media is digital.

Mitigation Strategies ICT media must be designed by considering the principles of gamification, storytelling, and personal learning experiences. For example, students can be invited to make history vlogs based on their favorite Islamic figures, act as reporters during the Caliph Umar era, or answer quizzes with prizes of points and class leaderboards. Active learning and project-based learning approaches can also be combined with ICT media so that students do not only become passive users, but also knowledge producers.

#### 3.4.5. Curriculum Fragmentation and Limited Time Allocation

SKI lessons often get fewer teaching hours than other subjects, and are often associated as filler lessons. This has an impact on the limited time to deliver the material in depth or use ICT media that requires time for exploration and discussion.

On the other hand, the SKI curriculum covers quite extensive material from the history of the prophets, khulafaur rasyidin, Islamic dynasties, to reformist figures which if not integrated thematically will become a dense burden.

Integration of thematic learning across subjects (integrated learning) can be applied, for example combining SKI with Arabic, Fiqh, or IPS in a cross-subject project. Thus, the use of ICT media can target more than one competency. Teachers also need to design modular and flexible ICT media, so that they can be used in short sessions or as independent assignments. Flipped classroom learning is also an alternative, where students study SKI material from ICT media at home, then discuss it face-to-face in class.

The challenges in implementing ICT media in SKI learning are complex realities, but not insurmountable obstacles. With collaborative, contextual, and targeted mitigation strategies, SKI teachers can utilize ICT media creatively and effectively without abandoning fundamental Islamic values. Therefore, strengthening the learning innovation ecosystem in madrasahs and Islamic schools must be carried out systematically including the provision of infrastructure, teacher training, curation of Islamic content, and active involvement of students in the learning process.

Despite its great potential, the implementation of ICT media in SKI learning faces various challenges. First, there is a digital literacy gap between teachers and students, especially in areas with limited technological facilities. Second, the low ability of teachers to design ICT-based learning media pedagogically and integrated with Islamic values. Third, technical constraints such as limited devices, internet connections, and school policy support also affect the success of implementation. To overcome this, recommended mitigation strategies include pedagogical technology-based teacher training (TPACK), development of local resource-based media, and collaboration with students in content development. Several studies, such as by Widhayanti & Abduh (2021), recommend a blended learning approach by combining online and offline learning to bridge the gap in access. In addition, strengthening the digital-based teacher community and support from school principals are key to creating an SKI learning ecosystem that is responsive to technological developments and remains based on Islamic values.

#### 4. CONCLUSION

ICT media in SKI learning provides significant benefits through: (1) increasing student motivation and involvement affectively and cognitively; (2) presenting multisensory materials that strengthen understanding and memory; and (3) developing critical analysis skills through digital interactivity. Thus, ICT media is not just a presentation tool, but a strategic penetration towards a more effective, relevant, and value-oriented active learning process. The ADDIE model has proven to be a comprehensive and flexible framework in developing ICT media for SKI learning. By systematically following its five stages of analysis, design, development, implementation, and evaluation, developers can produce media that are in accordance with student needs, valid in content, visually attractive, and effective in improving understanding of Islamic history.

In practice, this model also provides space for valid validation of Islamic content and integral value education. This study recommends the use of ADDIE as the main model in SKI learning media innovation, especially in the digital era that demands interactive, relevant, and meaningful learning quality. The challenges in implementing ICT media in SKI learning are complex realities, but not insurmountable obstacles. With collaborative, contextual, and targeted mitigation strategies, SKI teachers can utilize ICT media creatively and effectively without abandoning fundamental Islamic values. Therefore, strengthening the learning innovation ecosystem in madrasahs and Islamic schools must be carried out systematically including the provision of infrastructure, teacher training, curation of Islamic content, and active involvement of students in the learning process.

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